

# WebFOCUS

WebFOCUS Adapter for Geographic  
Information Systems: ESRI ArcGIS Server  
and ArcGIS Flex API  
Release 8.2 Version 02

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# Preface

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This documentation describes the WebFOCUS Adapter for Geographic Information Systems: ESRI® ArcGIS® Server and ArcGIS Flex® API. It is intended for users who are developing a Geographic Business Intelligence Solution (GBIS) the combines the real-time enterprise business intelligence and reporting capabilities of WebFOCUS with ESRI ArcGIS Server.

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## How This Manual Is Organized

This manual includes the following chapters:

Chapter/Appendix		Contents
1	Introducing Geographic Information Systems	Provides an overview of Geographic Information Systems and defines the Geographic Business Intelligence Solution.
2	WebFOCUS GIS Adapter Architecture	Describes the architecture of the WebFOCUS GIS Adapter and new features that are now available.
3	Prerequisites for WebFOCUS GIS Viewer for Flex	Describes the prerequisites that are required before using the WebFOCUS GIS Viewer for Flex.
4	Using the ESRI Configuration Utility	Describes how to use the ESRI Configuration Utility to define XML definition files for integration between WebFOCUS and ArcGIS Server.
5	Using the WebFOCUS GIS Viewer for Flex	Describes the features and usage of the WebFOCUS GIS Viewer for Flex.
6	Creating WebFOCUS GIS Procedures	Describes how to create WebFOCUS GIS procedures.
7	Useful Techniques and Examples	Provides useful techniques when working with the WebFOCUS GIS Adapter.
A	XML Schema Reference	Lists and describes XML schema elements, classes, and constants that are used to configure the WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcIMS.
B	Symbol Class Settings and Parameters	Provides definitions of symbol settings and includes the parameters that can be specified.

Chapter/Appendix		Contents
C	HTML Color Values	Provides HTML color values in RGB formats that are supported by the WebFOCUS GIS Adapter.
D	Glossary	Provides definitions of commonly used words relating to the Geographic Business Intelligence Solution.

## Documentation Conventions

The following table describes the documentation conventions that are used in this manual.

Convention	Description
<code>THIS TYPEFACE</code> or <code>this typeface</code>	Denotes syntax that you must enter exactly as shown.
<i>this typeface</i>	Represents a placeholder (or variable), a cross-reference, or an important term.
<u>underscore</u>	Indicates a default setting.
Key + Key	Indicates keys that you must press simultaneously.
{ }	Indicates two or three choices. Type one of them, not the braces.
[ ]	Indicates a group of optional parameters. None is required, but you may select one of them. Type only the parameter in the brackets, not the brackets.
	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
...	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis (...).

Convention	Description
.	Indicates that there are (or could be) intervening or additional commands.
.	
.	

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To learn about the full range of available support services, ask your Information Builders representative about InfoResponse Online, or call (800) 969-INFO.

## Information You Should Have

To help our consultants answer your questions effectively, be prepared to provide the following information when you call:

- ☐ Your six-digit site code (xxxx.xx).
- ☐ Your WebFOCUS configuration:
  - ☐ The front-end software you are using, including vendor and release.
  - ☐ The communications protocol (for example, TCP/IP or HLLAPI), including vendor and release.
  - ☐ The software release.
  - ☐ Your server version and release. You can find this information using the Version option in the Web Console.
- ☐ The stored procedure (preferably with line numbers) or SQL statements being used in server access.
- ☐ The Master File and Access File.
- ☐ The exact nature of the problem:
  - ☐ Are the results or the format incorrect? Are the text or calculations missing or misplaced?
  - ☐ Provide the error message and return code, if applicable.
  - ☐ Is this related to any other problem?
- ☐ Has the procedure or query ever worked in its present form? Has it been changed recently? How often does the problem occur?
- ☐ What release of the operating system are you using? Has it, your security system, communications protocol, or front-end software changed?
- ☐ Is this problem reproducible? If so, how?
- ☐ Have you tried to reproduce your problem in the simplest form possible? For example, if you are having problems joining two data sources, have you tried executing a query containing just the code to access the data source?
- ☐ Do you have a trace file?



- ❑ How is the problem affecting your business? Is it halting development or production? Do you just have questions about functionality or documentation?

## User Feedback

In an effort to produce effective documentation, the Technical Content Management staff welcomes your opinions regarding this document. You can contact us through our website, <http://documentation.informationbuilders.com/connections.asp>.

Thank you, in advance, for your comments.

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# Introducing Geographic Information Systems

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The following section provides an overview of Geographic Information Systems and defines the Geographic Business Intelligence Solution.

**Note:** This technical content is for legacy applications using App Studio and Developer Studio Release 8.1.x and earlier. Some of the functionality referenced in this manual, such as creating layouts in the HTML Composer, may not be available in Release 8.2 Version 01 or higher.

**In this chapter:**

- ☐ [Understanding Geographic Information Systems](#)
  - ☐ [Defining the Geographic Business Intelligence Solution](#)
  - ☐ [GBIS Components](#)
  - ☐ [New Features](#)
- 

## Understanding Geographic Information Systems

A geographic information system (GIS), or geographical information system, is any system that captures, stores, analyzes, manages, and presents data that are linked to a location.

A GIS map can combine many layers of information, enabling you to ask questions and interpret relationships between the different layers of data.

A digital map created by GIS may contain any of the following:

- ☐ Dots or points to represent features, such as cities.
- ☐ Lines to represent features, such as roads.
- ☐ Small areas to represent features, such as lakes.

The GIS information originates from a database that is linked to the map. It is this database of information that drives the display of the map. The database stores where the point is located, how long the road is, and even how many square miles a lake occupies. This enables the user to ask questions about the name of a location represented by a point, or driving directions between two locations. The database can contain a large amount of information about a particular feature on a map, allowing further inquiry and analysis between features.

The layers of information that are combined depends on your purpose. For example:

- ☐ Determining the best location for a new store.
- ☐ Analyzing environmental damage.
- ☐ Viewing similar crimes in a city to detect a pattern.

All of these questions can be answered through the use of a GIS.

Estimates show that 80% of all data has a spatial component. Maps are just another way to visualize data and GIS is another way to manipulate the visualization of that data.

## Defining the Geographic Business Intelligence Solution

While reports and spreadsheets are necessary and very useful, GIS provides another way of viewing the same data in a way that reveals patterns more easily. A GIS alone cannot replace tables or databases. These are structures that power a GIS. The addition of a GIS map enhances and quickens the transfer of knowledge.

Information Builders and ESRI have collaborated to deliver a Geographic Business Intelligence Solution (GBIS) that combines the real-time enterprise business intelligence and reporting capabilities of WebFOCUS with ArcIMS and ArcGIS Server. The combined solution allows users throughout the extended enterprise to rapidly and intuitively analyze real-time information with a spatial component by presenting business intelligence information in the context of physical location.

A GBIS improves decision-making and responsiveness while extending the reach of GIS to address a wider range of business applications and integrate natively with more than 85 data sources.

## GBIS Components

The common J2EE architecture of the GBIS enables developers to easily add a GIS component to business intelligence applications using a set of Java™ APIs. The J2EE architecture also ensures the scalability needed to deliver GBIS reports throughout the extended enterprise without a significant increase in hardware spending.

## ArcGIS Server

ArcGIS Server is a Geographic Information System (GIS) software package made by ESRI that is used to deploy web-oriented spatial data services.

For more information on ArcGIS Server, refer to the following website:

<http://resources.arcgis.com/en/home/>

## ArcIMS

ArcIMS provides the foundation for distributing high-end geographic information systems (GIS) and mapping services using the Internet. ArcIMS software enables users to integrate local data sources with Internet data sources for display, query, and analysis in an easy-to-use web browser.

Specifically built to serve GIS on the Internet, ArcIMS is designed to make it easy to create map services, develop webpages for communicating with the map services, and administer sites. ArcIMS operates in a distributed environment that consists of both client-side and server-side components. Typically, the client requests information from an Internet or Intranet server. Then the server processes the request and sends the information or map back to the client viewer.

## ArcSDE

ArcSDE is a gateway that facilitates managing spatial data in a database management system. ArcSDE allows you to manage geographic information in one of four commercial databases:

- ☐ IBM DB2
- ☐ IBM Informix
- ☐ Microsoft SQL Server
- ☐ Oracle

ArcSDE serves spatial data through ArcGIS Server, as well as other applications and it is the key component in managing a multi-user spatial database.

## WebFOCUS

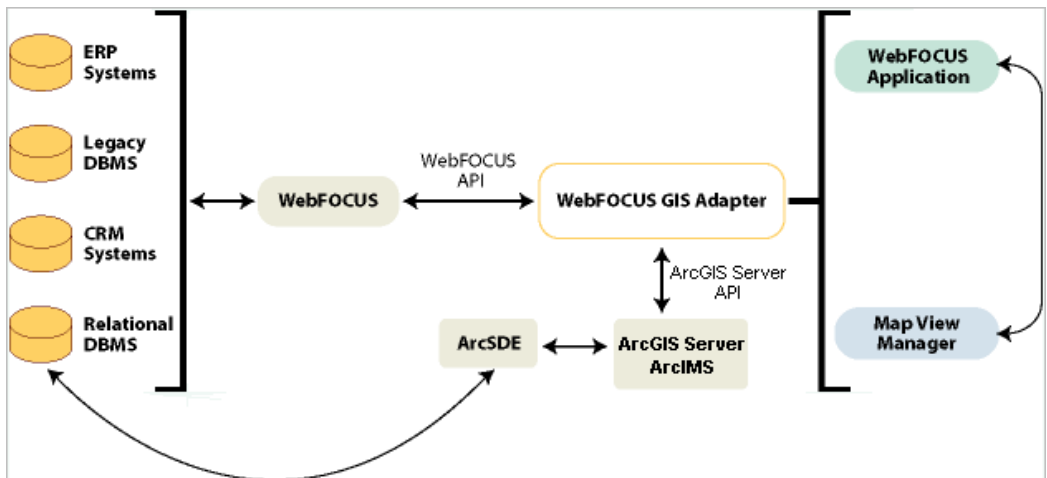
WebFOCUS is the most secure and flexible business intelligence solution meeting all the reporting needs of the extended enterprise, ranging from analysts, to power users, and to the widest deployments for hundreds of thousands of users. The empowerment provided by WebFOCUS for organizations seeking to leverage all their data by accessing it all, from legacy to data warehouse, is unmatched.

## WebFOCUS GIS Adapter

The WebFOCUS GIS Adapter is a servlet-based, server-to-server interface that allows parameters to pass between the application, WebFOCUS, ArcGIS Server, and ArcIMS. The WebFOCUS GIS adapter allows us to select areas of a map, capture the data underlying this selection, and present it as a WebFOCUS report. It also allows for data displayed in all the wonderful ways WebFOCUS presents information to be represented on a map.

This ability which presents bidirectional integration between business intelligence and GIS is unique in the industry. Up until now, GIS analysis has been limited to power users. These are users who are technical enough to understand complex applications, and manipulate and transfer data files. Also, other BI interfaces have been based on a client/server model.

End users view new mapping functions as part of their existing application with little-to-no additional training. Analysts and power users can toggle between a map and business intelligence application, easily passing results and sharing information. This integration is completely seamless. Existing users of either WebFOCUS or ESRI software will benefit immediately and require no retraining to use these features.



## New Features

The following section lists and describes new features available for the WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server.

### Mapping Capabilities

#### ❑ Multiple Map Services

Combining different map services, including tiled, dynamic, and Web Map Server (WMS), is supported.

**❑ Map Items Buffering**

You can use any map layer type to select items from other map layers using a buffer. For example, if you run a report by selecting a store or office, the adapter can issue a map query to retrieve all customers within 10 miles of the selected store.

**❑ Synthetic Layers (Line Features)**

If a data source has latitude and longitude values, you can use it to draw lines between common points. This enables you to create a map that includes, for example, lines from a repair shop to all customers who had something fixed there.

**❑ Synthetic Layers (Polygon Features)**

Support for polygon shapes enables the user to incorporate multiple points with a common unique feature key that describe a series of segments comprising polygon features. The shape is automatically completed, with a line drawn between the last point and the first point.

**❑ MaxFeatureItems**

MaxFeatureItems allow the developer to extend the number of items that can be selected from the map layers.

**❑ Smooth Transition for Map Images**

When the map view changes, the transition is smoothly faded to the new image view. Keywords in the XML definition file are used to control how this transition occurs.

**❑ ArcGIS Server Supported**

As of release 7.6.4, integration with map services hosted by ArcGIS Server is supported.

ArcGIS Server is a Geographic Information System (GIS) software package made by ESRI that is used to deploy web-oriented spatial data services.

## Map Viewer Interface

**❑ Advanced Data View**

Navigating to single records or a group of records in the Map Viewer is supported.

**❑ Configure Toolbar Items and Position**

The toolbar can be manually positioned on the page by dragging it into the desired position using keywords in the XML definition file. The position is remembered for each user.

### ☐ **Pass Extent Values on URL**

Passing the minimum and maximum latitude and longitude values on the URL will cause the map image to zoom to the area defined. This feature could be used to create custom map-marks that a user can use to navigate to areas of the map that have specific interest or importance. One example is providing each area manager a link to start the map viewer and automatically show the area of the map they are responsible for. The keywords to pass on the URL are:

☐ IBIESRI\_mapminx

☐ IBIESRI\_mapminy

☐ IBIESRI\_mapmaxx

☐ IBIESRI\_mapmaxy

### ☐ **Mouse-over Pop-ups**

When you enable this option in the GIS Definition Editor, the GIS Adapter enables you to see a pop-up message by dragging your mouse over points on the map.

## Techniques

### ☐ **Multiple Map Layer Attribute Selection**

For parameter layers (inbound), you can now use Shift+click and/or Ctrl+click to make multiple selections of map layer attributes. This creates a multi-field Master File description and FIX format FTM file. The values in the file correspond to the rectangle, circle, or buffered selection from the map. You can then use the data file as a JOIN statement parent to filter the child data.

### ☐ **Map Layers as Report Data Sources**

By using the multi-attribute selection technique for inbound layers, you can generate reports and graphs directly against map layers.



## WebFOCUS GIS Adapter Architecture

---

The following section describes the architecture of the WebFOCUS GIS Adapter and new features that are now available.

**In this chapter:**

- ☐ [XML-based Configuration Blocks](#)
  - ☐ [Orientation Modes](#)
  - ☐ [Current Limitations](#)
- 

### XML-based Configuration Blocks

The WebFOCUS GIS Adapter is a set of Java Server Pages (JSP) and server-side classes that manage all of the integration between reports and maps. A simple command set defines parameters to be passed when the developer wishes to generate a map or a report.

An XML-based definition file defines all aspects of the interaction between reports and maps for each WebFOCUS application that employs the GIS Adapter. For more information, see [Using the WebFOCUS GIS Viewer for Flex](#) on page 131.

The configuration blocks define:

- ☐ The ArcGIS Server map service to be accessed.
- ☐ The embedded JavaScript function(s) to be employed.
- ☐ The map rendering symbol definitions.
- ☐ The defined color tables.
- ☐ The defined menu display groups.
- ☐ The map layers available.
- ☐ The defined synthetic layers.
- ☐ The default map extent.
- ☐ The target browser window or frame names.
- ☐ The reporting FOCEXECs for each layer.

- ☐ The mapping FOCEXECs for each layer.
- ☐ The identify FOCEXECs for each layer.
- ☐ The parameters that are passed for each FOCEXEC.

The Map View Manager is a JSP-based application for displaying maps, navigating within the map, choosing procedures to execute, and selecting data to be passed to the procedures.

## Orientation Modes

The WebFOCUS GIS Adapter allows the developer to build applications that enable the users to operate in the orientation they are most comfortable with. It is possible to develop the application to use independent browser sessions for displaying reports and maps. The adapter is flexible enough for the developer to construct a frameset that combines both the report and the map display in the same browser window. This is very useful when integrating the GIS adapter capabilities within a portal environment.

## Operational Flow - General

When the WebFOCUS GIS Adapter is invoked, one of the first steps it performs is to access the XML definition file. The adapter parses the XML and uses the information provided to generate JavaScript® objects and methods that are returned to the browser. The JavaScript that is returned is vital to the operation of the Map View Manager, as well as any browser sessions used for report viewing.

## Operational Flow - WebFOCUS Map View Manager

### JavaScript

Accessing the default map is accomplished by navigating to a different URL. For example:

[http://xyz.com/ibi\\_apps/esri/esri\\_index.jsp?IBIAPP\\_app=CRIME&](http://xyz.com/ibi_apps/esri/esri_index.jsp?IBIAPP_app=CRIME&)

### FLEX/Flash

Accessing the default map is accomplished by navigating to a different URL. For example:

[http://xyz.com/ibi\\_apps/esri/flexmapviewer/FlexMapView.jsp?IBIAPP\\_app=CRIME&](http://xyz.com/ibi_apps/esri/flexmapviewer/FlexMapView.jsp?IBIAPP_app=CRIME&)

The developer can also designate a default map rendering FOCEXEC to be executed in order to have the initial view of the map displayed according to the results.

The WebFOCUS Map View Manager is a self contained JSP-based application. The options for zoom-in, zoom-out, and map panning, as well as report and data selection are provided by the application and are driven by the values supplied in the XML definition file. For more information, see [Using the WebFOCUS GIS Viewer for Flex](#) on page 131.

## Operational Flow - WebFOCUS Application

The developer can designate a default report (FOCEXEC) to be executed in the application definition file. To access the default report is simply a matter of navigating to a URL. For example:

[http://xyz.com/approot/CRIME/esri\\_rptdefault.htm](http://xyz.com/approot/CRIME/esri_rptdefault.htm)

Once the report has displayed, drill-down options are available. These can be rendered using any HTML capability that can accommodate a JavaScript action. Various JavaScript functions have been developed to enable the drill down integration between reports and maps. These functions depend on the JavaScript objects and methods that are available. Standard WebFOCUS drill-down facilities may be employed if the report to be displayed will not offer the option of drilling down to a map.

## Map Rendering Capabilities

The following shapes are generated by the ArcGIS Server map server:

- ☐ **Lines.** Used to identify streets and highways.
- ☐ **Polygons.** Used to identify items that consume area on the map like zip codes, counties, and states.
- ☐ **Points.** Used to identify particular discrete locations like an address or latitude and longitude intersection.

The WebFOCUS GIS Adapter automatically recognizes which shape is being rendered and can apply various formatting styles that are controlled by the developer. All of the standard HTML color styles can be applied to rendered maps.

Lines and polygons allow the developer to choose which colors are used when being rendered. Points on the map can be rendered using a wider variety of attributes. The developer can control the shape and size, as well as the color of the point. The following shapes can be used:

- ☐ Circle
- ☐ Square

- ☐ Triangle
- ☐ Star
- ☐ Cross

More complex map rendering can be specified:

- ☐ **Multiple layer rendering.** Specifying the attribute and column name pair for the outbound layer definition instructs the GIS Adapter to render the features for that layer.
- ☐ **Layer subsets.** Leaving the attribute name empty for the layer definition causes the GIS Adapter to make the layer visible.
- ☐ **Symbol usage.** Twelve standard symbol definitions are provided for map rendering. The developer has the flexibility to create their own symbol definitions. This allows the developer to instruct the adapter to render a nearly infinite number of feature representations with their own custom feature renderings.

## Identify Functionality

In some cases, you may not want to run an extensive report only to display specific information about a single point on a map. For these quick hit types of requests, the WebFOCUS GIS Adapter now supports simple WebFOCUS requests where the answer displays as a dynamic output area within the Map View Manager.

## Run Map Procedure

To change the rendering style portrayed by the Map View Manager, you can execute map rendering procedures using the same methods as report procedures. The key difference is that the user will not explicitly select features from the map as they do for a report. Instead the visible portion of the map will be used as the selection coordinates.

## Current Limitations

The following are known limitations in the current version of the WebFOCUS GIS Adapter:

- ☐ The WebFOCUS GIS Viewer for Adobe Flex does not support Legends.
- ☐ REST-based queries that include the geometry of a polygon using a different spatial reference than the map service return no results unless the input spatial reference (inSR) parameter is used.

These limitations will be addressed in an upcoming release of the product.

# Chapter 3

## Prerequisites for WebFOCUS GIS Viewer for Flex

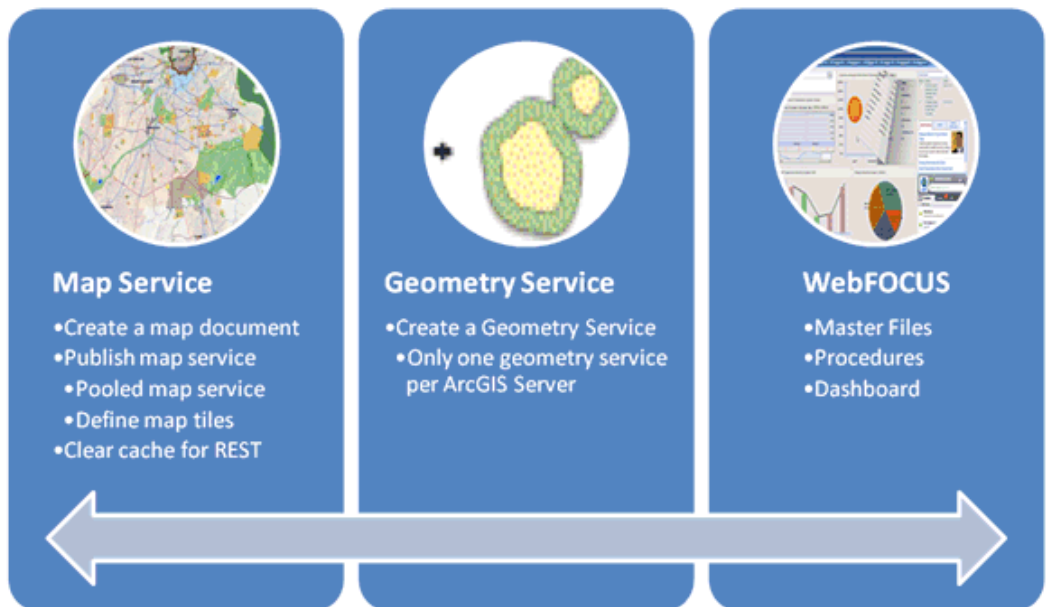
The following section describes the prerequisites that are required before using the WebFOCUS GIS Viewer for Flex.

### In this chapter:

- ☐ [Overview](#)
- ☐ [Creating a Map Service](#)
- ☐ [Configuring the Crossdomain.xml File](#)

### Overview

This section provides an overview of the prerequisites for the WebFOCUS GIS Viewer for Flex.



The WebFOCUS GIS Viewer for Flex requires:

- ☐ A pooled map service published on ArcGIS Server version 9.3 or higher.

**Note:** Map services published on ArcIMS will not work.

- ☐ A geometry service published on ArcGIS Server version 9.3 or higher.
- ☐ Adobe Flash Player

### Map Document Requirements

You must first create a map document on your local file system. This map document will not be available to client applications until the map service is published.

### Data Storage Requirements

The data needs to be stored in a way that the Server Object Container (SOC) machine for ArcGIS Server can access it. What this means is that when a map document is published as a service, both the map document and all its layers in the map document need to be accessible by the SOC machine.

Use Universal System Convention (UNC) paths instead of mapped paths for network data. If the data is stored in a local hard drive, then use a mapped path. If your shape files are stored in a shared directory, then use UNC paths so that the SOC machine can access it.

### Permission Requirements

In order for the SOC machine to access the data, grant SOC account (ArcGISSOC) permissions to use the data. This is the SOC user account you specified during ArcGIS Server Post Install. Grant the account read access to your data.

### Creating a Map Service

You can create a map service using one of the following options:

- ☐ **Option 1:** Use the ArcGIS Web Manager Console to create a pooled map service.
- ☐ **Option 2:** Use ArcCatalog to connect to the ArcGIS Server and create the map service.

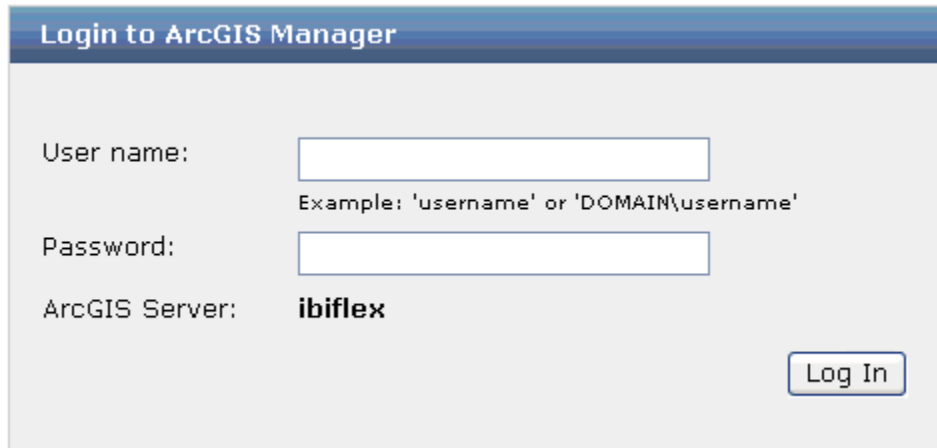
To grant permissions, add your logon for the system where ArcCatalog is installed as a user to the agsadmin group in the ArcGIS Server system.

### ***Procedure:*** How to Publish a Map Service Using the ArcGIS Server Manager Console

To publish a map service using the ArcGIS Server Manager Console:

1. From the Windows Start menu, select *All Programs, ArcGIS, ArcGIS Server for the Java Platform*, and then click *ArcGIS Server Manager*.

The Login to ArcGIS Manager dialog opens.



The dialog box titled "Login to ArcGIS Manager" contains the following fields and text:

- User name:** A text input field with the example text: "Example: 'username' or 'DOMAIN\username'" below it.
- Password:** A password input field.
- ArcGIS Server:** The text "ibiflex".
- Log In:** A button in the bottom right corner.

2. Log in to the ArcGIS Server Manager Console using the account that you configured after installation.
3. Click *Log In*.

The ArcGIS Server Manager Console Home page opens.



4. Click *Publish a map, globe or other GIS resource as a service*.

The Publish: General page opens.

**Publish: General**

Choose the GIS Resource you would like to publish

Resource Type: Map

Resource:  Browse...

Name:

Choose the folder to publish to

☒ Existing Folder ibiflex

☐ New Folder

Next > Cancel

5. From the Resource Type drop-down list, select *Map*.
6. Specify the path to the map document (.mxd) in the Resource field, or click the *Browse* button to navigate to the location on your file system.
7. In the *Choose the folder to publish to* section, select an existing folder or specify a new folder name in the New Folder field.
8. Click *Next*.

The Publish: Capabilities page opens.

**Publish: Capabilities**

Choose capabilities you would like to enable

☒ Mapping (always enabled)

☐ Feature Access

☐ Mobile Data Access

☐ WMS

☒ KML

☐ Network Analysis

☐ WFS

☐ WCS

☐ GeoData Access

☐ Geoprocessing

< Previous Next > Cancel



9. Accept the default values and click *Next*.

The Publish: Summary page opens.

Publish: Summary	
Below is a summary of the new service you are about to publish	
Resource:	C:\jbi\apps\hpd\hpd_cfs.mxd
Resource Type:	Map
Folder Location:	'ibiflex' (root folder)
Capabilities:	KML
<input style="float: left;" type="button" value=" &lt; Previous "/> <input style="float: right;" type="button" value=" Finish "/> <input style="float: right;" type="button" value=" Cancel "/>	

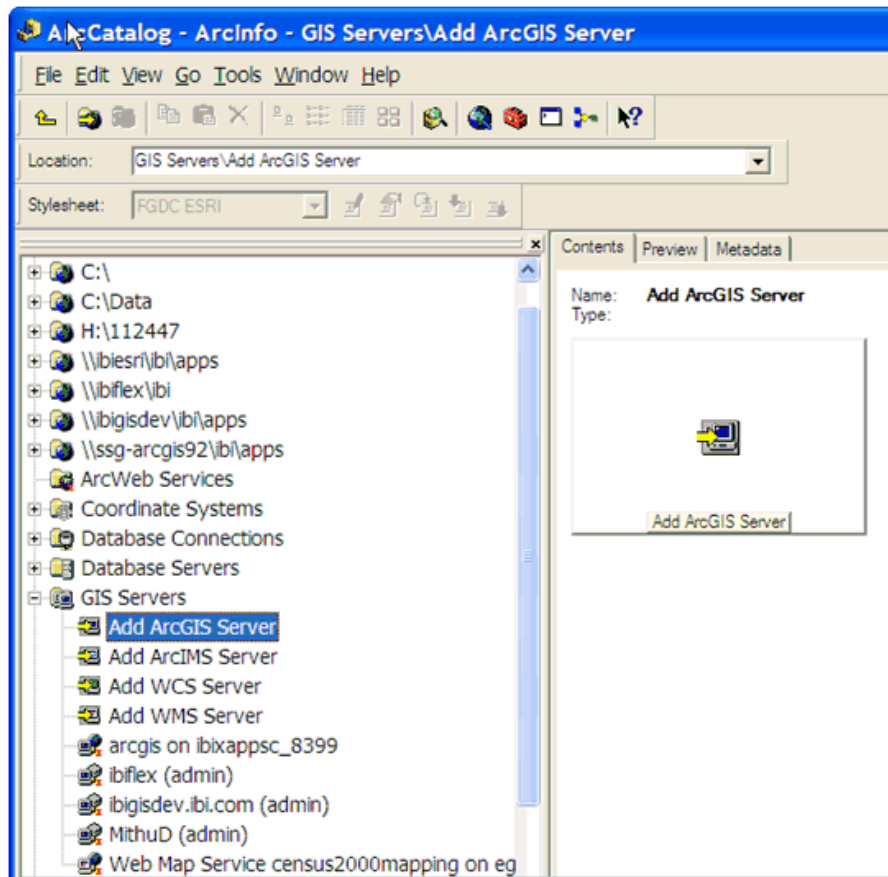
10. Click *Finish*.

### ***Procedure:* How to Use ArcCatalog to Connect to the ArcGIS Server and Create the Map Service**

To use ArcCatalog to connect to the ArcGIS Server and create the map service:

1. From the Windows Start menu, select *All Programs*, *ArcGIS*, and then click *ArcCatalog*.

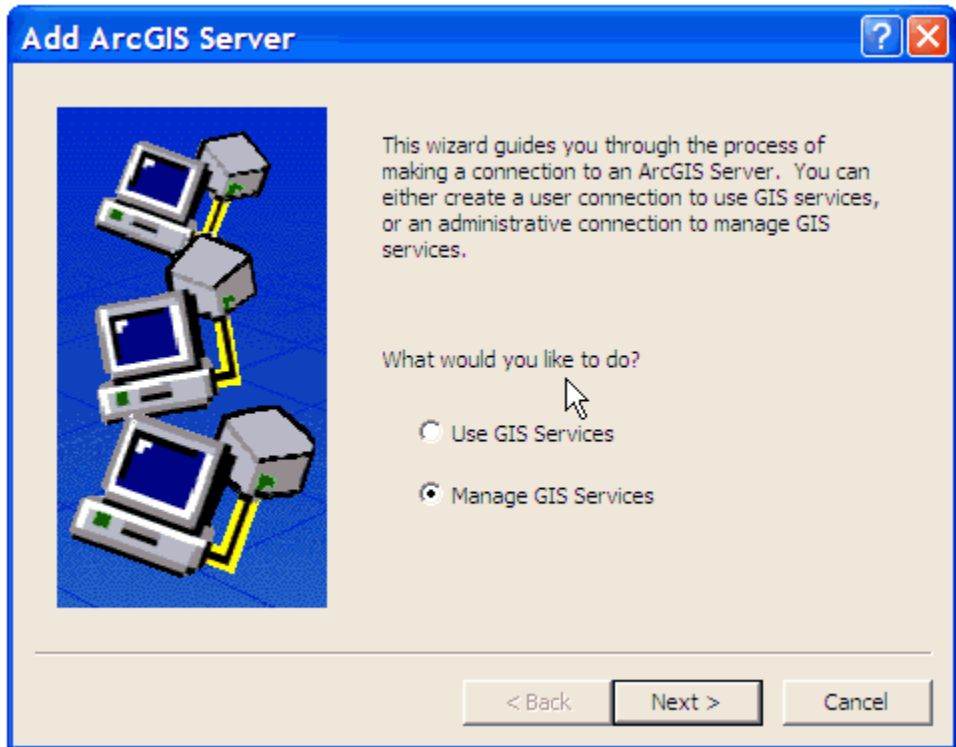
The ArcCatalog opens, as shown in the following image.



You must first create a connection to the ArcGIS Server.

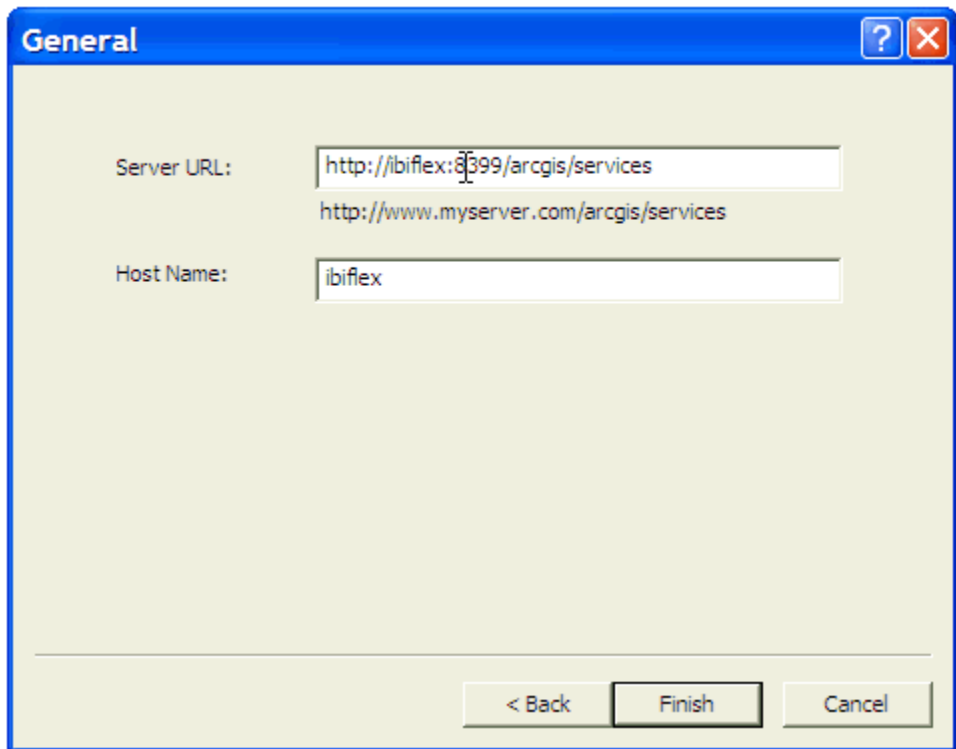
2. Expand the *GIS Servers* node and double-click *Add ArcGIS Server*.

The Add ArcGIS Server wizard opens, as shown in the following image.



3. Select the *Manage GIS Services* option and click *Next*.

The General pane opens.



The screenshot shows a 'General' dialog box with a blue title bar containing a question mark and a close button. The dialog has two text input fields. The first field is labeled 'Server URL:' and contains the text 'http://ibiflex:8399/arcgis/services' with a cursor at the end. Below it, a second line of text 'http://www.myserver.com/arcgis/services' is visible. The second field is labeled 'Host Name:' and contains the text 'ibiflex'. At the bottom of the dialog are three buttons: '< Back', 'Finish', and 'Cancel'.

4. Enter the server URL using the following format:

`http://<ArcGIS ServerHost Name>:<port number>/arcgis/services`

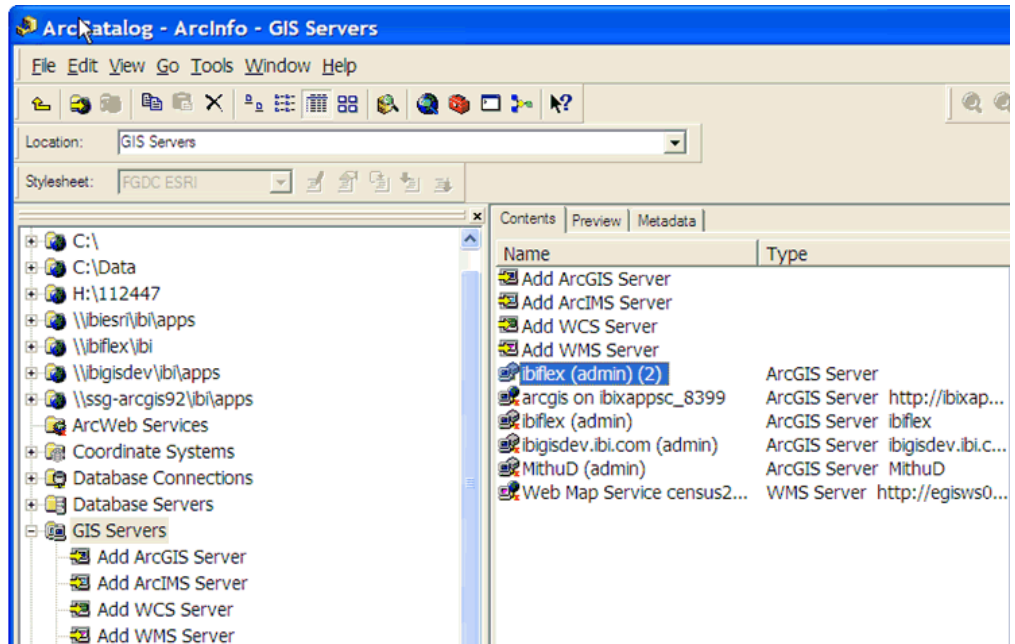
This is the URL on which the map services are displayed. By default, ArcGIS Server listens on port 8399.

5. Enter the host name.

Typically, this is the ArcGIS Server host name.

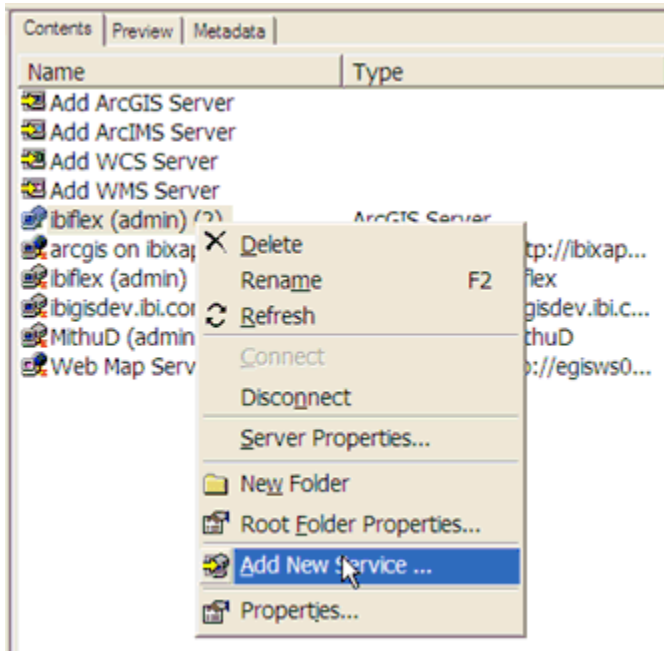
6. Click *Finish*.

The new connection is added to the ArcCatalog, as shown in the following image.

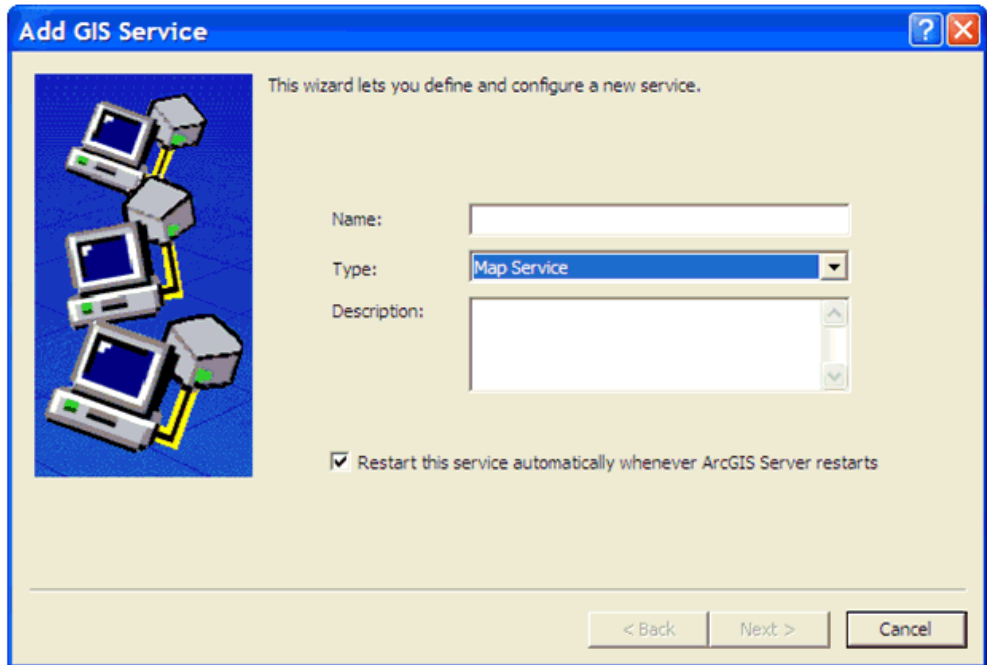


You are now ready to create a map service.

7. Right-click the newly created ArcGIS Server connection in the ArcCatalog and select *Add New Service* from the context menu, as shown in the following image.

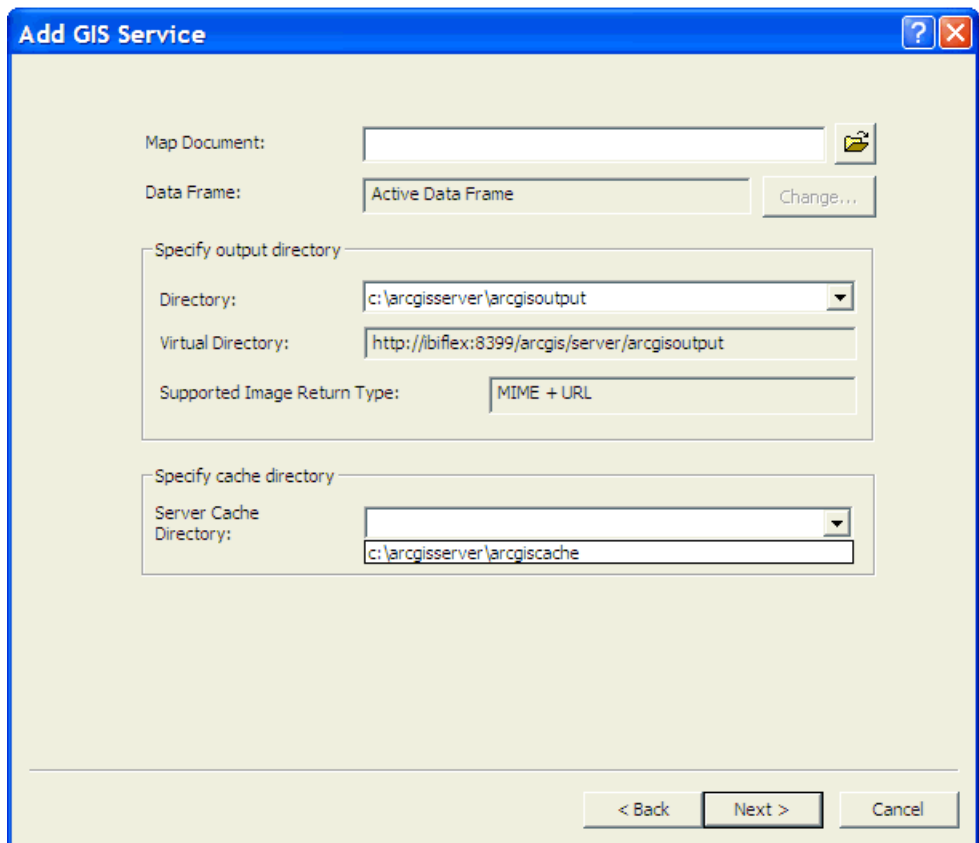


The Add GIS Service wizard opens, as shown in the following image.



8. Enter a name for the new map service in the Name field.
9. From the Type drop-down list, select *Map Service*.
10. Click *Next*.

The following pane opens, prompting you to specify the map document (.mxd), output directory, and cache directory.



The image shows a Windows-style dialog box titled "Add GIS Service". It has a blue title bar with a question mark icon and a close button. The dialog is divided into several sections for configuration:

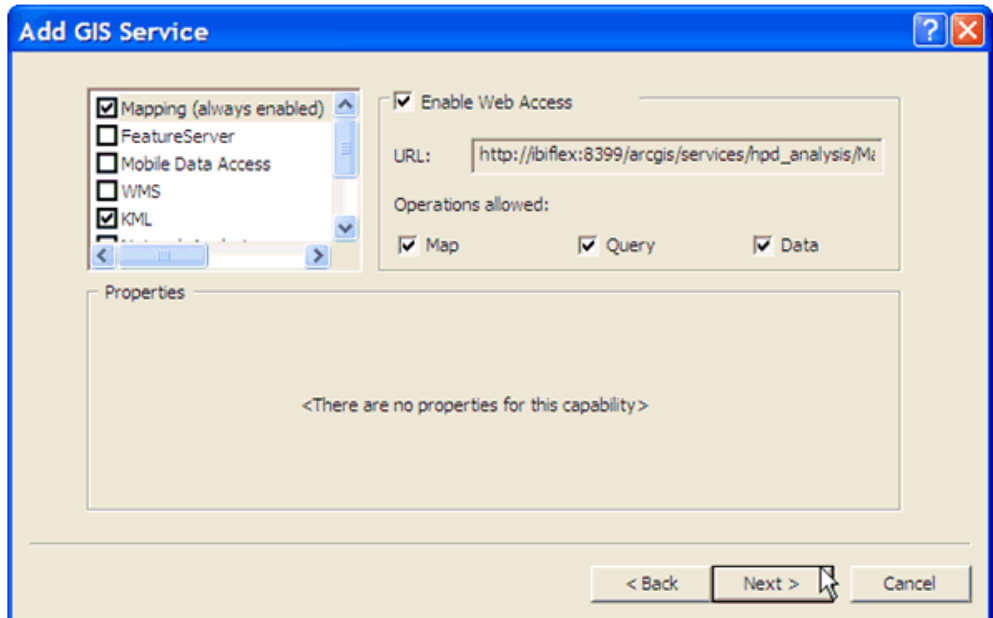
- Map Document:** A text input field with a folder icon button to its right.
- Data Frame:** A dropdown menu showing "Active Data Frame" and a "Change..." button.
- Specify output directory:** A section containing:
  - Directory:** A dropdown menu showing "c:\arcgisserver\arcgisoutput".
  - Virtual Directory:** A text input field showing "http://ibiflex:8399/arcgis/server/arcgisoutput".
  - Supported Image Return Type:** A text input field showing "MIME + URL".
- Specify cache directory:** A section containing:
  - Server Cache Directory:** A dropdown menu showing "c:\arcgisserver\arcgiscache".

At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

11. Specify the path to the map document (.mxd) in the Map Document field, or click the *Browse* button to navigate to the location on your file system.
12. Accept the default values in the Specify output directory section, or specify your own custom values.
13. Select an available cache directory from the Server Cache Directory drop-down list.
14. Click *Next*.



The following pane opens.



15. Accept the default values and click *Next*.

The following pane opens.

**Add GIS Service**

Pooling

This service should be:

- ☒ Pooled - Used repeatedly by many clients.
- ☐ Not pooled - Used by a single client and disposed of after use.

Minimum number of instances:

Maximum number of instances:

Timeouts

The maximum time a client can use a service:  seconds

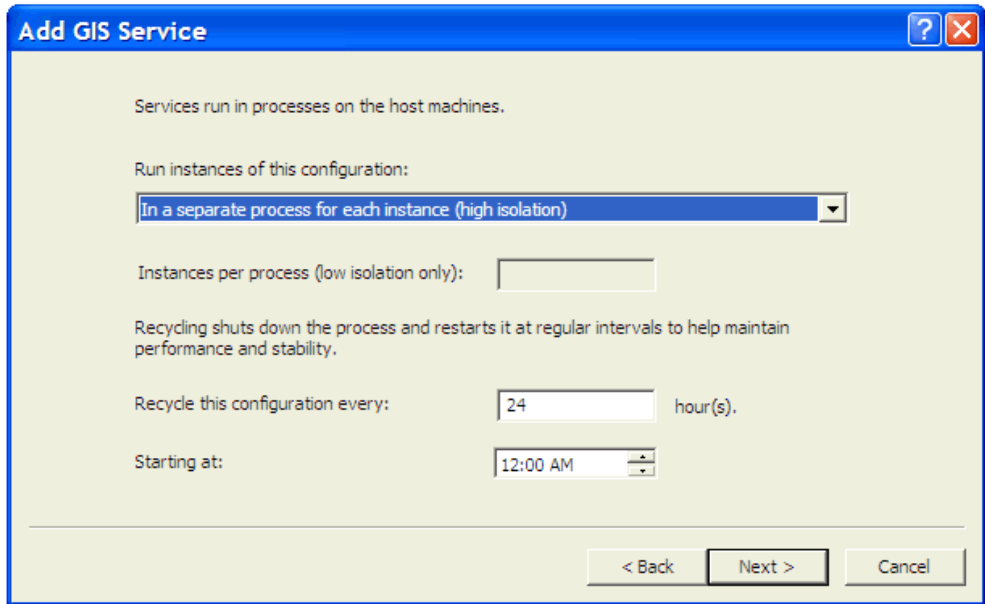
The maximum time a client will wait to get a service:  seconds

The maximum time an idle instance can be kept running:  seconds

< Back   **Next >**   Cancel

16. Accept the default values and click *Next*.

The following pane opens.

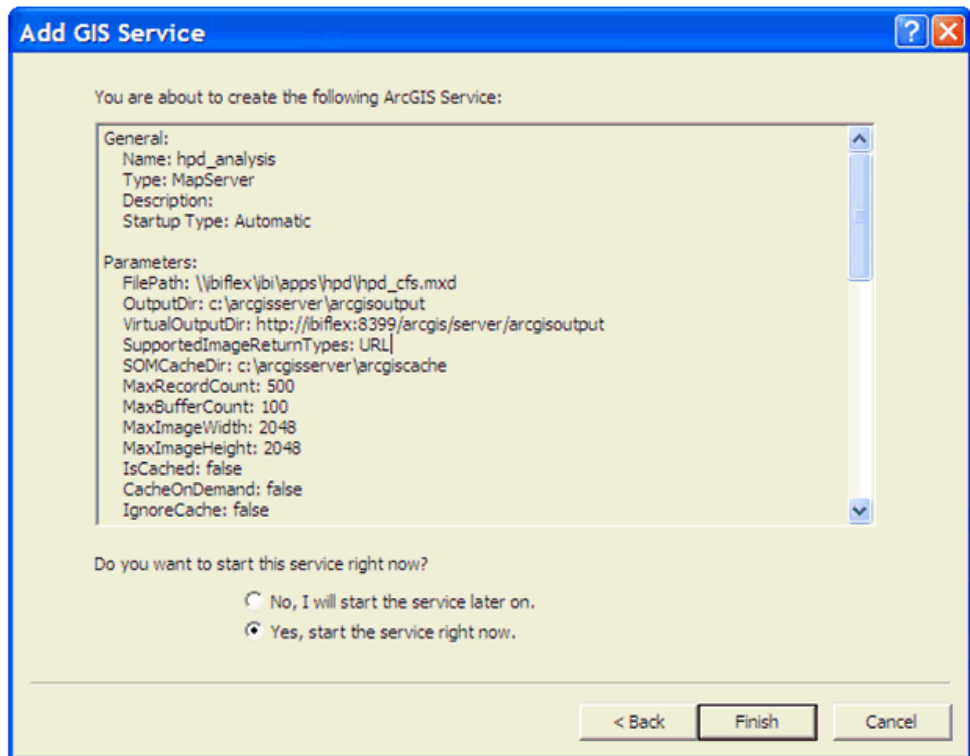


The image shows a Windows-style dialog box titled "Add GIS Service". It has a blue title bar with a question mark icon and a close button. The main area is light beige and contains the following text and controls:

- Text: "Services run in processes on the host machines."
- Text: "Run instances of this configuration:"
- Dropdown menu: "In a separate process for each instance (high isolation)"
- Text: "Instances per process (low isolation only):" followed by an empty text box.
- Text: "Recycling shuts down the process and restarts it at regular intervals to help maintain performance and stability."
- Text: "Recycle this configuration every:" followed by a text box containing "24" and the label "hour(s)".
- Text: "Starting at:" followed by a time picker showing "12:00 AM".
- Buttons at the bottom: "< Back", "Next >", and "Cancel".

17. Accept the default values and click *Next*.

The Summary pane opens, as shown in the following image.



18. Click *Finish*.

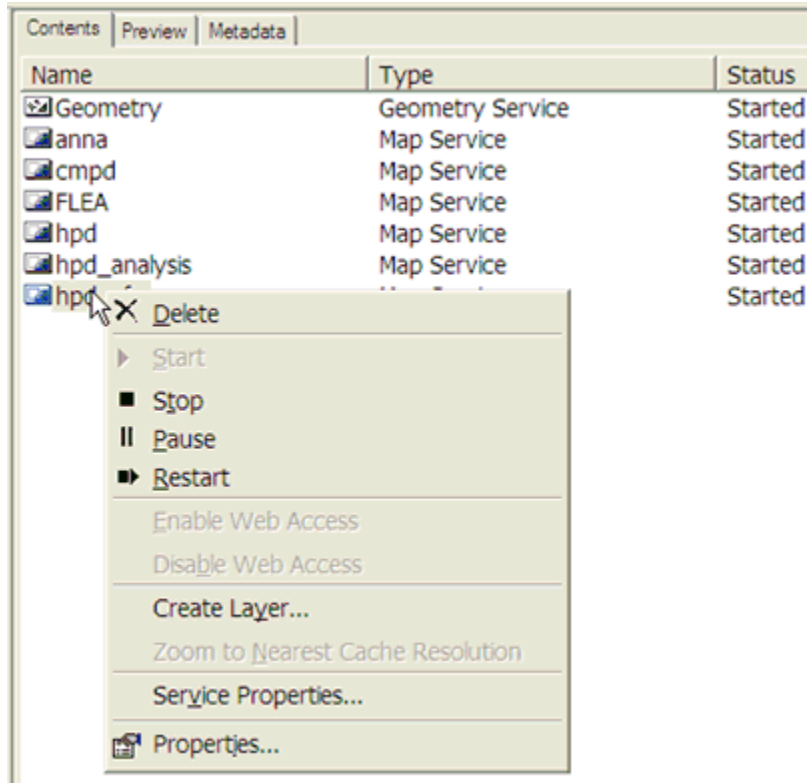
You have successfully created a new map service using ArcCatalog.

You are now ready to create the map cache.

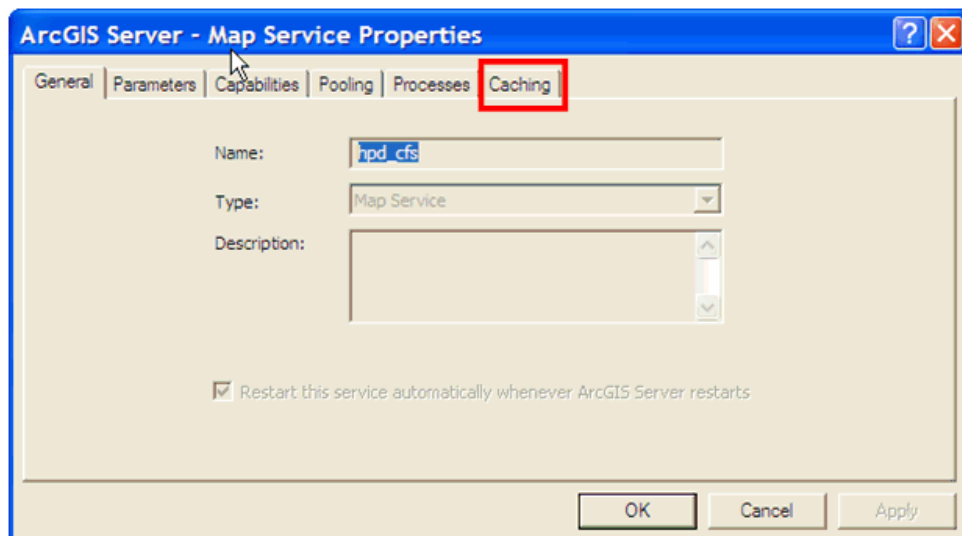
**Procedure: How to Create the Map Cache**

To create the map cache:

1. Right-click the newly created map service and select *Service Properties* from the context menu, as shown in the following image.



The Map Service Properties dialog opens.

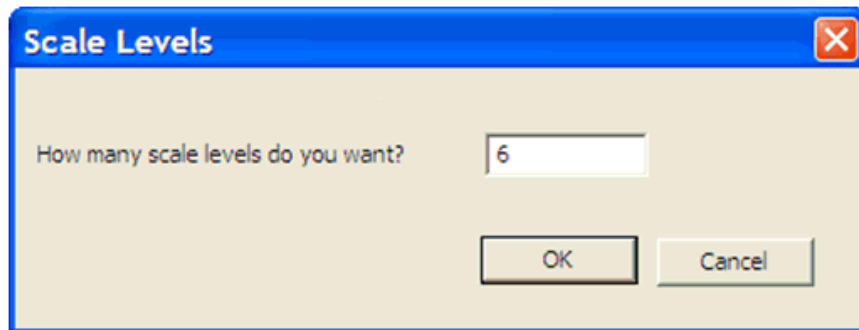


- Click the *Caching* tab.

The screenshot shows the 'ArcGIS Server - Map Service Properties' dialog box with the 'Caching' tab selected. The 'Draw this map service' section has two radio buttons: 'Dynamically from the data' (unselected) and 'Using tiles from a cache that you will define below' (selected). To the right of these are 'Create Tiles...' and 'Delete Cache...' buttons. The 'Tiling Scheme' section includes a 'Load tiling scheme from...' button, a 'Scales' list box, and 'Add', 'Delete', and 'Suggest...' buttons. The 'Origin (x, y) in map units' section has input fields for 'X' (-126725700) and 'Y' (179559600). The 'Image Settings' section includes 'Tile Format' (PNG8), 'Compression' (empty), 'Height' (512 pixels), 'Width' (512 pixels), 'Dots per inch' (96 DPI), and a checkbox for 'Smooth line and label edges (anti-aliasing)'. At the bottom, there are checkboxes for 'Create tiles on demand' (unchecked) and 'Allow clients to cache tiles locally' (checked), an 'Advanced Options...' button, and a 'Cache directory' dropdown menu showing 'c:\arcgisservice\arcgiscache'. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

- In the *Draw this map service* section, select the *Using tiles from a cache that you will define below* option.
- Click *Suggest* in the *Scales* section if you are unsure of how to create the tile.

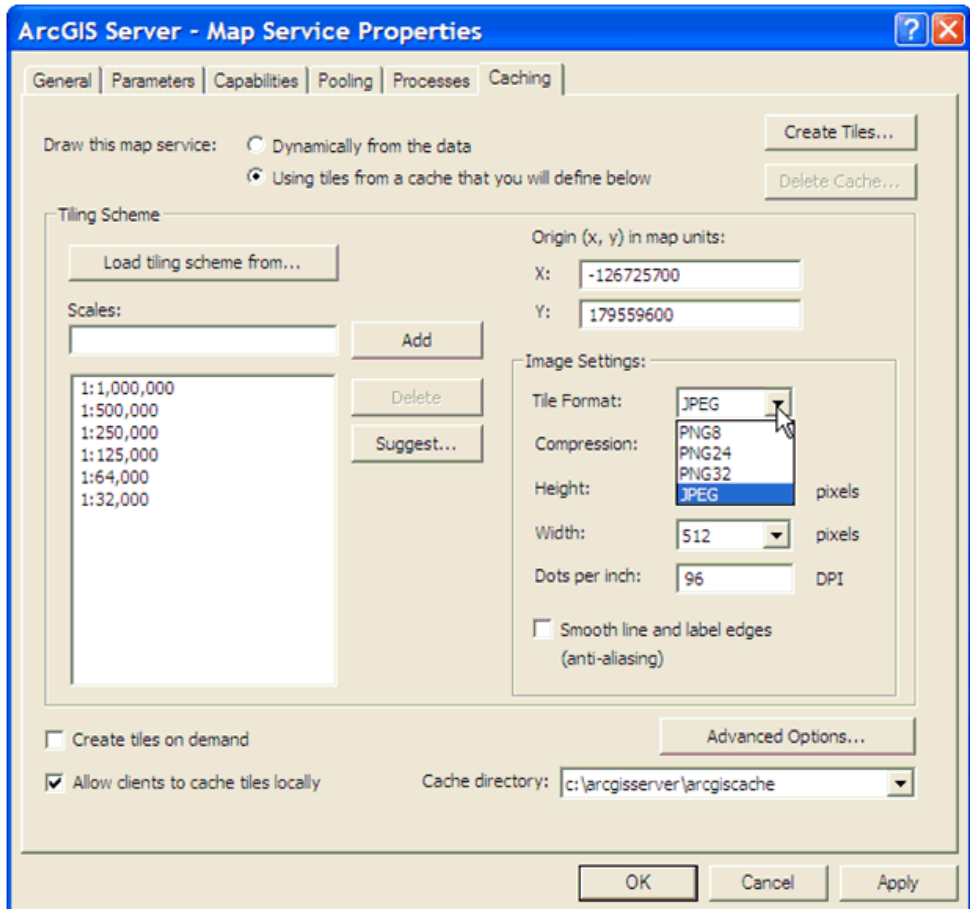
The Scale Levels dialog opens.



5. Enter a number in the field, which represents the number of zoom levels that will be allowed in the map navigation.
6. Click *OK*.



You are returned to the Caching tab of the Map Service Properties dialog.



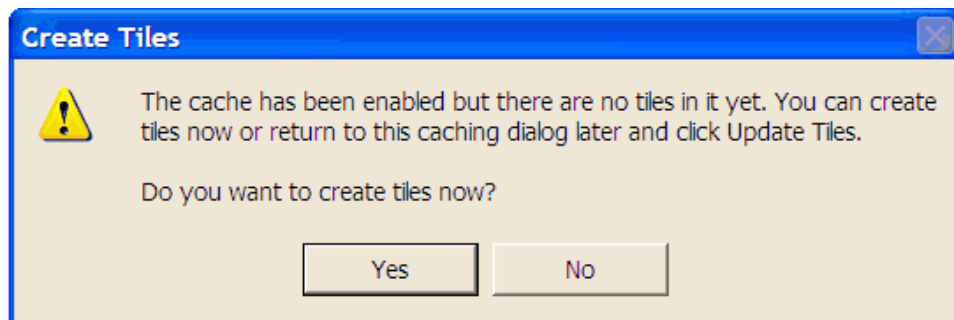
7. In the Image Settings section, select JPEG from the Tile Format drop-down list.

The JPEG format produces small tiles and will reduce the required disk space to store the cache. In addition, clients can also load the tiles faster.

**Note:** This step assumes that you are not going to overlay this cache on another service. For overlay services, such as road and boundary networks, it is recommended to use the PNG8 format instead.

8. Click OK.

The Create Tiles dialog opens.



9. Click Yes.

The Manage Map Server Cache Tiles dialog opens, as shown in the following image.

**Manage Map Server Cache Tiles**

Host: jblflex

Map Server: hpd\_cfs

Data Frame:

Layers:

Input Layers:

- ☒ StoreFronts
- ☒ Stations
- ☒ Freeways
- ☒ MajorRoads
- ☒ Roads
- ☒ LakeHouston
- ☒ Houston
- ☒ HarrisCounty

Select All Unselect All Add Value

Update Extent (optional)

Top: 14032274.930965

Left: 2884465.920300

Right: 3311822.887764

Bottom: 13634362.450953

Clear

Scales:

- ☒ 1000000
- ☒ 500000
- ☒ 250000
- ☒ 125000
- ☒ 64000
- ☒ 32000

Select All Unselect All Add Value

Update Mode: Recreate All Tiles

Number of MapServer instances (optional): 2

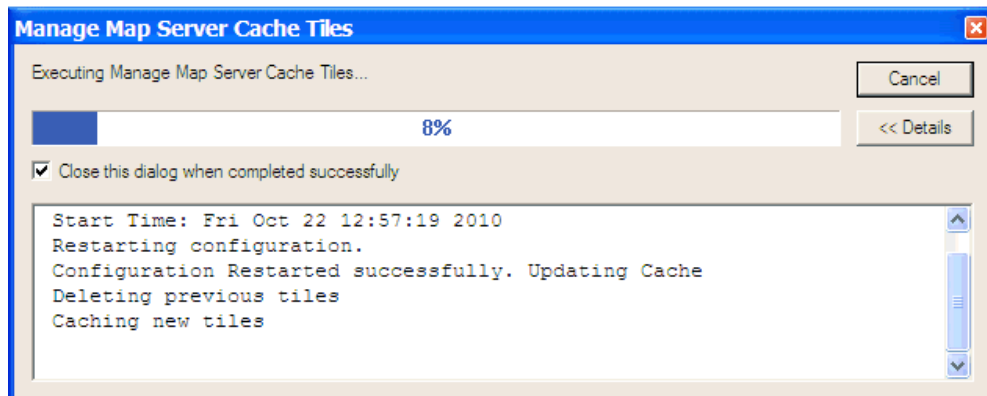
☐ Antialiasing (Smooths edges of labels and lines for improved display quality) (optional)

OK Cancel Environments... Show Help >>

10. Ensure that *Recreate All Tiles* is selected from the Update Mode drop down list.

11. Click OK to create the tiles.

The following dialog opens, which shows the progress of the tile creation process.



12. Wait until the process has finished.

Once the process has finished, you must clear the REST cache.

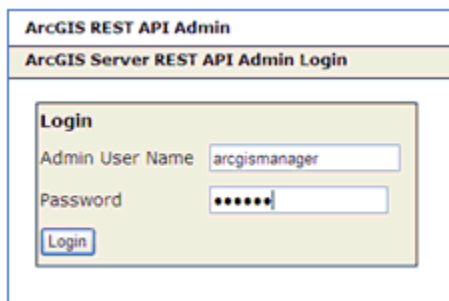
### ***Procedure:*** How to Clear the REST Cache

To clear the REST cache:

1. Log on to the ArcGIS REST API Admin console using the following URL:

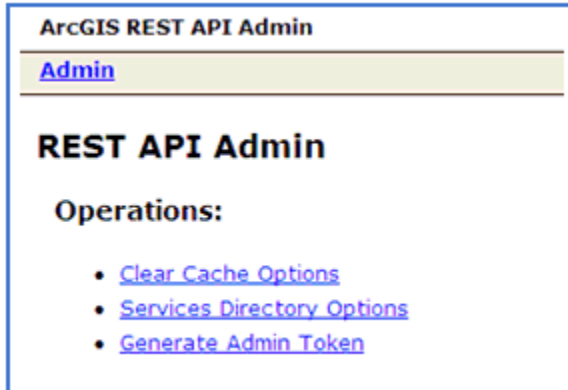
<http://<ArcGIServer>:8399/arcgis/rest/admin/>

The following login page opens.



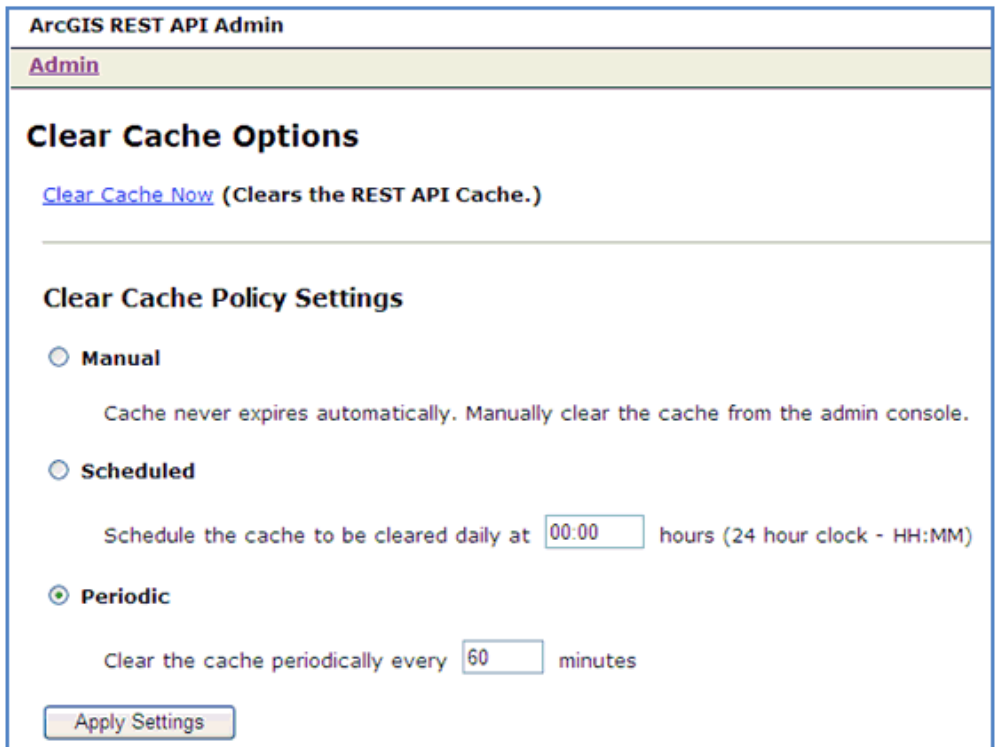
2. Enter a valid admin user name and password, and then click *Login*.

The REST API Admin page opens, as shown in the following image.



3. Click the *Clear Cache Options* hyperlink.

The Clear Cache Options page opens.



4. Click the *Clear Cache Now* hyperlink.

You can also select the *Scheduled* or *Periodic* option to clear the cache automatically based on the time values that you specify.

### Configuring the Crossdomain.xml File

Before you deploy the WebFOCUS GIS Viewer for Flex, ensure that the crossdomain.xml file is included in the root directory where ArcGIS Server is installed. This file is used to access data from a different server other than the one hosting the WebFOCUS GIS Viewer for Flex application.

For security reasons, Flex cannot access data other than where the .swf file for the deployed application is located. This is the primary reason why the crossdomain.xml file must reside on the remote server (ArcGIS Server). As a result, permissions are granted to Flash to access the services on the remote server. The crossdomain.xml file must be structured, as shown in the following example:

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM "http://www.adobe.com/xml/dtds/cross-
domain-policy.dtd">
<cross-domain-policy>
  <site-control permitted-cross-domain-policies="all"/>
  <allow-access-from domain="*" />
</cross-domain-policy>
```

For more information on how to configure the crossdomain.xml file, see the following web site:

[http://resources.arcgis.com/en/help/flex-api/concepts/index.html#/Using\\_crossdomain\\_xml/017p0000001w000000/](http://resources.arcgis.com/en/help/flex-api/concepts/index.html#/Using_crossdomain_xml/017p0000001w000000/)

## Using the ESRI Configuration Utility

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This chapter describes how to use the ESRI Configuration Utility to define XML definition files for integration between WebFOCUS and ArcGIS Server.

### In this chapter:

- ☐ [Introduction](#)
  - ☐ [Understanding the Layout and User Interface](#)
  - ☐ [Configuring FOCEXECs](#)
  - ☐ [Configuring Synthetic Map Services](#)
  - ☐ [Configuring Symbols](#)
  - ☐ [Adding Bookmarks](#)
  - ☐ [Customizing JavaScript Syntax](#)
  - ☐ [Configuring Settings](#)
  - ☐ [Flushing Tables](#)
  - ☐ [Verifying the XML Definition File](#)
  - ☐ [Current Limitations](#)
- 

### Introduction

When the WebFOCUS GIS Adapter is invoked, one of the first steps it performs is to access the XML definition file (for example, `esriconfig.xml`). The adapter parses the XML and uses the information provided to generate JavaScript objects and methods that are returned to the web browser. The JavaScript that is returned is vital to the operation of the WebFOCUS GIS Flex Viewer, as well as any browser sessions used for report viewing.

As of WebFOCUS 8, the ESRI Configuration Utility is available as a utility that provides a graphical interface to configure and edit XML definition files.

## **Procedure: How to Open the ESRI Configuration Utility**

The ESRI Configuration Utility is available from the Legacy Home Page or WebFOCUS Home Page. To open the ESRI Configuration Utility:

1. Type the following address in your web browser:

`http://server:port/ibi_apps`

where:

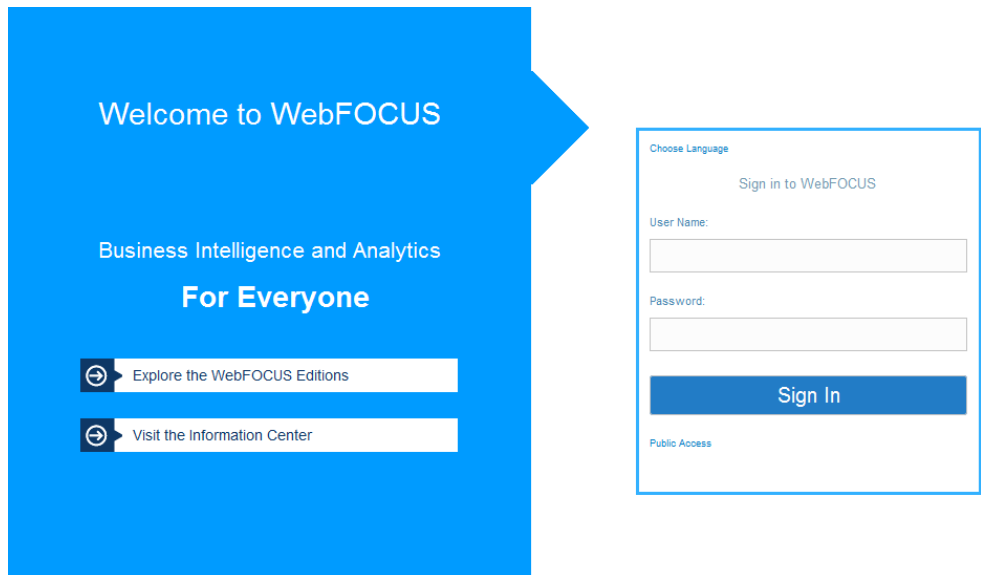
`server`

Is the name of the server on which WebFOCUS is installed.

`port`

Is the number of the port on which the server is listening.

The WebFOCUS Sign-in page opens, as shown in the following image.



2. Sign in using the following credentials:

☐ User Name: *admin*

☐ Password: *admin*

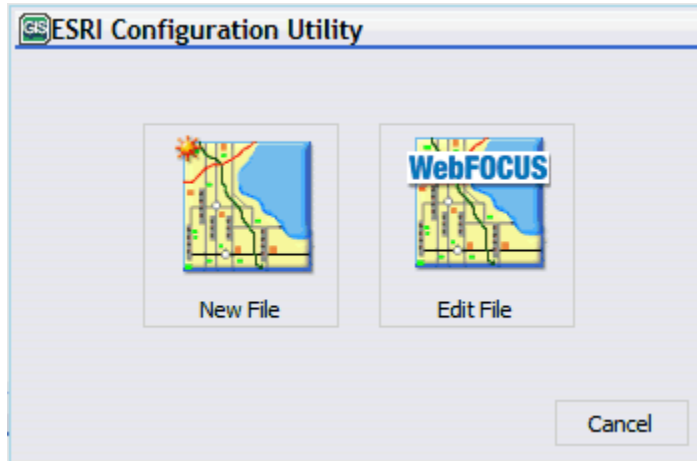
You can also use a self-service login account to access the ESRI Configuration Utility. For more information, see [How to Configure a Self-Service Login Account](#) on page 61.



3. Launch the ESRI Configuration Utility in one of the following ways:

- ☐ From the Legacy Home Page, click *Tools* from the Menu Bar, and select *ESRI Configuration Utility*.
- ☐ From the WebFOCUS Home Page, click the User menu, point to *Tools*, and then click *ESRI Configuration Utility*.

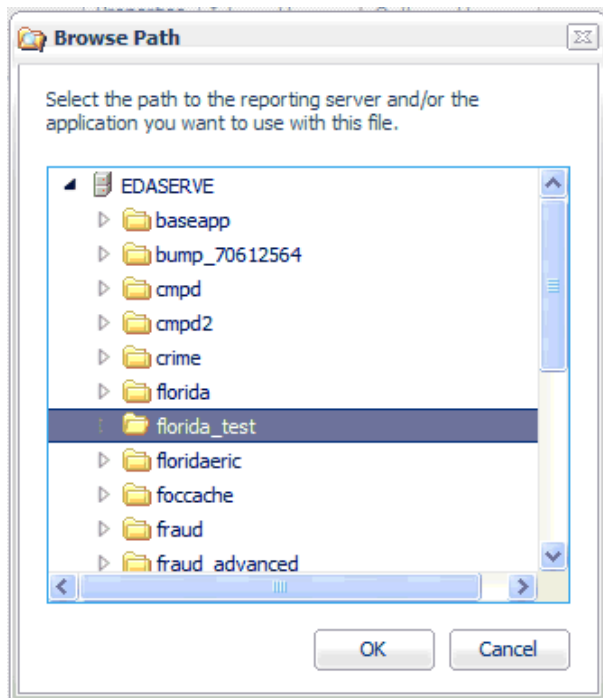
The ESRI Configuration Utility dialog opens.



This initial dialog allows you to create a new XML definition file or edit an existing version that is available.

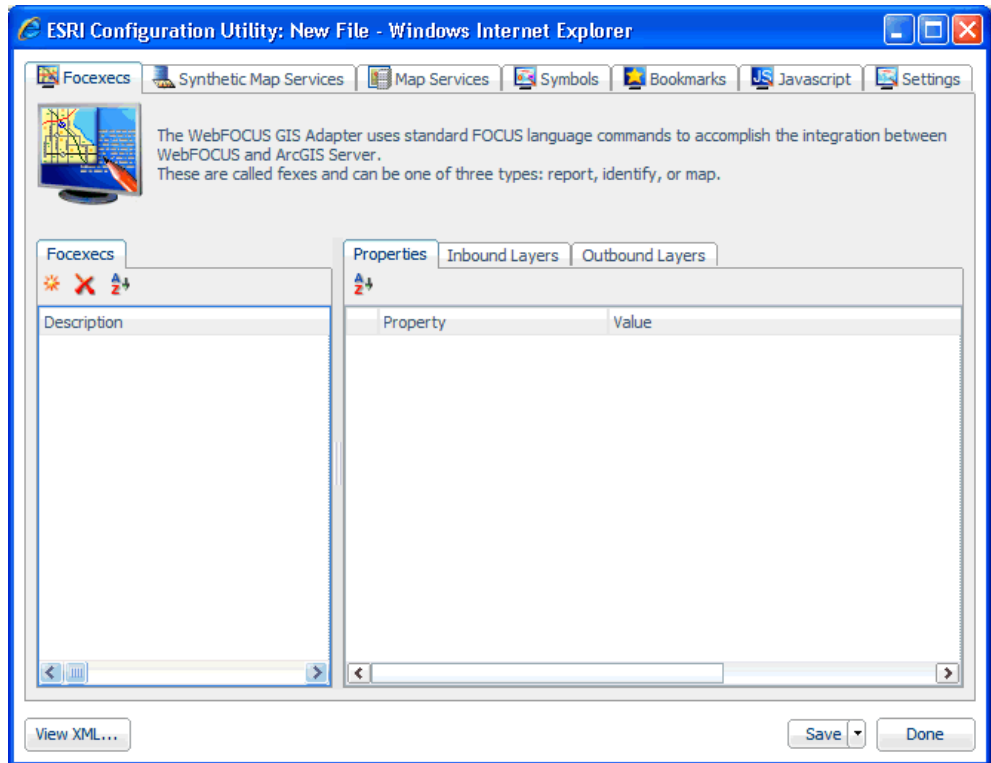
- ☐ To create a new XML definition file, perform steps 5 through 7.
  - ☐ To edit an existing XML definition file, perform steps 8 through 10.
4. To create a new XML definition file, click *New File*.

The Browse Path dialog opens, as shown in the following image.



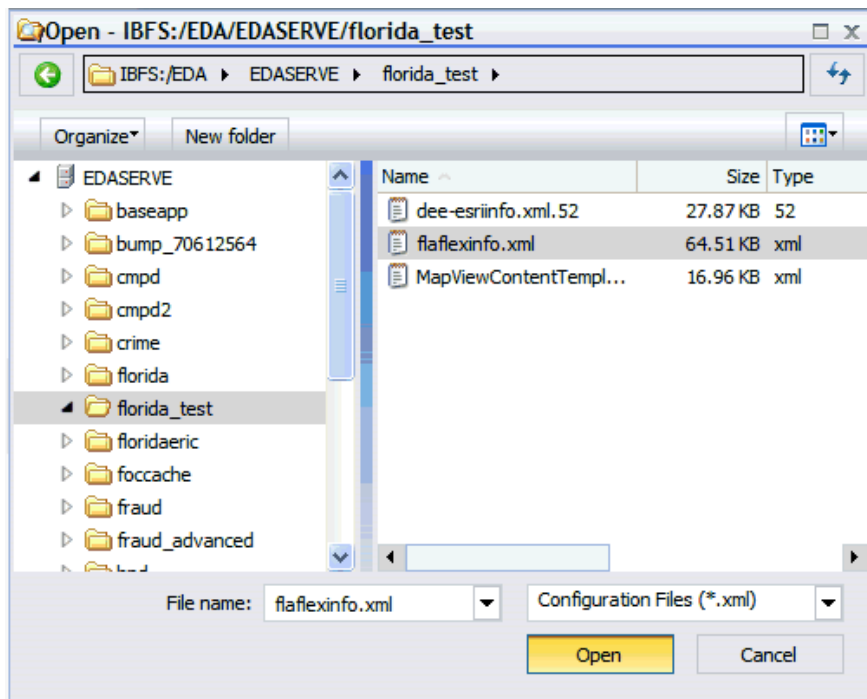
5. Select an application folder on the WebFOCUS Reporting Server where the new XML definition file will be located when it is saved.
6. Click *OK*.

The ESRI Configuration Utility opens for a new XML definition file, as shown in the following image.



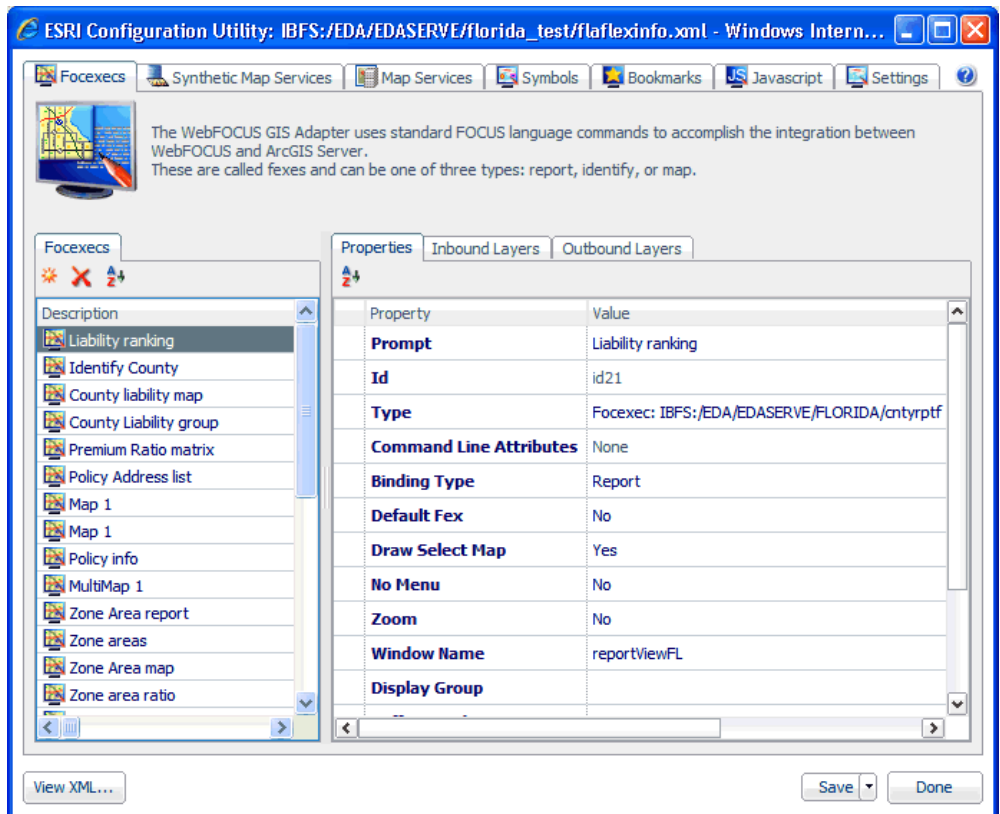
7. To edit an existing XML definition file, click *Edit File* from the ESRI Configuration Utility dialog box.

The Open dialog displays, as shown in the following image.



8. Browse to an application folder on the WebFOCUS Reporting Server where an existing XML definition file is located.
9. Click *Open*.

The ESRI Configuration Utility opens for the selected XML definition file, as shown in the following image.



The path to the XML definition file is displayed at the top of the window. For example:

ESRI Configuration Utility: IBFS:/EDA/EDASERVE/florida\_test/flaflexinfo.xml

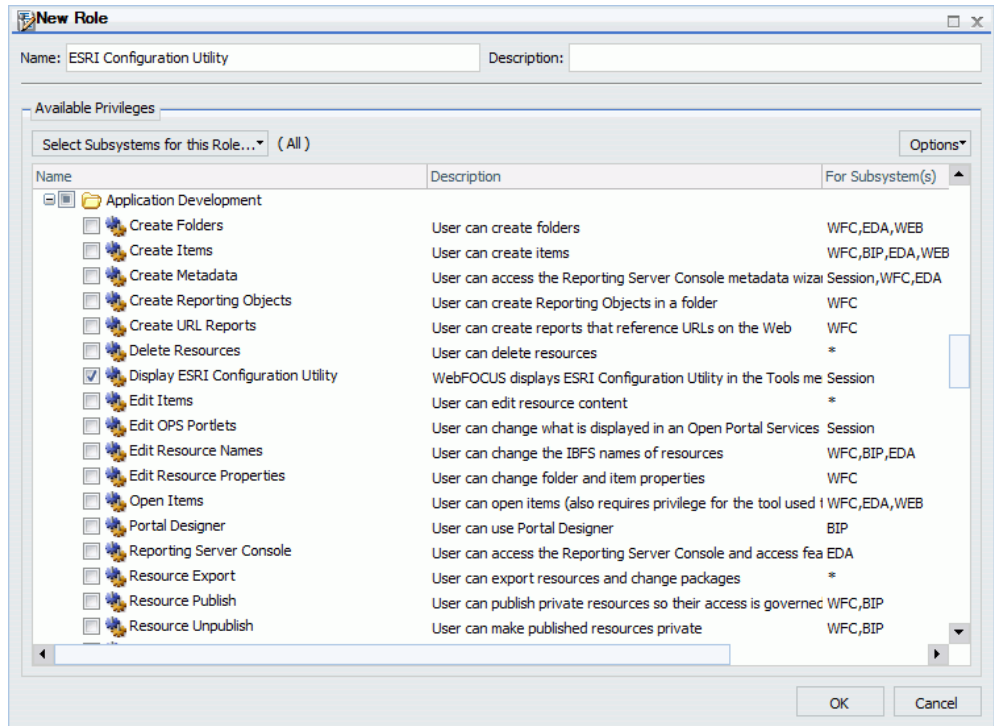
### **Procedure:** How to Configure a Self-Service Login Account

The ESRI Configuration Utility can also be accessed from WebFOCUS using a self-service login account. To configure a self-service login account:

1. Log in to the WebFOCUS as an administrator.
2. Launch the Security Center.
3. Click the *Roles* tab.
4. Click the *New Role* button.

The New Role dialog box opens.

5. Type *ESRI Configuration Utility* in the Name field and select *Display ESRI Configuration Utility* from the list of available privileges, as shown in the following image:



6. Click *OK*.

The ESRI Configuration Utility role now appears in the Roles list.

7. Click the *Users & Groups* tab.
8. Click the *New Group* button.

The New Group dialog box opens.

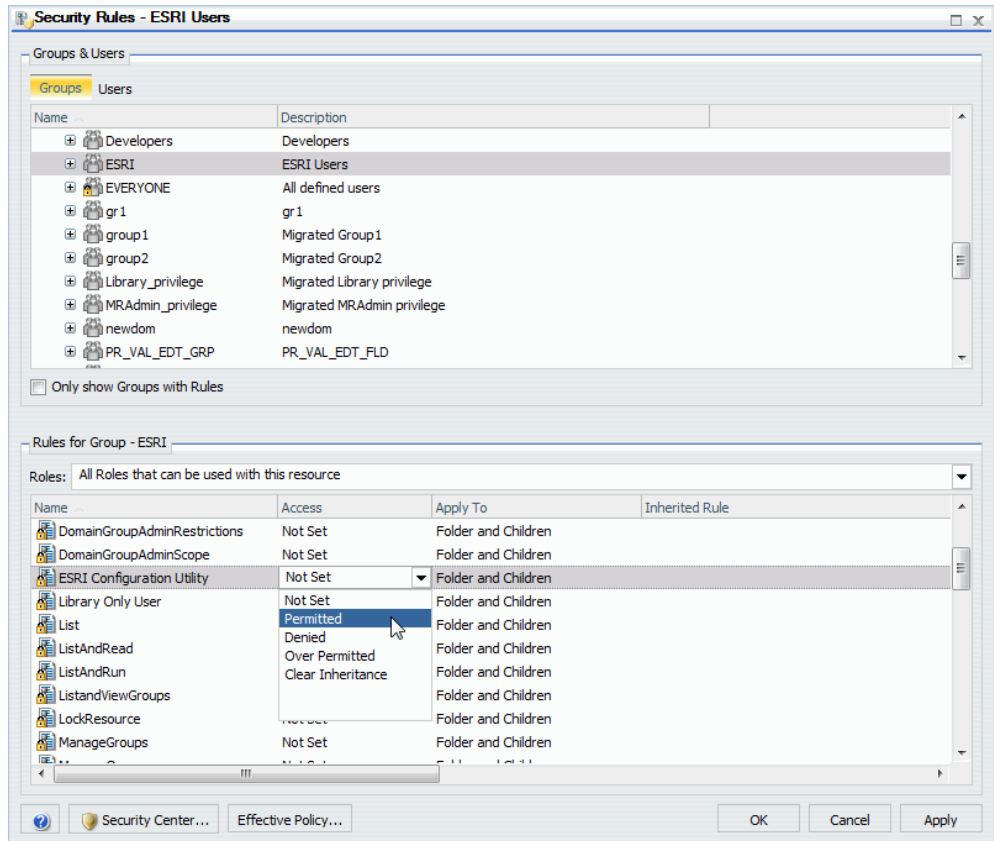
9. Populate the Group Name and Description fields and click *OK*.

The new group appears in the list Groups list.

10. Right-click the new group, point to *Security*, and click *Rules*.

The Security Rules dialog box opens.

11. Select your new group from the list. In the Roles list, click *ESRI Configuration Utility* and select *Permitted* from the Access drop-down menu, as shown in the following image.



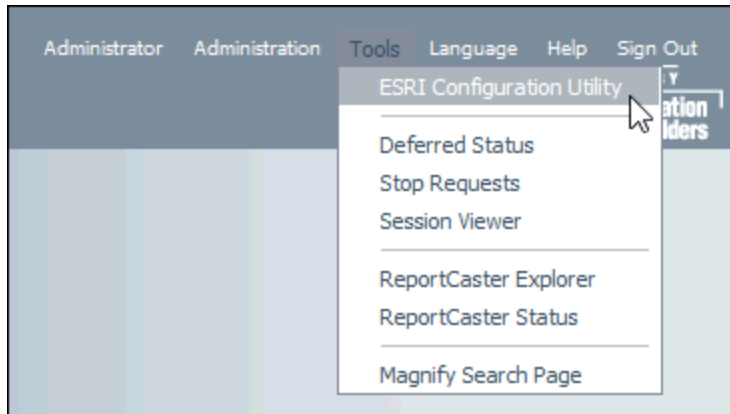
Click OK.

12. In the Security Center, create a new user and assign this user to the new group with the ESRI Configuration Utility privileges.

For more specific information on how to use the Security Center to create a new user, see the *WebFOCUS Security and Administration* manual.

13. Log in to WebFOCUS using the new user account.
14. Access the ESRI Configuration Utility option from the Menu Bar or User menu, under *Tools*.

An example of the ESRI Configuration Utility option that is available from the Legacy Home Page is shown in the following image.



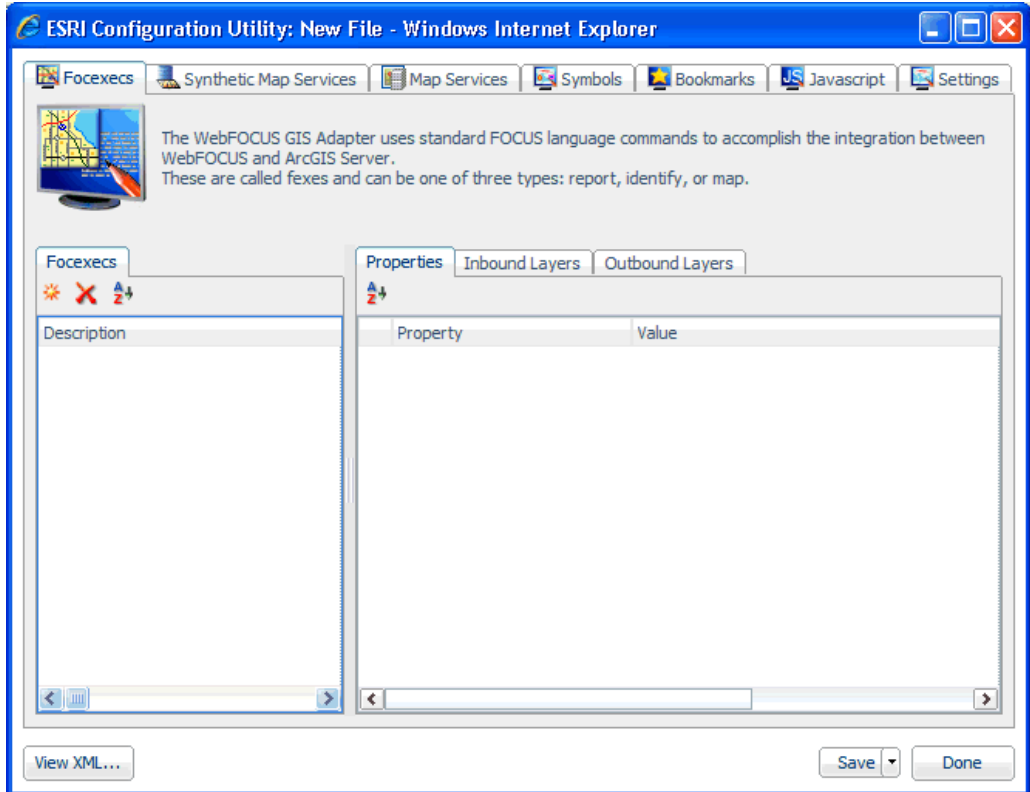
## Understanding the Layout and User Interface

The user interface and layout of the ESRI Configuration Utility provides you with the tools and functionality required to create and manage your XML definition file. It enables you to maintain high-level and detailed aspects of your file in a user-friendly environment.



## Navigating the Main Window

After you have successfully logged in to WebFOCUS and opened the ESRI Configuration Utility, the main window is displayed, as shown in the following image.

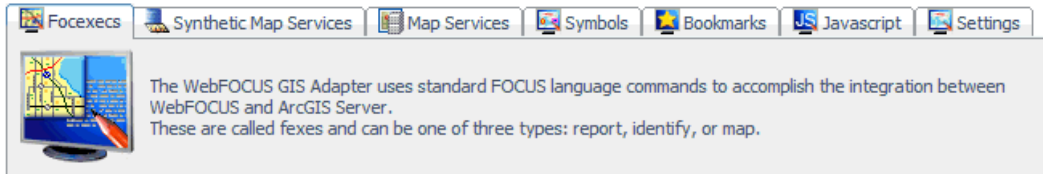


The ESRI Configuration Utility is divided by tabs into the following areas depending on the type of functionality you are configuring:

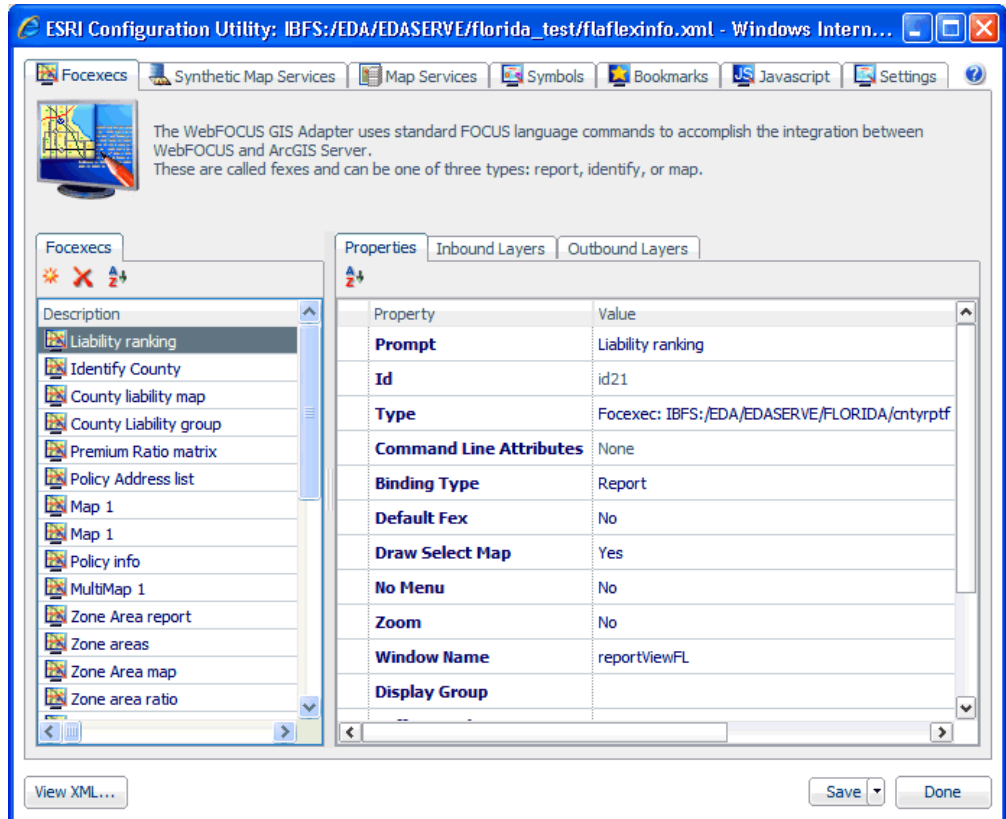
- ☐ Focexecs
- ☐ Synthetic Map Services
- ☐ Map Services
- ☐ Symbols
- ☐ Bookmarks
- ☐ Javascript

### ❏ Settings

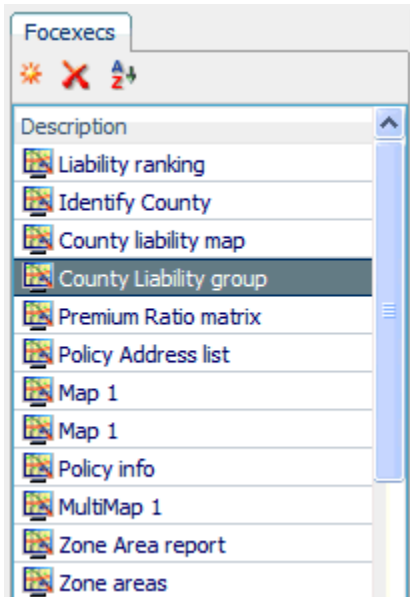
Each area can be accessed by clicking on the corresponding tab, which is located along the top of the window.



The Focexecs tab is selected by default when the ESRI Configuration Utility is opened. The following image shows the Focexecs tab populated with configured entries for an existing application.



The left pane displays the list of components that have been added for a particular area (for example, FOCExECs).



The right pane of the ESRI Configuration Utility displays the properties for the selected component.

Properties    Inbound Layers    Outbound Layers		
A Z ↕		
Property	Value	
<b>Prompt</b>	Quake effected Suppliers	
<b>Type</b>	Focexec: IBFS:/EDA/EDASERVE/splychain/scdet1m.fex	
<b>Command Line Attributes</b>	None	
<b>Binding Type</b>	Report	
<b>Default Fex</b>	No	
<b>Draw Select Map</b>	No	
<b>No Menu</b>	No	
<b>Window Name</b>		
<b>Display Group</b>		
<b>Buffer Fixed</b>	No	
<b>Buffer Type</b>	Normal	
<b>Buffer Symbol</b>	None	
<b>Buffer Units</b>	Miles	
<b>Buffer Distance</b>	50,200	

To change a property value, click on the corresponding field in the Value column. Depending on the type of property, the field may display a drop-down list with existing values to choose from or allow you to type your value directly within the field (for example, when entering a name). In the following image, the Default Fex property provides a drop-down list with Yes or No values when selected.

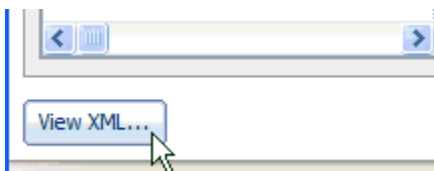
Property	Value
<b>Prompt</b>	County Liability group
<b>Location</b>	IBFS:/EDA/EDASERVE/FLORIDA/cntygrp
<b>Type</b>	Map
<b>Default Fex</b>	No
<b>Limit Layers</b>	Yes
<b>No Menu</b>	No

In the following image, the Window Name property provides a field where you can type in your value when selected.

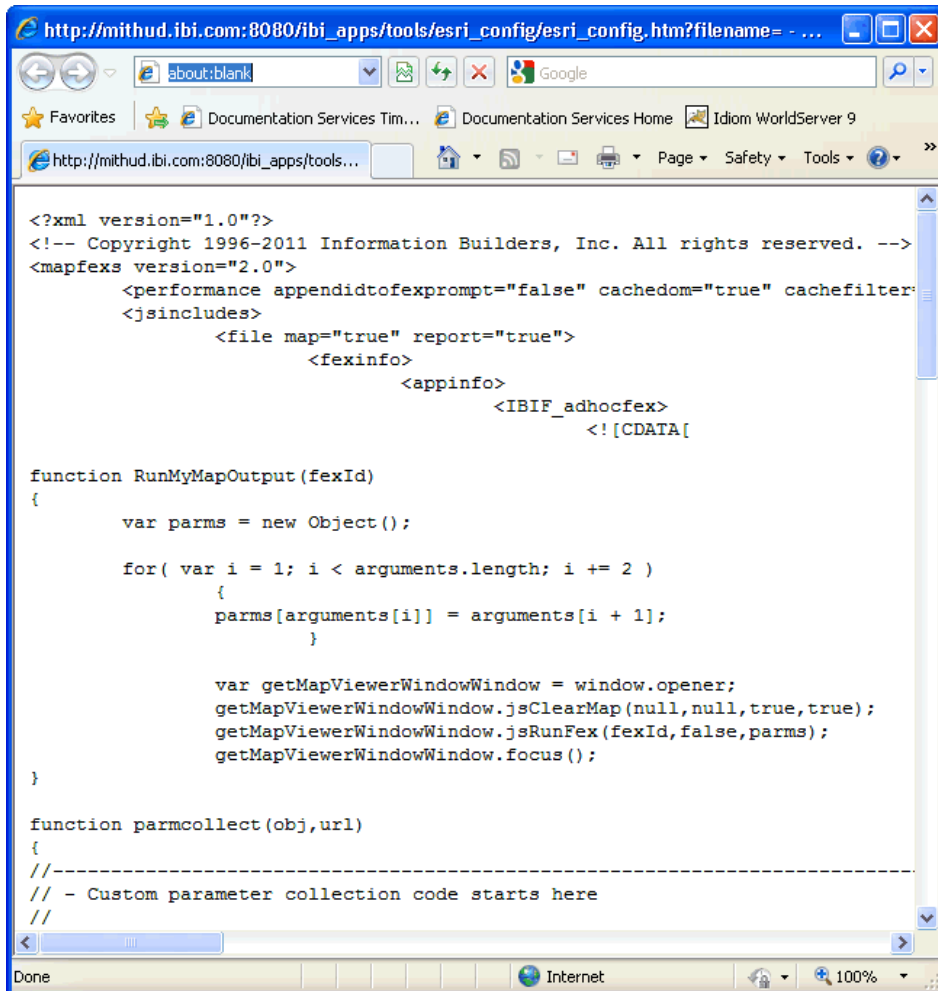
<b>Window Name</b>	County Liability
<b>Display group</b>	None
<b>Buffer Symbol</b>	None

## Viewing the XML Definition File

As you configure components and add property values using the ESRI Configuration Utility, the XML definition file is being updated in real-time in the back end. To view the contents of the XML definition file at any time, click the View XML button, which is located in the lower-left corner of the ESRI Configuration Utility.



The XML definition file opens in a new web browser window, as shown in the following image.



For example, when you create a new XML definition file and select an application folder on the WebFOCUS Reporting Server where the file will be located from the Browse Path dialog, this information is added to the XML definition file:

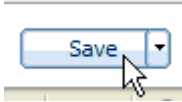
```

<appinfo>
  <default IBIAPP_app="florida_test" IBIC_server="EDASERVE"/>
  <fixed/>
</appinfo>

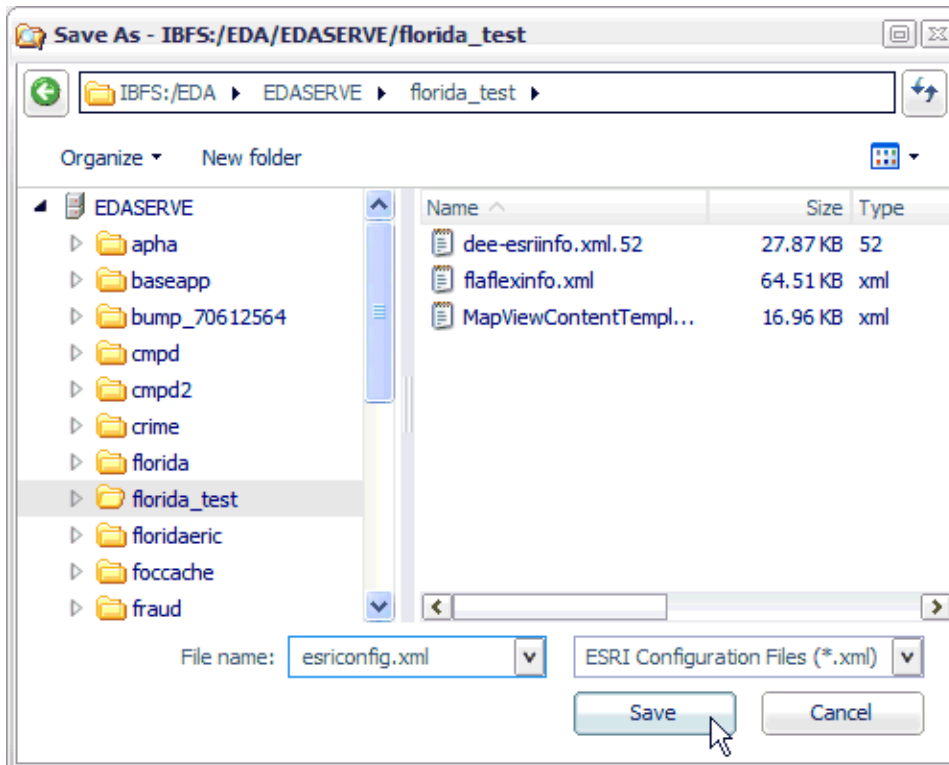
```

## Saving the XML Definition File

To save your XML definition file, click the Save button, which is located in the lower-right corner of the ESRI Configuration Utility.



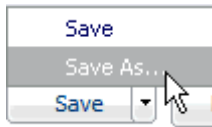
If you are saving a new XML definition file for the first time, the Save As dialog is displayed by default, as shown in the following image.



The default Save As location is the application folder on the WebFOCUS Reporting Server that you selected from the Browse Path dialog when you opened the ESRI Configuration Utility.

In the File name field, enter a name for the XML definition file. By default, the esriconfig.xml file name is provided. Click Save when you are finished.

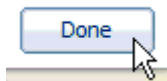
To create another instance of an XML definition file using a different name, click the small arrow next to the Save button and select Save As, as shown in the following image.



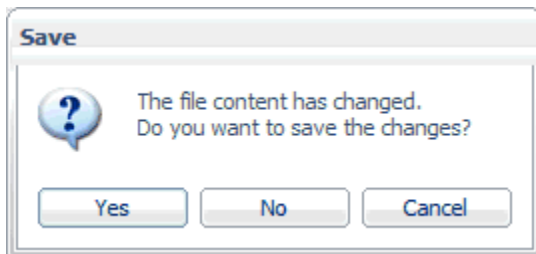
As you use the ESRI Configuration Utility to configure the various mapping components, it is a good practice to save your work frequently. Click Save at any time to ensure that your latest version of the XML definition file is saved on the server.

### Exiting From the ESRI Configuration Utility

To exit from the XML definition file at any point, click the *Done* button, which is located in the lower-right corner of the ESRI Configuration Utility.



If you have not saved your last changes in the XML definition file, the following message is displayed:



Click Yes to save your recent changes, No to discard your recent changes, or Cancel to return to the ESRI Configuration Utility.

### Configuring FOCEXECs

WebFOCUS reporting procedures (FOCEXECs) are used to integrate between WebFOCUS and ArcGIS Server. There are three types of FOCEXECs that may be defined to the WebFOCUS GIS Adapter using the ESRI Configuration Utility:

- ☐ Report (runs a report based on selections from a map)
- ☐ Map (runs a report based on the currently visible features on a map)



- ❑ **Identify** (runs a report based on a feature selected from a map)

Many of the properties are common across all three types of FOCEXECs.

The bindings between FOCEXECs and ArcGIS Server are defined by inbound layers and/or outbound layers.

The following list describes the inbound layers and outbound layers that define the bindings between FOCEXECs and ArcGIS Server.

- ❑ **Inbound Layers.** These layers provide information from ArcGIS Servers to WebFOCUS. One or more inbound layer(s) associates a FOCEXEC to one or more map layer(s). They also define the filtering criteria for a FOCEXEC. This is usually in the format of a file, a numeric amper variable or a string amper variable.

For more information, see [Configuring Inbound Layers](#) on page 91.

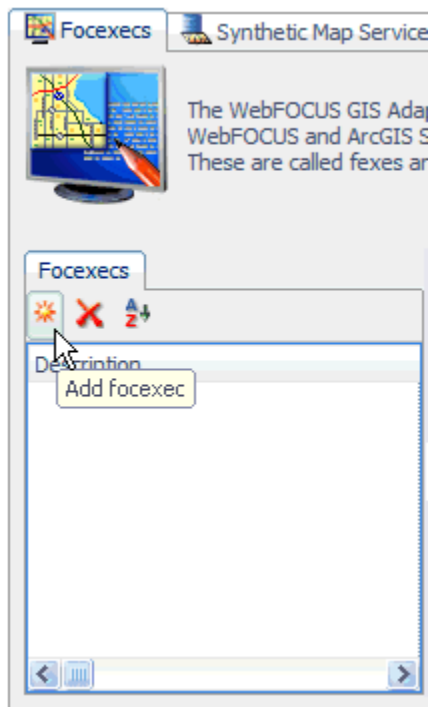
- ❑ **Outbound Layers.** The layers provide information from WebFOCUS to ArcGIS Server. It determines the linkage between a Map Layer attribute and a WebFOCUS XML Output. It is required for WebFOCUS Map bindings. These layers visually represent results from a WebFOCUS Report using color, image, size, title, text columns.

For more information, see [Configuring Outbound Layers](#) on page 99.

**Procedure: How to Configure a Report FOCEXEC**

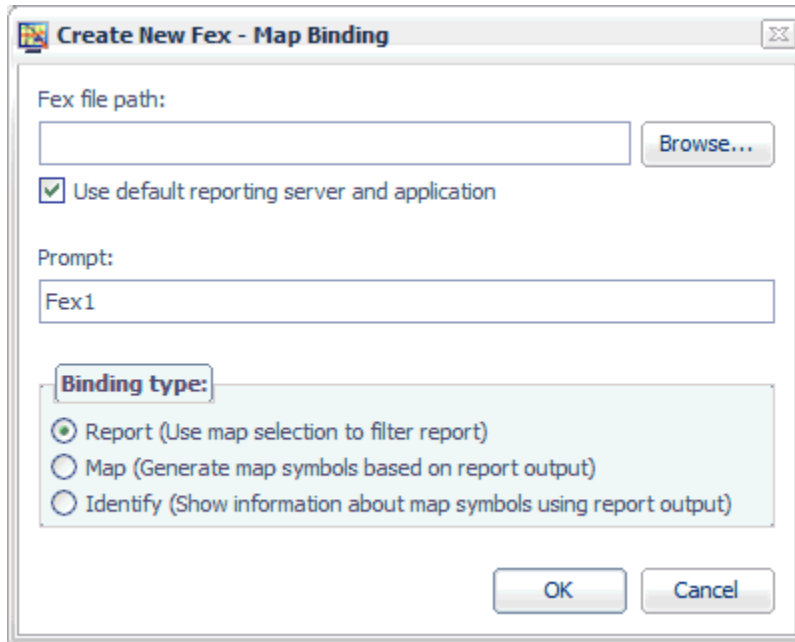
To configure a Report FOCEXEC:

1. Click the *Focexecs* tab located at the top of the ESRI Configuration Utility.



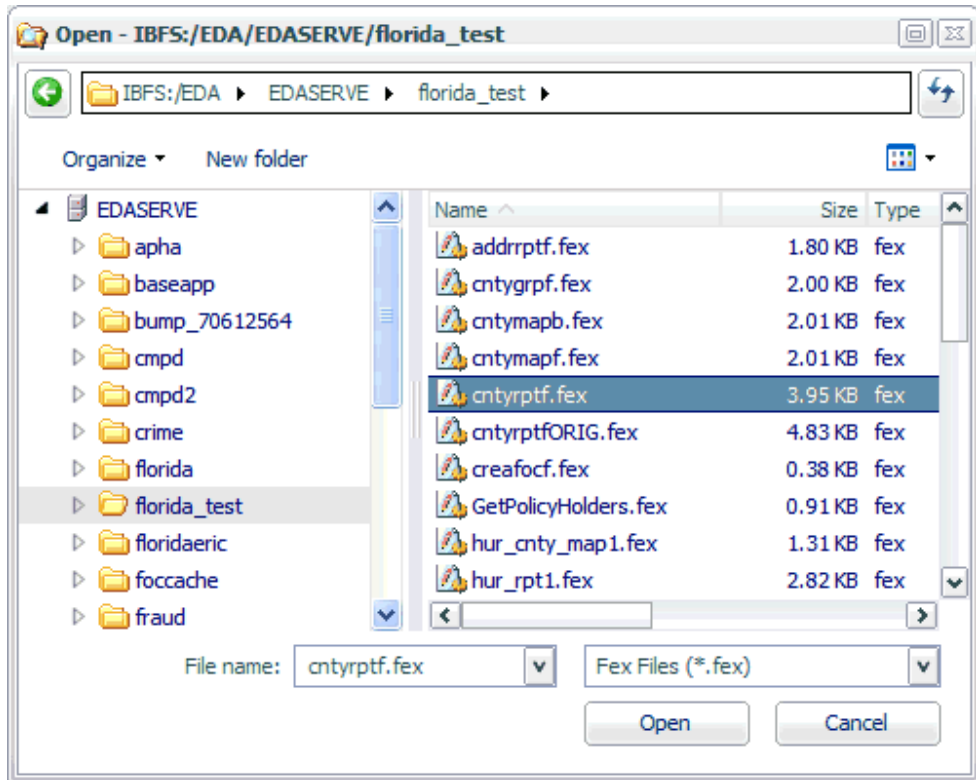
2. Click *Add focexec* in the left pane.

The Create New Fex dialog opens, as shown in the following image.



3. Click *Browse* to the right of the Fex file path field.

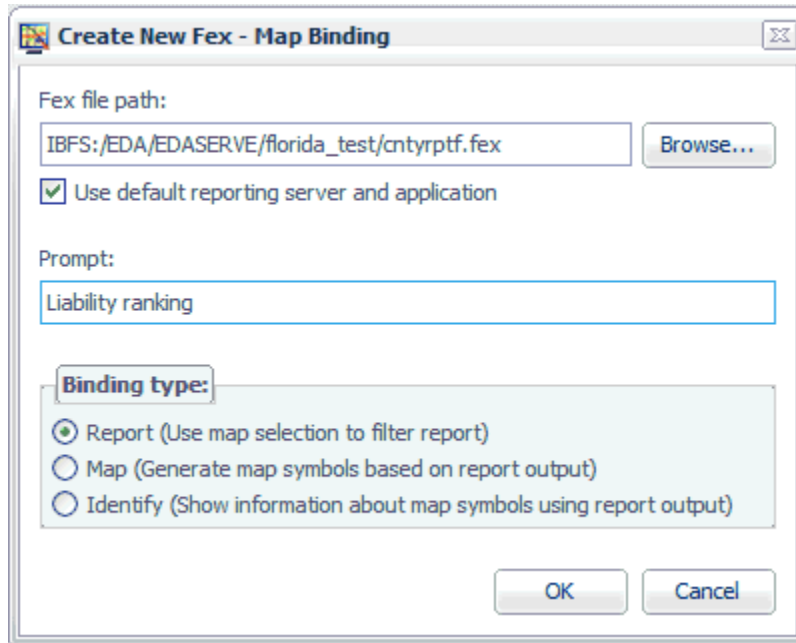
The Open dialog is displayed.



The default path that is provided is the application folder on the WebFOCUS Reporting Server that you selected from the Browse Path dialog when you opened the ESRI Configuration Utility to create a new XML definition file.

4. Select an available Report FOCXEC (for example, cntyrptf.fex) from your application directory and click *Open*.

You are returned to the Create New Fex dialog box opens, as shown in the following image.



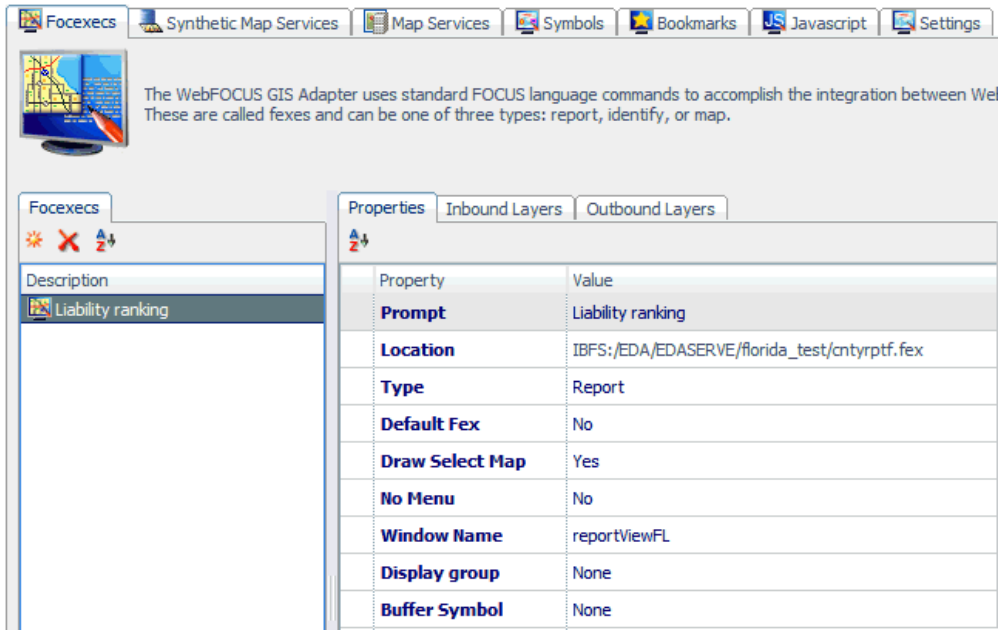
Notice that the path to the Report FOCEXEC (for example, cntyrptf.fex) is now added to the Fex file path field.

5. Enter a unique value for the Report FOCEXEC in the Prompt field (for example, Liability ranking).

The Prompt value that you provide is used to identify the Report FOCEXEC in the WebFOCUS Report component of the WebFOCUS GIS Viewer for Flex.

6. Select *Report* in the Binding type area and click *OK*.

The Report FOCEXEC (for example, Liability ranking) is added to the FOCEXECs pane in the ESRI Configuration Utility, as shown in the following image.



The Properties tab lists the available configuration properties for the Report FOCEXEC. The following table lists and describes these properties.

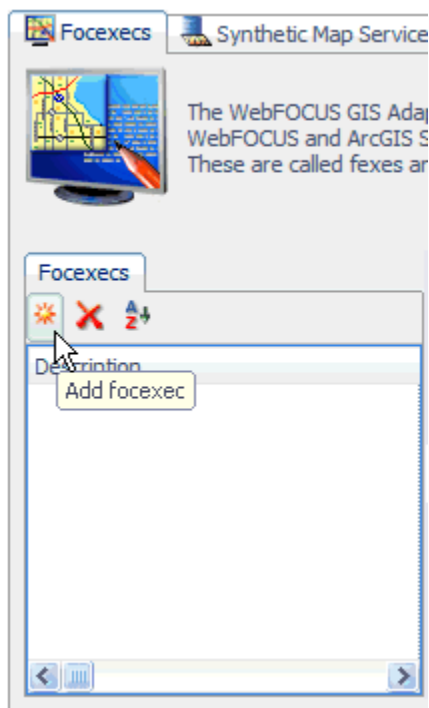
Property	Description
Prompt	The Prompt value that you specified in the Create New Fex dialog.
Location	The path to the selected Report FOCEXEC on the server.
Type	The type of FOCEXEC (Report, Map, or Identify), as indicated by the selection made from the Binding type list in the Create New Fex dialog.
Default Fex	Designates this Report FOCEXEC to be the report that is launched when no other is specified. The default value is No.

Property	Description
Draw Select Map	Changes the map view after the user makes a selection. The WebFOCUS GIS Viewer for Flex displays a map image with the selections of the user changed according to the symbol chosen for the inbound layer.
No Menu	Removes this procedure from the menu of the WebFOCUS GIS Viewer for Flex.
Window Name	Displays the report output in a new window. This option can be used for all report output formats that are not HTML, such as PDF and Excel.
Display Group	Assigns the Report FOCEXEC to a display group. This is reflected in the menu for reports. The menu hierarchy displays as Layer-Display Group-Prompt.
Buffer Fixed	Determines whether the buffer distances are preset or can be changed from the user interface.
Buffer Type	The type of buffer to perform around the graphic or around selected features. Available values from the drop-down list include feature, sketch, disabled, and normal.
Buffer Symbol	Allows you to select a Buffer symbol style from the drop-down list to be used by your Report FOCEXEC.
Buffer Units	The unit of measure used for buffering.
Buffer Distance	The distance values used for buffering. This can be a list of comma-separated values.

**Procedure: How to Configure a Map FOCEXEC**

To configure a Map FOCEXEC:

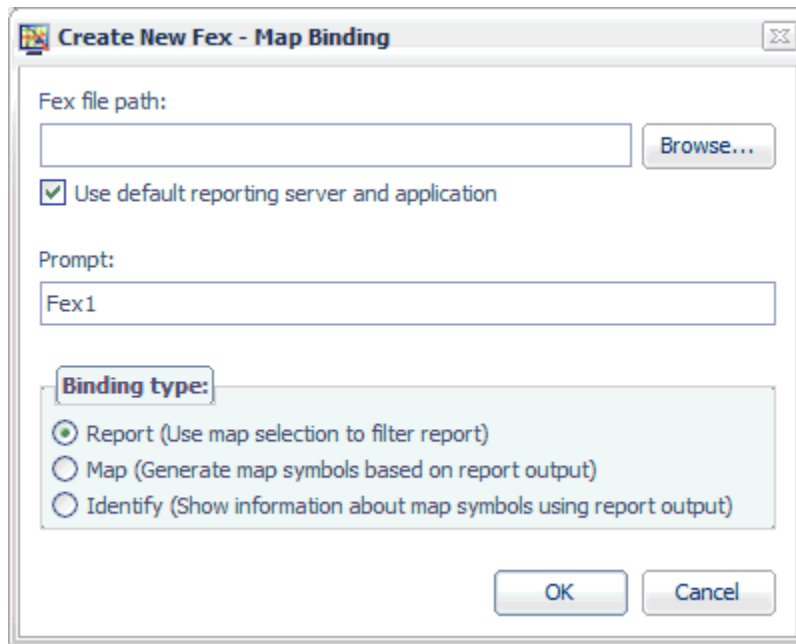
1. Click the *Focexecs* tab located at the top of the ESRI Configuration Utility.



2. Click *Add focexec* in the left pane.

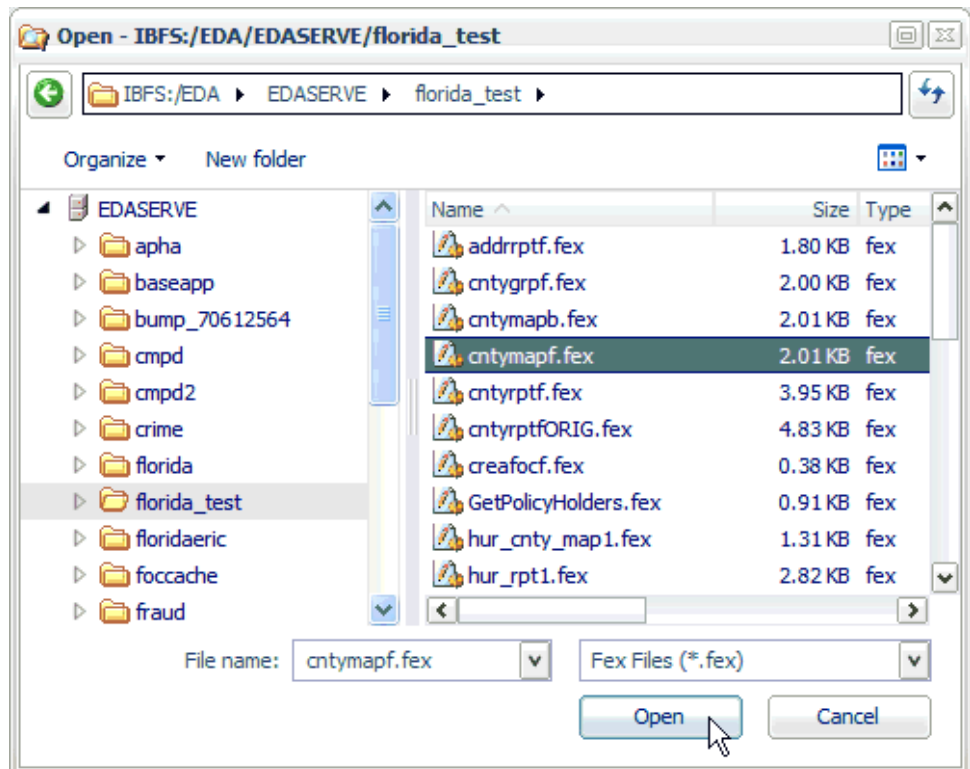


The Create New Fex dialog opens, as shown in the following image.



3. Click *Browse* to the right of the Fex file path field.

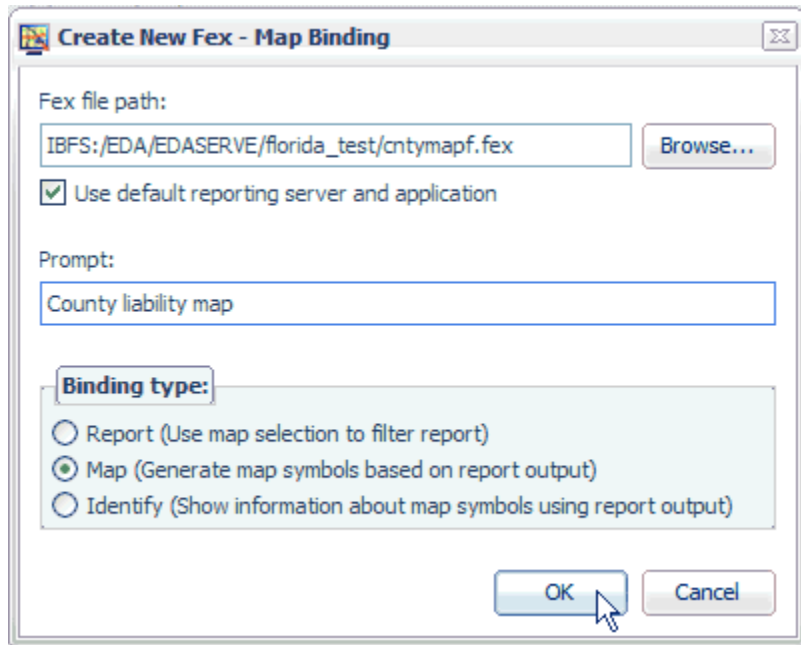
The Open dialog is displayed.



The default path that is provided is the application folder on the WebFOCUS Reporting Server that you selected from the Browse Path dialog when you opened the ESRI Configuration Utility to create a new XML definition file.

4. Select an available Map FOCEXEC (for example, cntymapf.fex) from your application directory and click Open.

You are returned to the Create New Fex dialog opens, as shown in the following image.



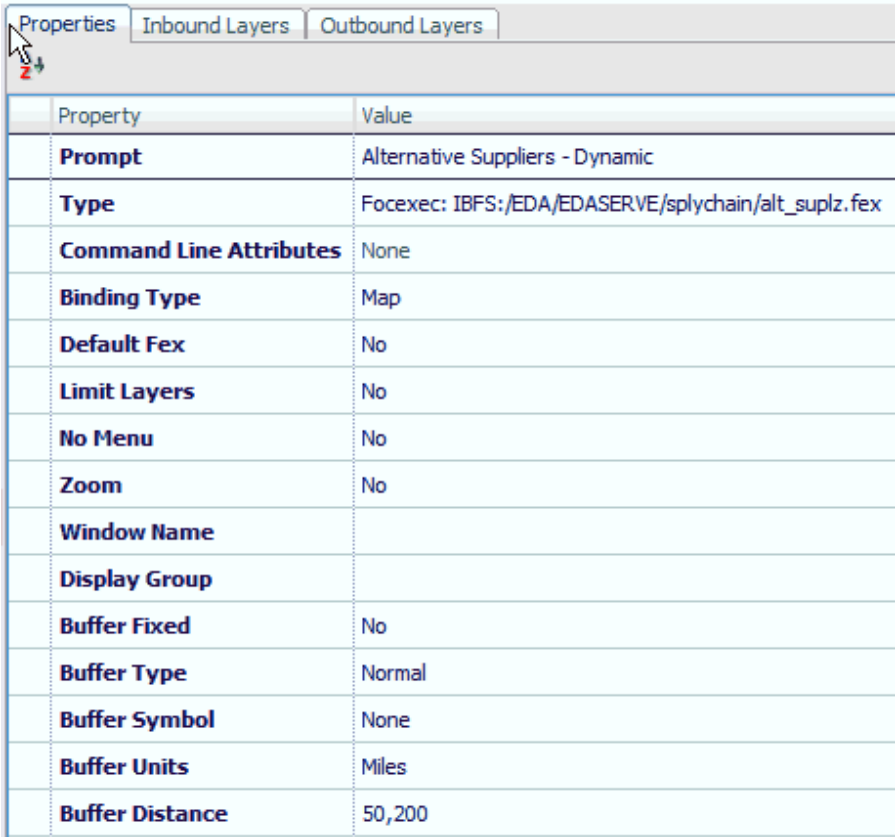
Notice that the path to the Map FOCEXEC (for example, cntymapf.fex) is now added to the Fex file path field.

5. Enter a unique value for the Map FOCEXEC in the Prompt field (for example, County liability map).

The Prompt value that you provide is used to identify the Map FOCEXEC in the WebFOCUS Map component of the WebFOCUS GIS Viewer for Flex.

6. Select *Map* in the Binding type area and click *OK*.

The Map FOCEXEC (for example, County liability map) is added to the FOCEXECs pane in the ESRI Configuration Utility, as shown in the following image.

Properties Inbound Layers Outbound Layers	
	
Property	Value
Prompt	Alternative Suppliers - Dynamic
Type	Focexec: IBFS:/EDA/EDASERVE/splychain/alt_suplz.fex
Command Line Attributes	None
Binding Type	Map
Default Fex	No
Limit Layers	No
No Menu	No
Zoom	No
Window Name	
Display Group	
Buffer Fixed	No
Buffer Type	Normal
Buffer Symbol	None
Buffer Units	Miles
Buffer Distance	50,200

The Properties tab lists the available configuration properties for the Map FOCEXEC. The following table lists and describes these properties.

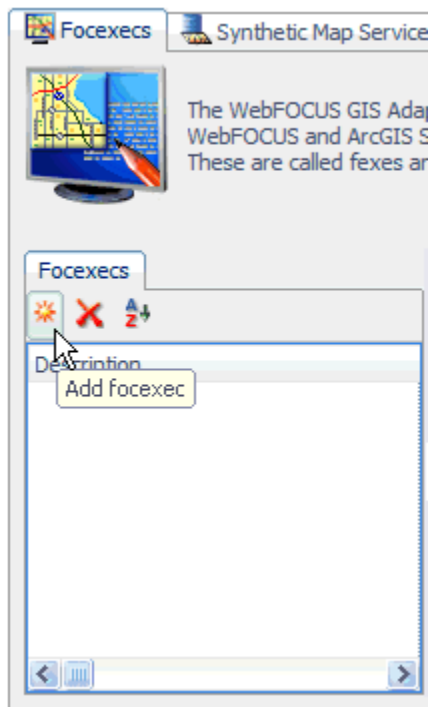
Property	Description
Prompt	The Prompt value that you specified in the Create New Fex dialog.
Location	The path to the selected Map FOCEXEC on the server.
Type	The type of FOCEXEC (Report, Map, or Identify), as indicated by the selection made from the Binding type list in the Create New Fex dialog.

Property	Description
Default Fex	Designates this Map FOCEXEC to be the report that is launched when no other is specified. The default value is <i>No</i> .
Limit Layers	Displays layers that are only listed within the Outbound area.
No Menu	Removes this procedure from the menu of the WebFOCUS GIS Viewer for Flex.
Zoom	Zooms into the area that was selected in the WebFOCUS GIS Viewer for Flex.
Window Name	Displays the map output in a new window.
Display Group	Assigns the Map FOCEXEC to a display group.
Buffer Fixed	Determines whether the buffer distances are preset or can be changed from the user interface.
Buffer Type	The type of buffer to perform around the graphic or around selected features. Available values from the drop-down list include feature, sketch, disabled, and normal.
Buffer Symbol	Allows you to select a Buffer symbol style from the drop-down list to be used by your Report FOCEXEC.
Buffer Units	The unit of measure used for buffering.
Buffer Distance	The distance values used for buffering. This can be a list of comma-separated values.

**Procedure: How to Configure an Identify FOCEXEC**

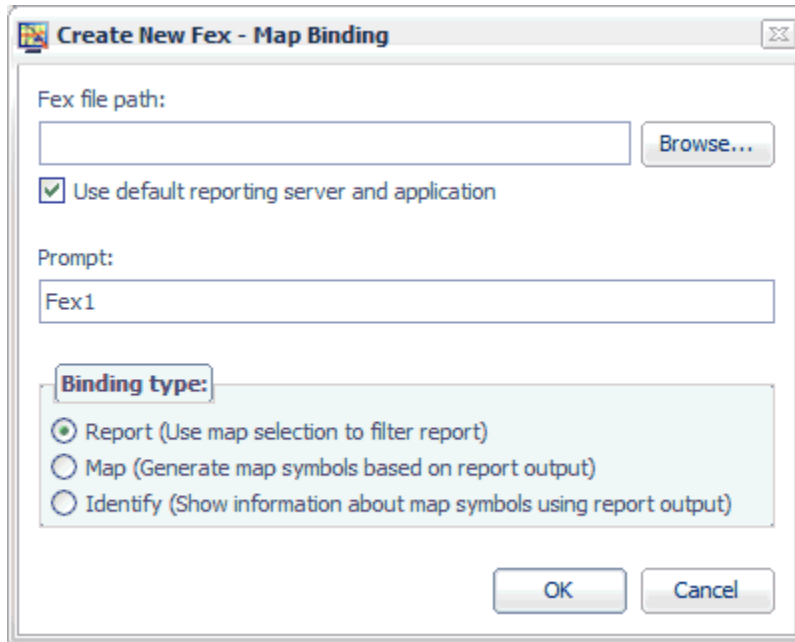
To configure an Identify FOCEXEC:

1. Click the *Focexecs* tab located at the top of the ESRI Configuration Utility.



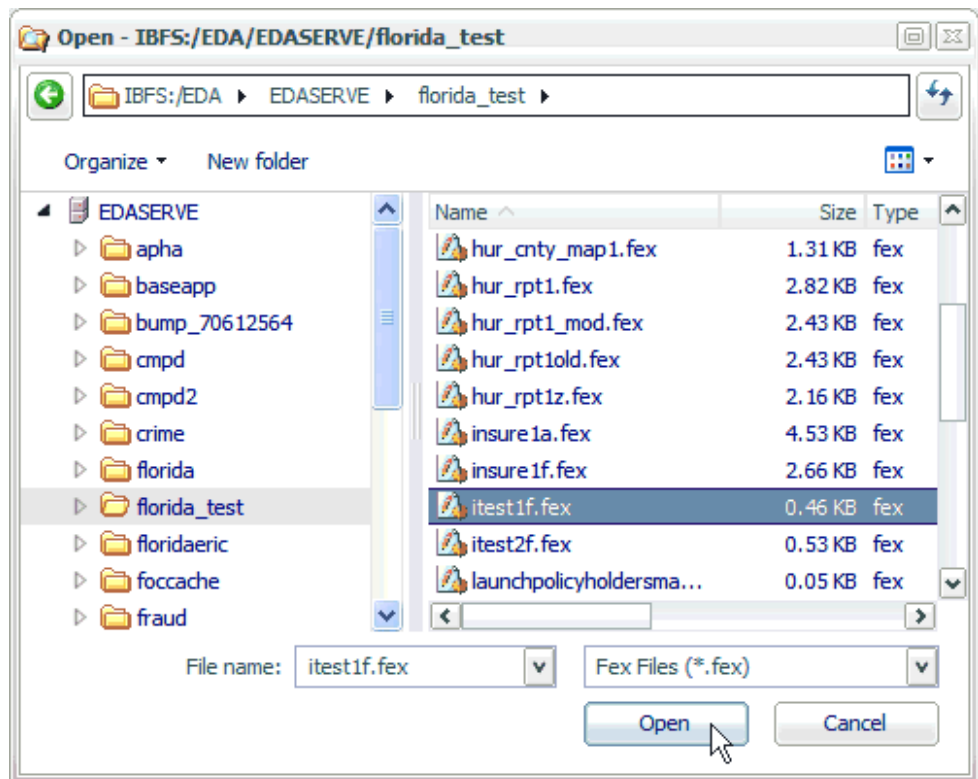
2. Click *Add focexec* in the left pane.

The Create New Fex dialog opens, as shown in the following image.



3. Click *Browse* to the right of the Fex file path field.

The Open dialog is displayed.

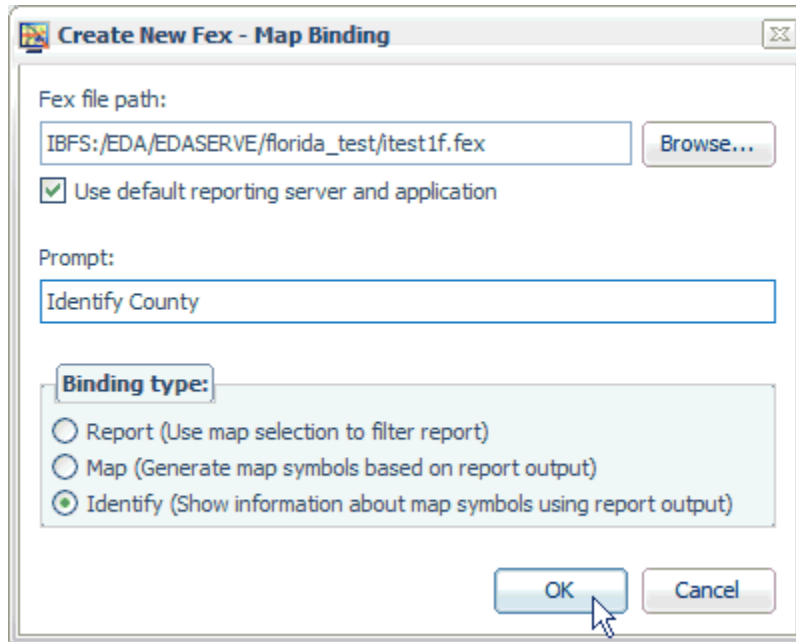


The default path that is provided is the application folder on the WebFOCUS Reporting Server that you selected from the Browse Path dialog when you opened the ESRI Configuration Utility to create a new XML definition file.

4. Select an available Identify FOCXEC (for example, itest1f.fex) from your application directory and click **Open**.



You are returned to the Create New Fex dialog opens, as shown in the following image.



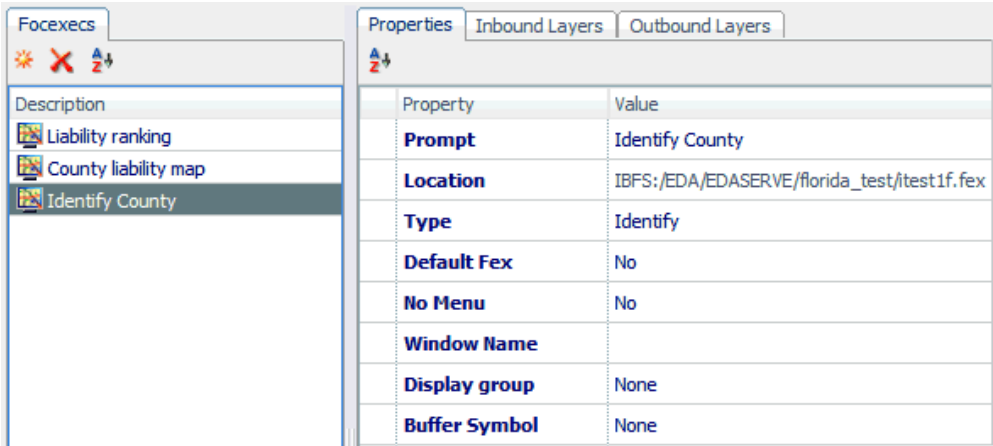
Notice that the path to the Identify FOCEXEC (for example, itest1f.fex) is now added to the Fex file path field.

5. Enter a unique value for the Identify FOCEXEC in the Prompt field (for example, Identify County).

The Prompt value that you provide is used to identify this FOCEXEC in the WebFOCUS Identify component of the WebFOCUS GIS Viewer for Flex.

6. Select *Identify* in the Binding type area and click *OK*.

The Identify FOCExEC (for example, Identify County) is added to the FOCExECs pane in the ESRI Configuration Utility, as shown in the following image.



The Properties tab lists the available configuration properties for the Identify FOCExEC. The following table lists and describes these properties.

Property	Description
Prompt	The Prompt value that you specified in the Create New Fex dialog.
Location	The path to the selected Identify FOCExEC on the server.
Type	The type of FOCExEC (Report, Map, or Identify), as indicated by the selection made from the Binding type list in the Create New Fex dialog.
Default Fex	Designates this Identify FOCExEC to be the report that is launched when no other is specified. The default value is <i>No</i> .
No Menu	Removes this procedure from the menu of the WebFOCUS GIS Viewer for Flex.
Window Name	Displays the report output in a new window.
Display Group	Assigns the Identify FOCExEC to a display group.

Property	Description
Buffer Symbol	Allows you to select a Buffer symbol style from the drop-down list to be used by your Identify FOCEXEC.

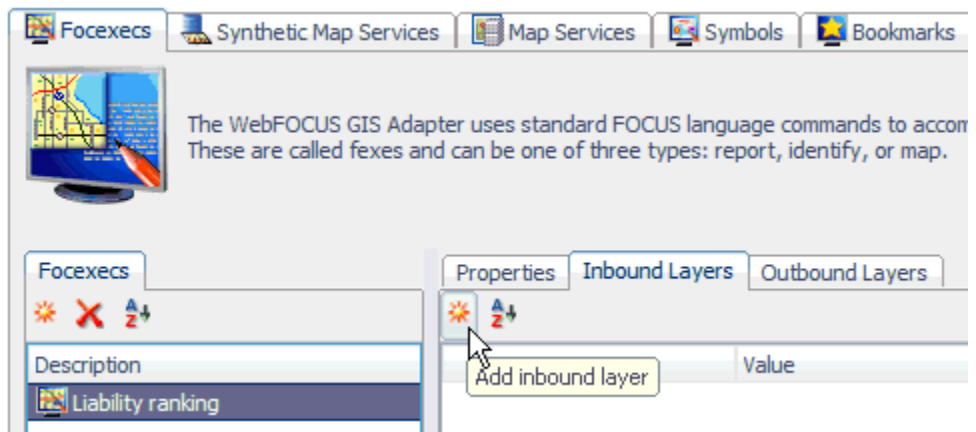
## Configuring Inbound Layers

Inbound layer definitions are used to identify which attribute is extracted from a map layer when a user draws a selected area on the map.

### **Procedure:** How to Configure an Inbound Layer

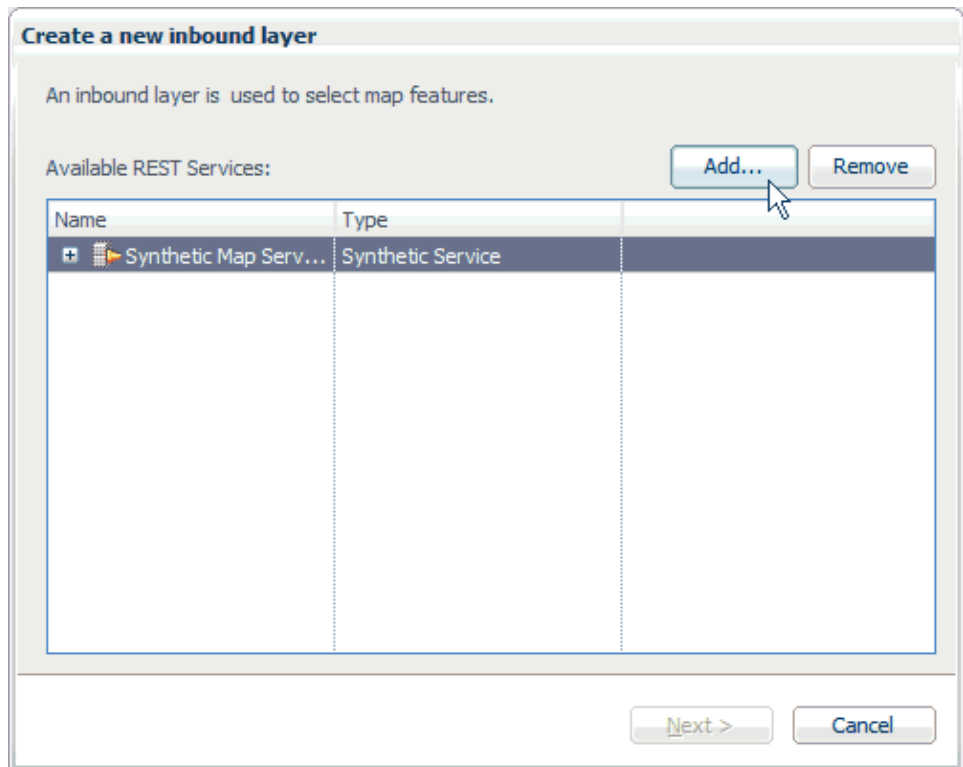
To configure an inbound layer:

1. Select an available FOCEXEC for which you want to configure an inbound layer and then click the *Inbound Layers* tab located in the FOCEXECs configuration area of the ESRI Configuration Utility.



2. Click *Add inbound layer* in the right pane.

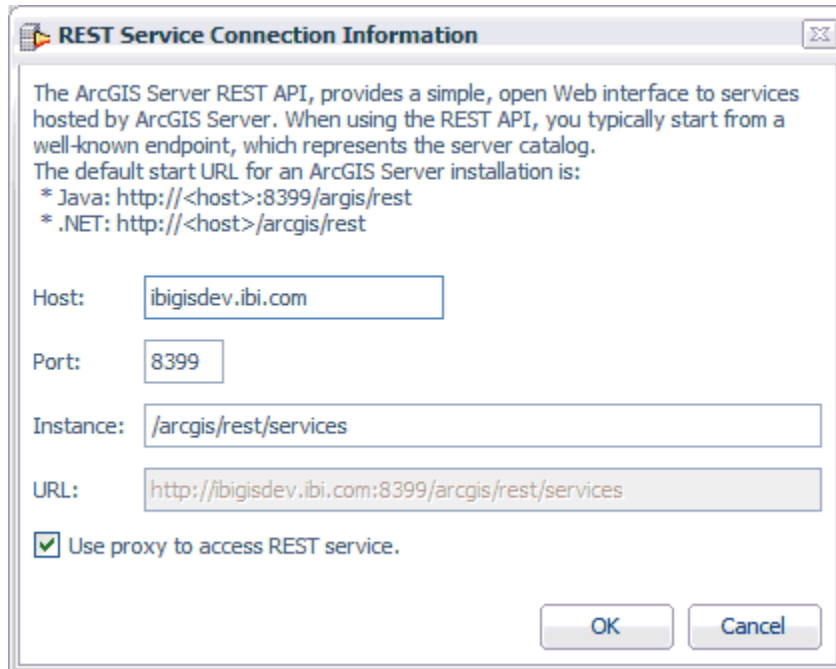
The Create a new inbound layer dialog opens, as shown in the following image.



You must first configure a connection to an available ArcGIS Server.

3. Click *Add*.

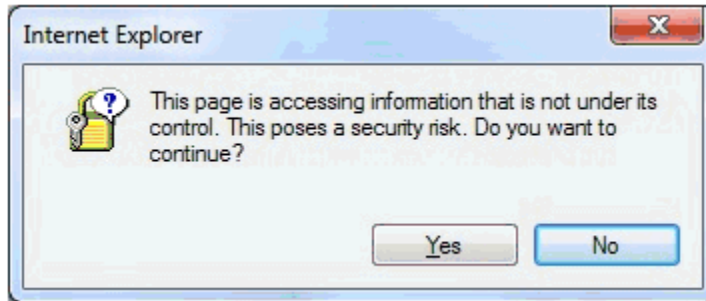
The REST Service Connection Information dialog opens, as shown in the following image.



The *Use proxy to access REST service* check box provides you with the option to enable or disable usage of the proxy.jsp file to navigate to a REST endpoint when adding a new map service. This option is enabled by default.

If the *Use proxy to access REST service* check box is selected, then the proxy.jsp file on the application server must be changed to add the URL to the map server. If the *Use proxy to access REST service* check box is not selected, and the application server and the map server are not on the same machine, then requests to the map server will fail and an error message indicating a network error is generated. This is the result of a default setting in web browsers, which prevents cross-domain Ajax calls. This setting can be changed in the security settings section of your web browser configuration.

**Note:** If you are using Microsoft Internet Explorer Version 10 and the *Use proxy to access REST service* check box is not selected, the following dialog box is displayed.



If you click Yes, then Microsoft Internet Explorer allows you to access the map service without the proxy.jsp. If you click No, an error message indicating *Access is denied* is displayed.

If you are using Google Chrome and the *Use proxy to access REST service* check box is not selected, an error message indicating *A network error* is displayed. If you are using Mozilla Firefox 24 and the *Use proxy to access REST service* check box is not selected, an error message indicating *Failure* is displayed. As a workaround, you must select the *Use proxy to access REST service* check box and edit the proxy.jsp to add a REST endpoint to your proxy list.

To edit the proxy.jsp file, navigate to the following directory:

`<WF_HOME>\webapps\webfocus\tools\esri_config\proxy.jsp`

Add your REST endpoint, as indicated by the following example:

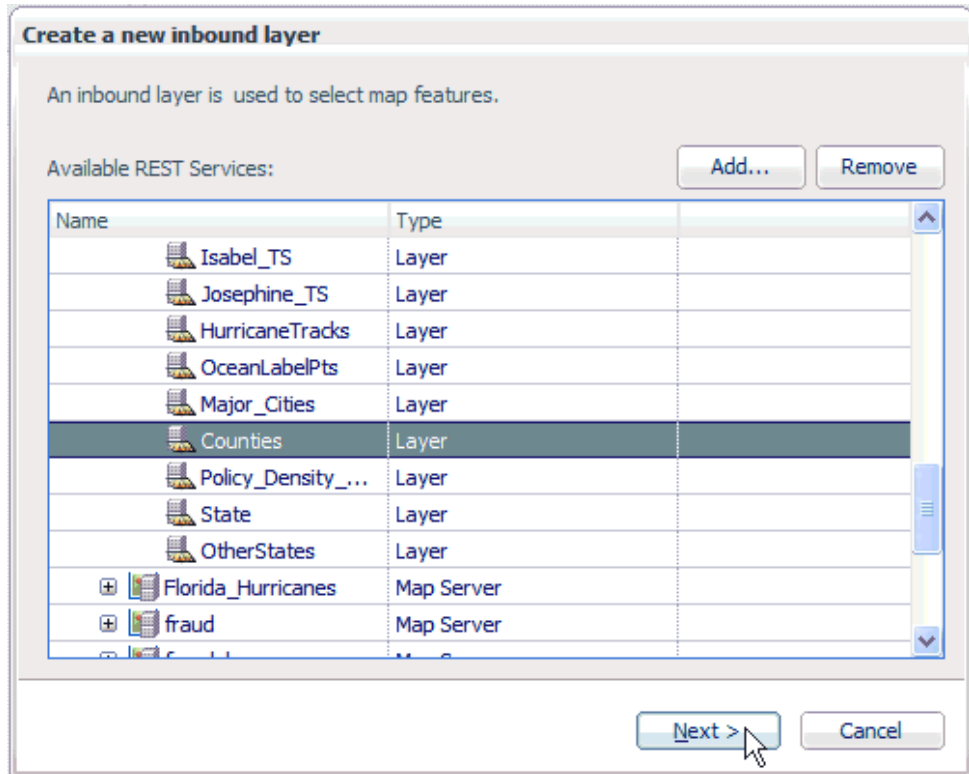
```
String[] serverUrls = {
    //"<url>[,<token>]"
    //For ex. (secured server): "http://myserver.mycompany.com/arcgis/rest/
services,ayn2C2iPvqjeqWoXwV
6rjmr43kyo23mhIPnXz2CEiMA6rVu0xR0St8gKsd0olv8a"
    //For ex. (non-secured server): "http://sampleserver1.arcgisonline.com/arcgis/
rest/services"
    "http://informat-65f86f:8399/arcgis/rest/services",
    "http://ibigisdev.ibi.com:8399/arcgis/rest/services",
    "http://ibigis10.ibi.com:8399/arcgis/rest/services",
    "http://tsssvz01:8399/arcgis/rest/services",
    "http://sampleserver1.arcgisonline.com/arcgis/rest/services",
    "http://sampleserver2.arcgisonline.com/arcgis/rest/services" //NOTE - no comma
after the last item
};
```

4. Specify a host name for ArcGIS in the Host field followed by the port, instance, and URL in the corresponding fields. Consult your ArcGIS administrator for the correct values to use.

**Note:** As a best practice, do not include an ending forward slash (/) character when specifying an ArcGIS Server URL in the proxy.jsp file. If a forward slash character is specified, then you must ensure that the value entered in the Instance field of the REST Service Connection Information dialog also contains a forward slash at the end.

5. Click OK.

You are returned to the Create a new inbound layer dialog.



6. Expand an available Map Server node and then select the layer (for example, Counties) that will be used to select the map features.
7. Click Next.

The Select Attributes dialog opens, which is populated with all of the attribute names from the layer that was selected.

**Create a new inbound layer**

Select attribute(s) to be used with the focexec.  
Define a Focus field format, ESRI layer field size and a quote to be used for queries from an ESRI layer. Use single quote with shapefile layers and double quote with SDE layers.

Select Attributes:

Name	Alias	Type	To	Format	Size	Quote
<input checked="" type="checkbox"/> FID	FID	OID	->	N/A	N/A	N/A
<input type="checkbox"/> BEAT	BEAT	String	->	N/A	N/A	N/A
<input type="checkbox"/> DIVISION	DIVISION	String	->	N/A	N/A	N/A

☐ Use Buffering

< Back    Next >    Cancel

8. Select the attribute(s) that you want to be used as a unique identifier to link the map service layers with FOCEXEC columns.

You can modify the Format, Size, and Quote value columns according to your requirements.

The Format column reflects the FOCEXEC format to be used for conversion. Valid FOCUS formats are used with a length (for example, A30, D10.2).

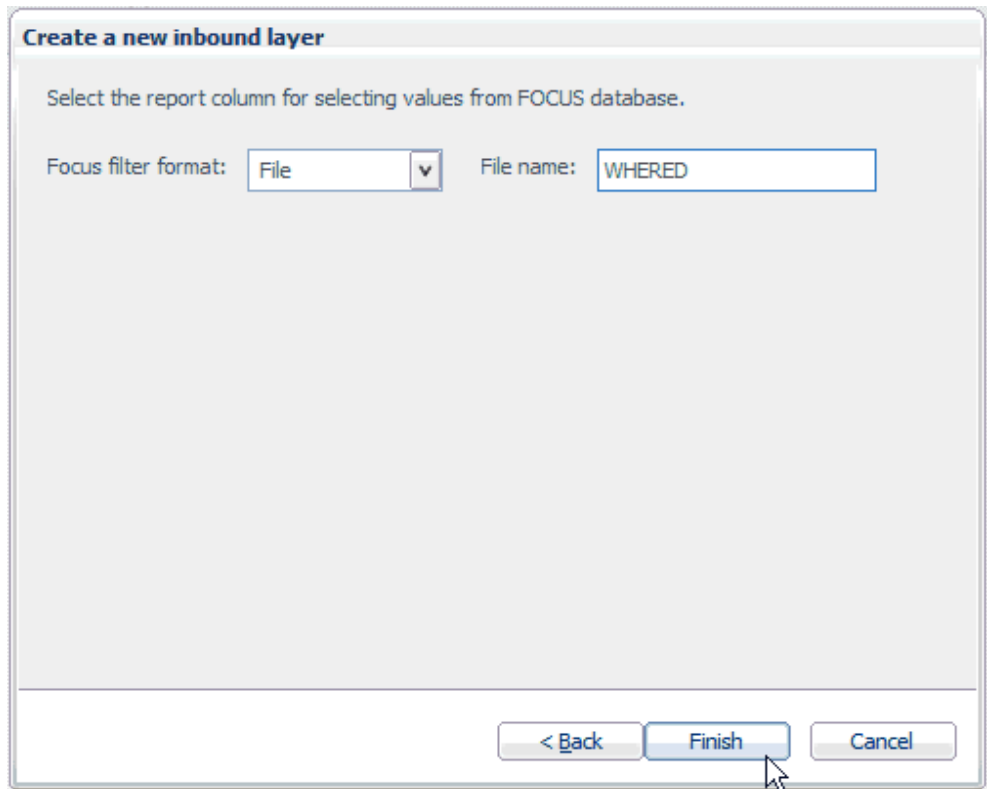
The Size column reflects the length of the map service layer field.

The Quote column reflects the type of quote to use for querying the map service layer field. Use single quotes for shape file layers and double quotes for SDE layers.

9. Click Next when you have finished making your attribute selections.



The following dialog opens, which allows you to select the report column for selecting values from a FOCUS database.



**Create a new inbound layer**

Select the report column for selecting values from FOCUS database.

Focus filter format:  File name:

< Back Finish Cancel

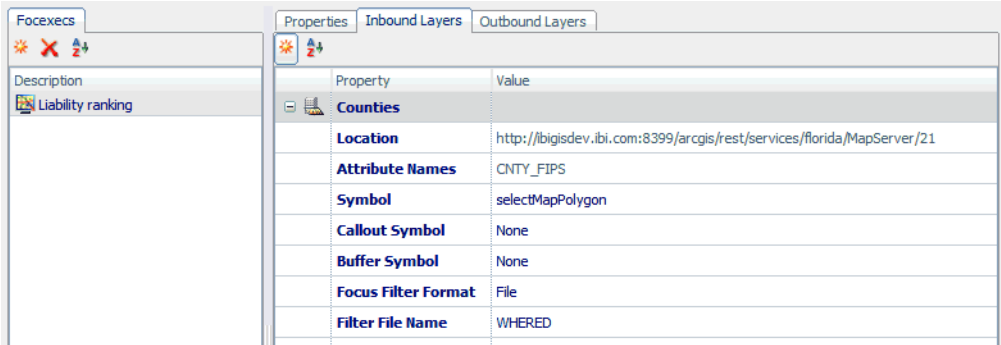
10. Choose the filter type (File, String Amper, or Numeric Amper) from the Focus filter format drop-down list.

The available choices allow you to pass a sequential file of values, a string of alphanumeric values enclosed in single quotes and separated by "OR", or a string of numeric values separated by "OR".

The value that you provide in the File name field is used to name the filter variable or file that the adapter passes to WebFOCUS.

11. Click *Finish*.

The inbound layer definition is listed in the Inbound Layers tab of the FOCEXECs configuration area, as shown in the following image.



The Properties table lists the available configuration properties for the inbound layer definition. The following table lists and describes these properties.

Property	Description
Location	The location of the map layer.
Attribute Names	The selected attribute(s) for the inbound layer definition.
Symbol	Allows you to select an available symbol definition from the drop-down list that will be used to render the map illustrating which features have been selected.
Callout Symbol	Allows you to select a callout symbol style from the drop-down list to be used by your FOCEXEC.
Buffer Symbol	Allows you to select a buffer symbol style from the drop-down list to be used by your FOCEXEC.
Focus Filter Format	The current filter type that is being used by the inbound layer definition (File, String Amper, or Numeric Amper).
Filter File Name	The filter variable or file for the inbound layer definition.

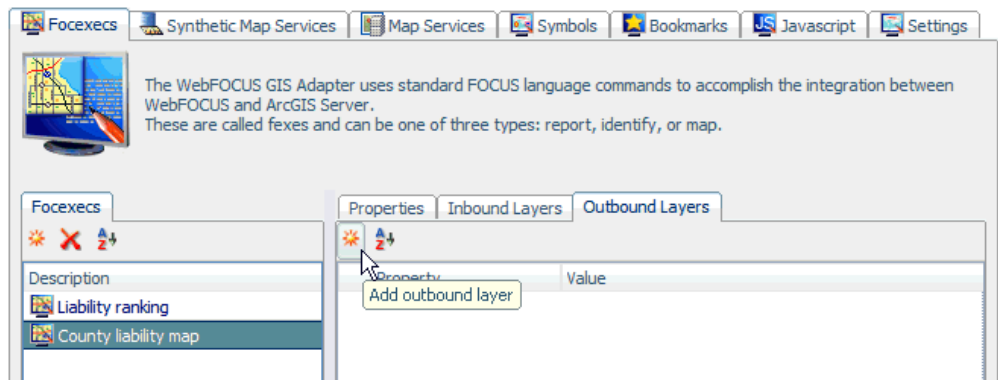
## Configuring Outbound Layers

Outbound layer definitions are used to identify which layer of the map will be rendered by the WebFOCUS GIS Adapter. The information is used to associate the data source column that WebFOCUS accesses with the map layer attribute that ArcGIS Server uses to uniquely identify features.

### **Procedure:** How to Configure an Outbound Layer

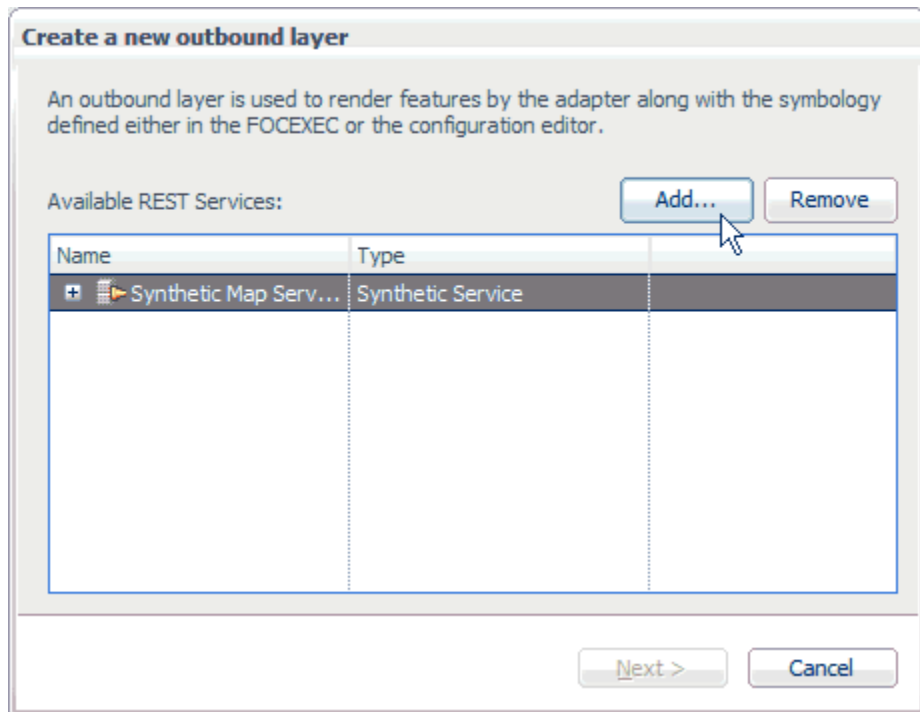
To configure an outbound layer:

1. Select an available FOCEXEC for which you want to configure an outbound layer and then click the *Outbound Layers* tab located in the FOCEXECs configuration area of the ESRI Configuration Utility.



2. Click *Add Outbound layer* in the right pane.

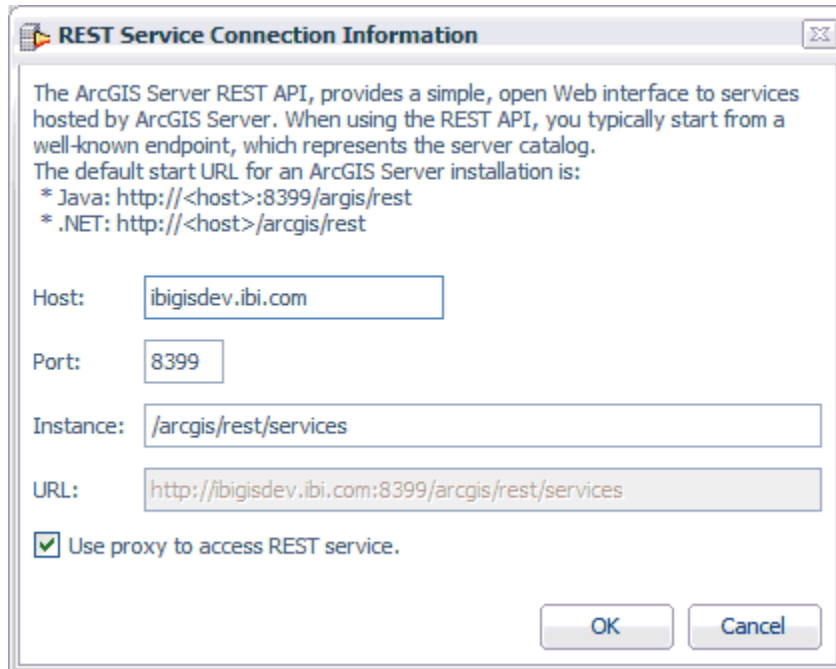
The Create a new outbound layer dialog opens, as shown in the following image.



You must first configure a connection to an available ArcGIS Server.

3. Click *Add*.

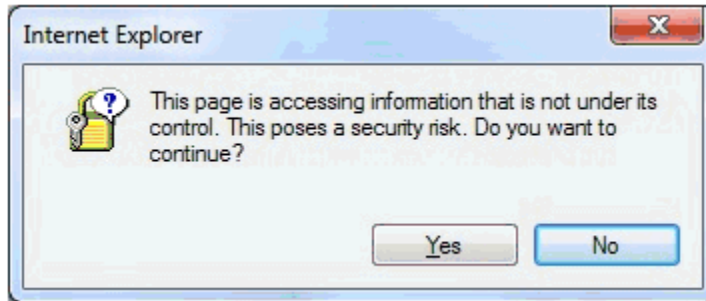
The REST Service Connection Information dialog opens, as shown in the following image.



The *Use proxy to access REST service* check box provides you with the option to enable or disable usage of the proxy.jsp file to navigate to a REST endpoint when adding a new map service. This option is enabled by default.

If the *Use proxy to access REST service* check box is selected, then the proxy.jsp file on the application server must be changed to add the URL to the map server. If the *Use proxy to access REST service* check box is not selected, and the application server and the map server are not on the same machine, then requests to the map server will fail and an error message indicating a network error is generated. This is the result of a default setting in web browsers, which prevents cross-domain Ajax calls. This setting can be changed in the security settings section of your web browser configuration.

**Note:** If you are using Microsoft Internet Explorer Version 10 and the *Use proxy to access REST service* check box is not selected, the following dialog box is displayed.



If you click Yes, then Microsoft Internet Explorer allows you to access the map service without the proxy.jsp. If you click No, an error message indicating *Access is denied* is displayed.

If you are using Google Chrome and the *Use proxy to access REST service* check box is not selected, an error message indicating *A network error* is displayed. If you are using Mozilla Firefox 24 and the *Use proxy to access REST service* check box is not selected, an error message indicating *Failure* is displayed. As a workaround, you must select the *Use proxy to access REST service* check box and edit the proxy.jsp to add a REST endpoint to your proxy list.

To edit the proxy.jsp file, navigate to the following directory:

`<WF_HOME>\webapps\webfocus\tools\esri_config\proxy.jsp`

Add your REST endpoint, as indicated by the following example:

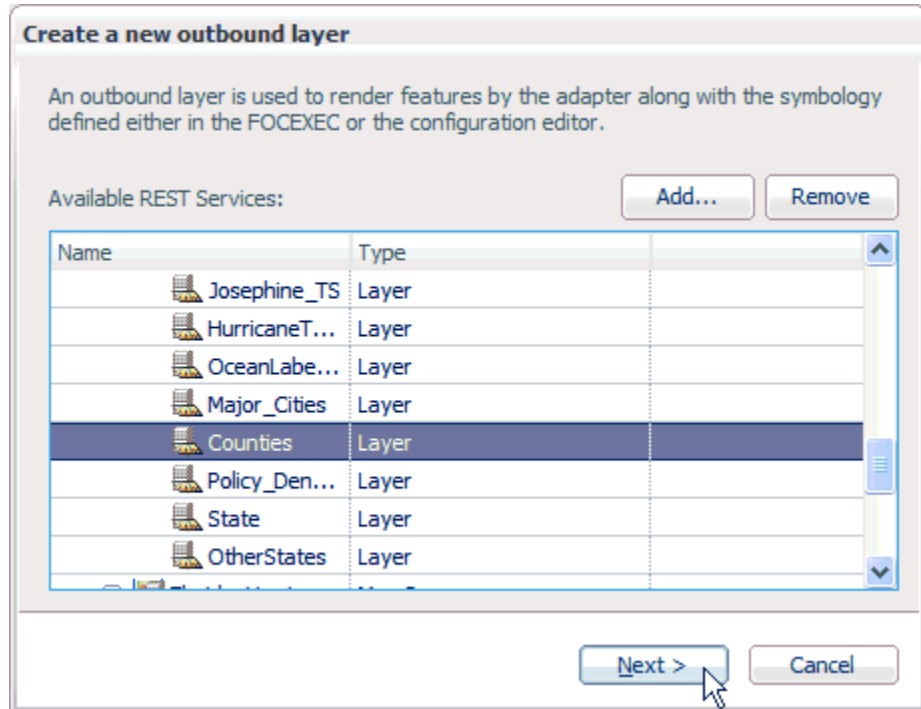
```
String[] serverUrls = {
    //"<url>[,<token>]"
    //For ex. (secured server): "http://myserver.mycompany.com/arcgis/rest/
services,ayn2C2iPvqjeqWoXwV
6rjmr43kyo23mhIPnXz2CEiMA6rVu0xR0St8gKsd0olv8a"
    //For ex. (non-secured server): "http://sampleserver1.arcgisonline.com/arcgis/
rest/services"
    "http://informat-65f86f:8399/arcgis/rest/services",
    "http://ibigisdev.ibi.com:8399/arcgis/rest/services",
    "http://ibigis10.ibi.com:8399/arcgis/rest/services",
    "http://tsssvz01:8399/arcgis/rest/services",
    "http://sampleserver1.arcgisonline.com/arcgis/rest/services",
    "http://sampleserver2.arcgisonline.com/arcgis/rest/services" //NOTE - no comma
after the last item
};
```

4. Specify a host name for ArcGIS in the Host field followed by the port, instance, and URL in the corresponding fields. Consult your ArcGIS administrator for the correct values to use.

**Note:** As a best practice, do not include an ending forward slash (/) character when specifying an ArcGIS Server URL in the proxy.jsp file. If a forward slash character is specified, then you must ensure that the value entered in the Instance field of the REST Service Connection Information dialog also contains a forward slash at the end.

5. Click OK.

You are returned to the Create a new outbound layer dialog.



6. Expand an available Map Server node and then select the layer (for example, Counties) that will be used to select the map features.
7. Click Next.

The Select Attributes dialog opens, which is populated with all of the attribute names from the layer that was selected.

**Create a new outbound layer**

Select attribute(s) to be used with the focexec.  
Define a Focus field format, ESRI layer field size and a quote to be used for queries from an ESRI layer. Use single quote with shapefile layers and double quote with SDE layers.

Select Attributes:

Name	Alias	Type	To	Format	Size	Quote
<input type="checkbox"/> STATE_N...	STATE_NAME	String	->	N/A	N/A	N/A
<input type="checkbox"/> STATE_F...	STATE_FIPS	String	->	N/A	N/A	N/A
<input checked="" type="checkbox"/> CNTY_FIPS	CNTY_FIPS	String	->	A20	20	Single
<input type="checkbox"/> FIPS	FIPS	String	->	N/A	N/A	N/A
<input type="checkbox"/> AREA	AREA	Double	->	N/A	N/A	N/A
<input type="checkbox"/> POP 1990	POP 1990	Double	->	N/A	N/A	N/A

☐ Use Buffering

< Back    Next >    Cancel

8. Select the attribute(s) that you want to be used as a unique identifier to link the map service layers with FOCEXEC columns.

You can modify the Format, Size, and Quote value columns according to your requirements.

The Format column reflects the FOCEXEC format to be used for conversion. Valid FOCUS formats are used with a length (for example, A30, D10.2).

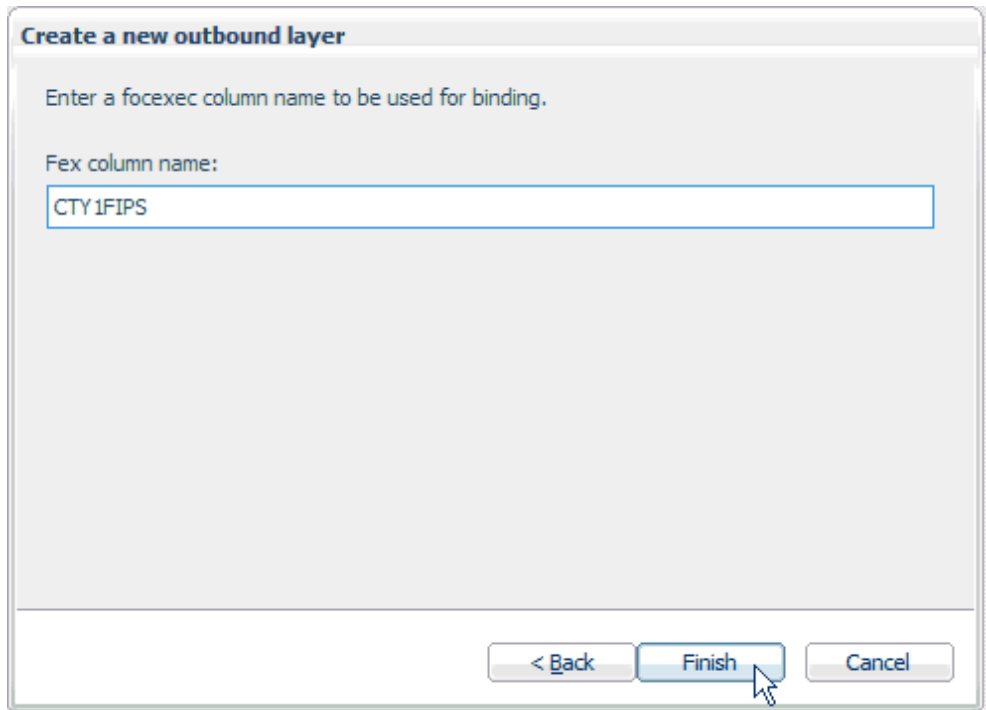
The Size column reflects the length of the map service layer field.

The Quote column reflects the type of quote to use for querying the map service layer field. Use single quotes for shape file layers and double quotes for SDE layers.

9. Click Next when you have finished making your attribute selections.



The following dialog opens, which allows you to specify a FOCEXEC column name to be used for binding.



**Create a new outbound layer**

Enter a focexec column name to be used for binding.

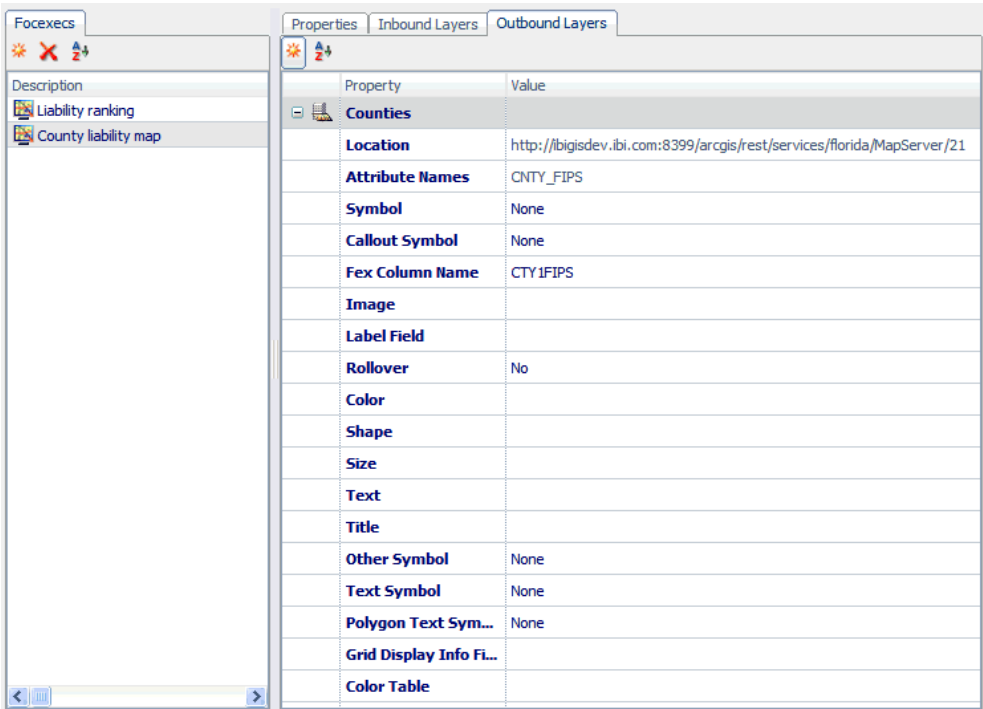
Fex column name:

CTY1FIPS

< Back Finish Cancel

10. Specify a FOCEXEC column name and click *Finish*.

The new outbound layer definition is listed in the Outbound Layers tab of the FOCEXECs configuration area, as shown in the following image.



The Properties table lists the available configuration properties for the outbound layer definition. The following table lists and describes these properties.

Property	Description
Location	The location of the map layer.
Attribute Names	The selected attribute(s) for the outbound layer definition.
Symbol	Allows you to select an available symbol definition from the drop-down list that will be used to render the map illustrating which features have been selected.
Callout Symbol	Allows you to select a callout symbol style from the drop-down list to be used by your FOCEXEC.
Fex Column Name	The specified FOCEXEC column name to be used for binding.

Property	Description
Image	Refers to a FOCUS Report Column to use for the IMAGE field. This image field can be used to symbolize point features.
Label Field	Refers to a FOCUS Report Column to use for labeling features on an outbound layer.
Rollover	Enables or disables rollover (mouse over) support for the outbound layer. The default value is <i>No</i> .
Color	These fields contain the default field names that may be present in the XML output the WebFOCUS GIS Adapter will process. The actual field names are present in the FOCEXEC. Refer to the DEFINE or COMPUTE lines for the specific names.
Shape	
Size	
Text	
Title	
Other Symbol	Allows you to select an additional symbol from the drop-down list.
Text Symbol	Allows you to select an available text symbol from the drop-down list.
Polygon Text Symbol	Allows you to select an available polygon text symbol from the drop-down list.
Grid Display Info Field	Refers to a list of FOCUS Report Column(s) to be displayed in the Data View widget.
Color Table	Allows you to specify a color table to be used by the outbound layer.

## Configuring Synthetic Map Services

Most GIS software supports a concept of a free-form layer. In ArcGIS Server, this is known as an acetate layer. Acetate layers allow the developer to place any map related information where the user can view it. An acetate layer by itself is not capable of supporting end-user interaction. WebFOCUS Synthetic Layers take acetate support to the next level by supporting end-user selection of features to be used as filter values for report and graph requests.

Synthetic layer information is obtained via database queries that retrieve unique feature values along with the latitudes and longitudes of the features. An example of this uses data that is collected by the U.S. Geological Service about recent earthquakes. This information is published in a variety of formats on the USGS website. WebFOCUS can read this information across the Internet and use the latitude and longitude of the earthquake epicenter to display those locations on the map.

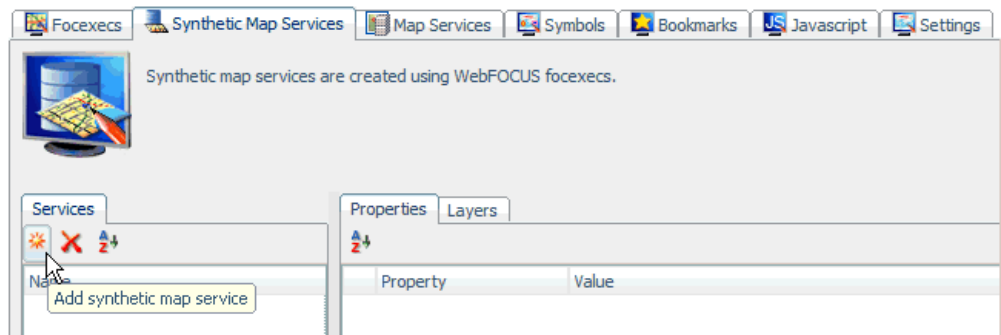
WebFOCUS also supports the drawing of lines between multiple points on the map. When the latitude and longitude data is retrieved along with a common data value for multiple points, WebFOCUS will instruct ArcGIS Server to connect those points together. An example of this is the multiple points along the current and projected path of a hurricane. All the points share the same storm name, which will be used to link them together.

And finally the last type of synthetic layer that is supported is a polygon. Polygons are also collections of latitude and longitude values for a common data value. The difference between a synthetic line and synthetic polygon is that WebFOCUS will instruct ArcGIS Server to complete the polygon shape between the last point and the first point of each unique grouping of points.

### **Procedure: How to Configure a Synthetic Map Service**

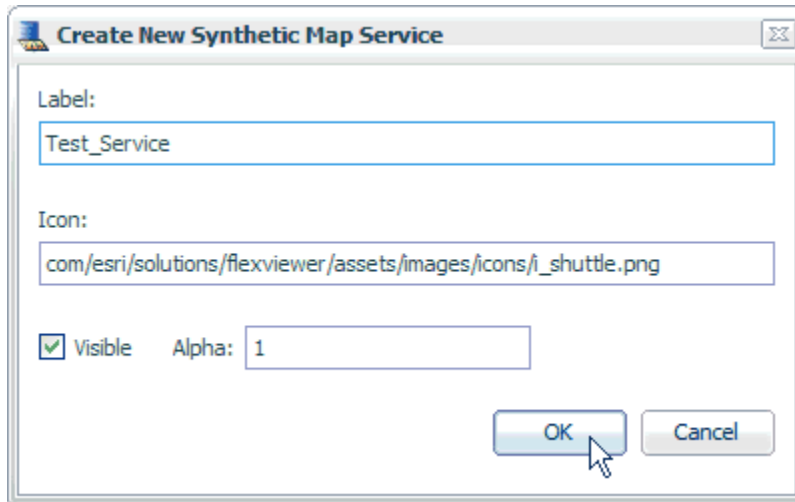
To configure a synthetic map service:

1. Click the *Synthetic Map Services* tab located at the top of the ESRI Configuration Utility.



2. Click *Add synthetic map service* in the left pane.

The Create New Synthetic Map Service dialog opens, as shown in the following image.

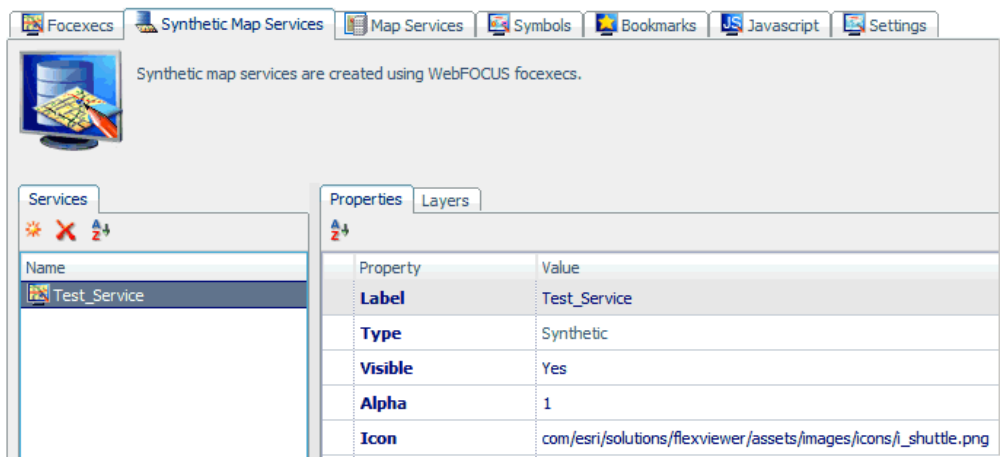


3. Enter a name for the synthetic map service in the Label field.
4. Enter the path to the icon that is used to represent the map service by the WebFOCUS GIS Flex Viewer in the Icon field.

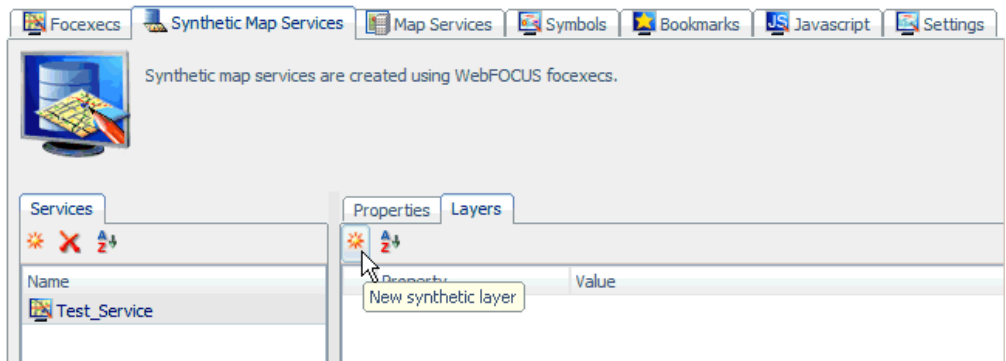
The Visible check box determines if the map is visible by default. The default value in the Alpha field is 1.

5. Click OK.

The new synthetic map service is added to the Services pane in the ESRI Configuration Utility, as shown in the following image.

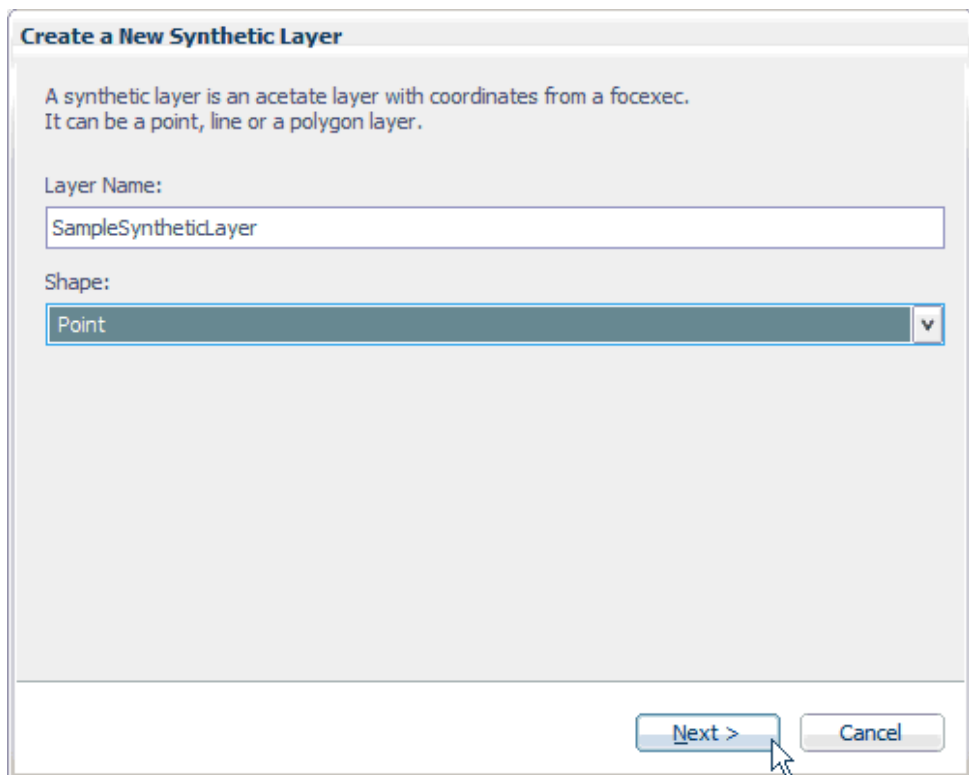


You must now define a synthetic layer for the synthetic map service.



6. Click the *Layers* tab and then *New synthetic layer*.

The Create a New Synthetic Layer dialog opens, as shown in the following image.



7. Enter a name for the synthetic layer that is easy for the end user to understand in the Layer Name field.

8. Select one of the following shapes from the drop-down list:

- ☐ Point
- ☐ Line
- ☐ Polygon

9. Click *Next*.

The Create a New Synthetic Layer dialog box opens, which allows you to specify a FOCEXEC to draw a synthetic layer.

10. Browse to and select an available FOCEXEC from your application directory.
11. Enter a column name that provides the unique identifier to link to the FOCEXEC.
12. Enter an X coordinate column name that will contain the longitude value from the output of the specified FOCEXEC.
13. Enter a Y coordinate column name that will contain the latitude value from the output of the specified FOCEXEC.
14. Select the *Use the same focexec to select from the synthetic layer* check box if you want to use the same FOCEXEC for the selection. The Create a New Synthetic Layer dialog box is shown in the following image.

**Create a New Synthetic Layer**

Specify a focexec to draw a synthetic layer. Data is the column that provides the unique identifier to link to a Focus report. X is the column that provides the longitudinal value, and Y is the column that provides the latitudinal value.

Type:

Focexec: ▼ IBFS:/EDA/EDASERVE/new\_retail/populationforecastxls.fex ...

Data Column Name:

PF1FIPS

X Coordinate Column Name:

x

Y Coordinate Column Name:

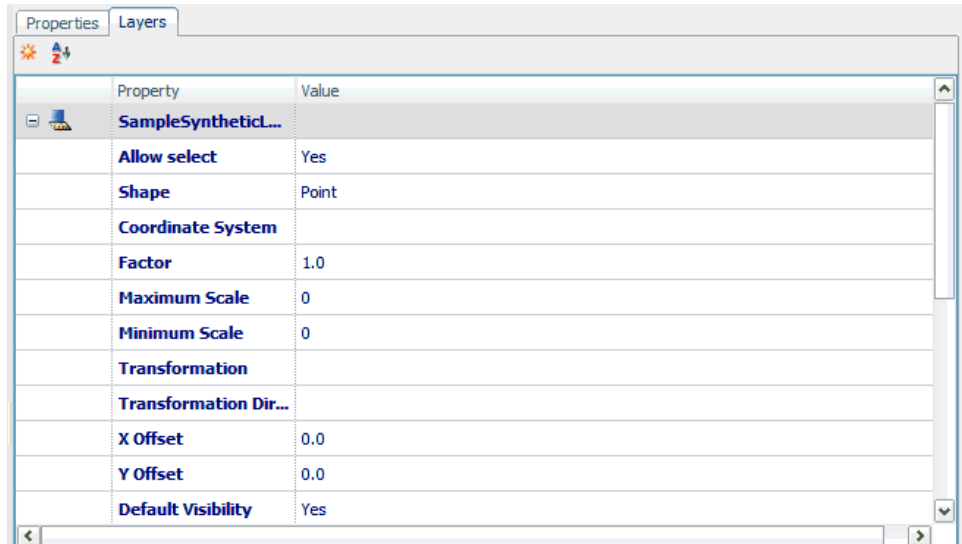
y

☒ Use the same focexec to select from the synthetic layer.

< Back Finish Cancel

15. Click *Finish*.

The new synthetic layer definition is listed in the Layers tab of the synthetic map services configuration area, as shown in the following image.



16. Define new attributes for the synthetic layer definition based on the output of the FOCEXEC that was used to create the synthetic layer. The attributes should correspond to the BY fields in the focexec.

Attributes for layer SampleSyntheticLayer				
Name	Format	Size	Quote	
NAME	A20	20	Single	



17. Click Save.

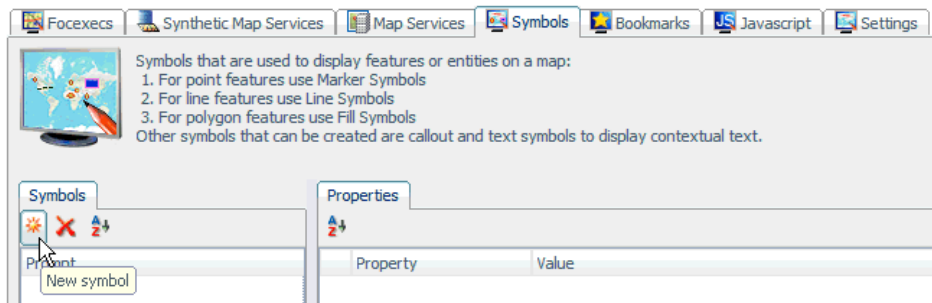
## Configuring Symbols

Symbols are used to display features or entities on a map. For point features, use Marker symbols. For line features, use Line symbols. For polygon features, use Fill symbols. Other symbols that can be created are Callout and Text symbols to display contextual text.

### **Procedure:** How to Configure a New Symbol Definition

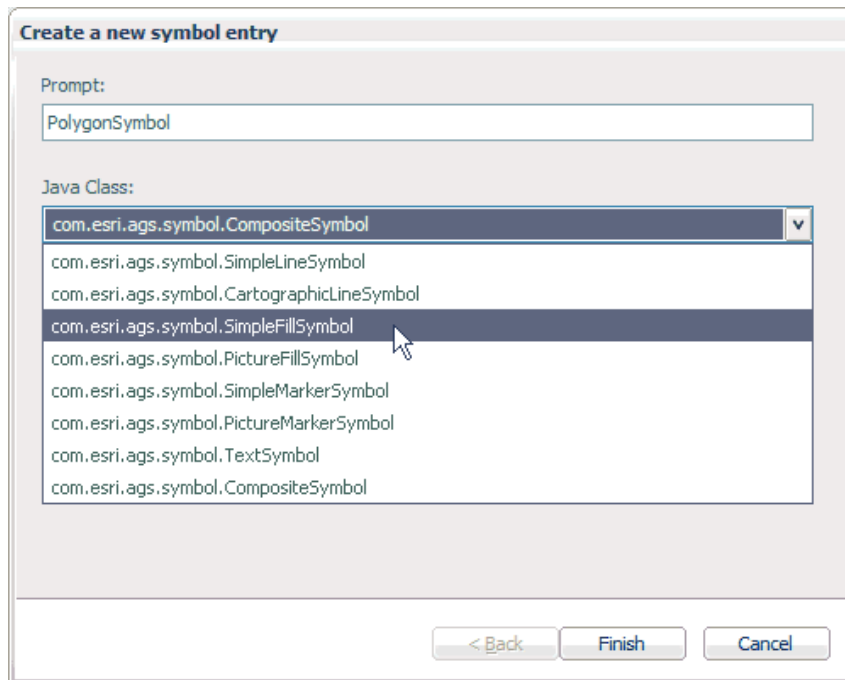
To configure a new symbol definition:

1. Click the *Symbols* tab located at the top of the ESRI Configuration Utility.



2. Click *New Symbol* in the left pane.

The Create a new symbol entry dialog opens, as shown in the following image.



3. Enter a unique name for the new symbol in the Prompt field (for example, PolygonSymbol).

- Choose the Java class you wish to use for your new symbol definition from the drop-down list (for example, `com.esri.ags.symbol.SimpleFillSymbol`).

**Create a new symbol entry**

Prompt:

Java Class:

< Back   Finish   Cancel

- Click *Finish*.

The new symbol definition (for example, `PolygonSymbol`) is added to the Symbols pane in the ESRI Configuration Utility, as shown in the following image.

Symbols that are used to display features or entities on a map:  
 1. For point features use Marker Symbols  
 2. For line features use Line Symbols  
 3. For polygon features use Fill Symbols  
 Other symbols that can be created are callout and text symbols to display contextual text.

Property	Value
<b>Prompt</b>	PolygonSymbol
<b>Java Class</b>	com.esri.ags.symbol.SimpleFillSymbol
<b>Outline</b>	
<b>Alpha</b>	
<b>Color</b>	<input type="text"/>
<b>Style</b>	

The Properties tab lists the available configuration properties for the symbol definition, which are specific to the Java class. For example, the following table lists and describes the configuration properties that are specific to Simple Fill Symbol (com.esri.ags.symbol.SimpleFillSymbol).

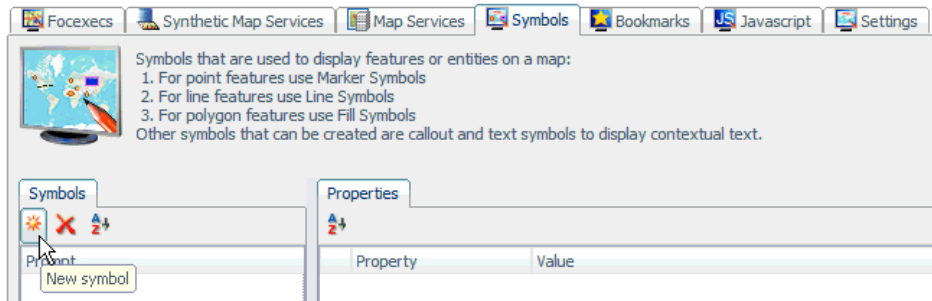
Property	Description
Prompt	The unique name for the symbol definition that was entered in the Prompt field of the Create a new symbol entry dialog.
Java Class	The specific Java class that is associated with the new symbol definition.
Outline	The type of outline to be used. Select an available line symbol definition from the drop-down list.
Alpha	Fill symbol transparency level.
Color	Allows you to select a color to be used for the symbol from a color palette dialog. You can also set the color value as transparent.
Style	<div>The type of style to be applied for the symbol definition. You can select a value from the drop-down list. The available set of style values are directly related to the symbol definition. For example, for Simple Fill Symbol, the following styles are available:</div> <div><input type="checkbox"/> backward diagonal lines</div> <div><input type="checkbox"/> cross</div> <div><input type="checkbox"/> diagonal cross</div> <div><input type="checkbox"/> forward diagonal lines</div> <div><input type="checkbox"/> horizontal lines</div> <div><input type="checkbox"/> no fill</div> <div><input type="checkbox"/> solid</div> <div><input type="checkbox"/> vertical lines</div>

**Note:** For more information on the configuration properties that are available for the supported symbol Java classes, see [Symbol Class Settings and Parameters](#) on page 281.

### **Procedure:** How to Configure a New Composite Symbol

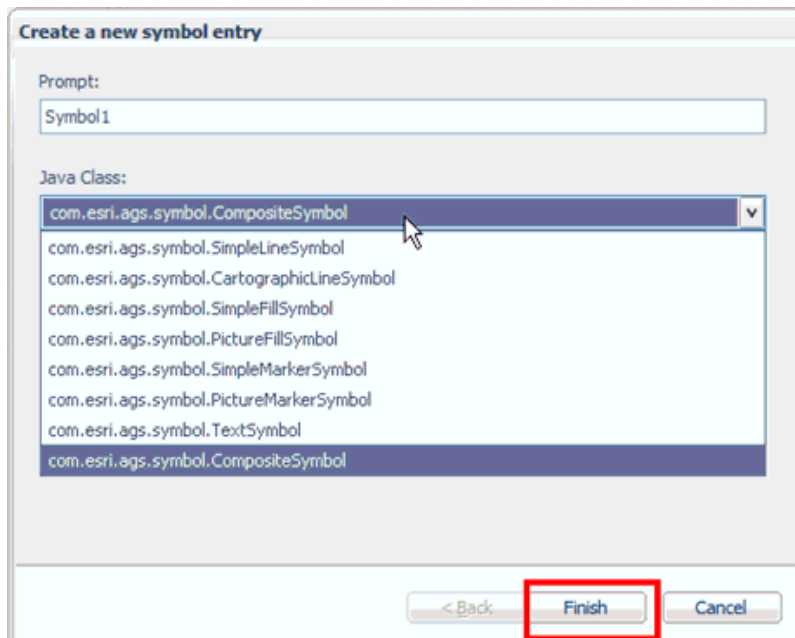
A composite symbol is used to draw multiple symbols on a single graphic. The symbols can be a combination of point, line, and fill symbols. To configure a new composite symbol:

1. Click the **Symbols** tab located at the top of the ESRI Configuration Utility.



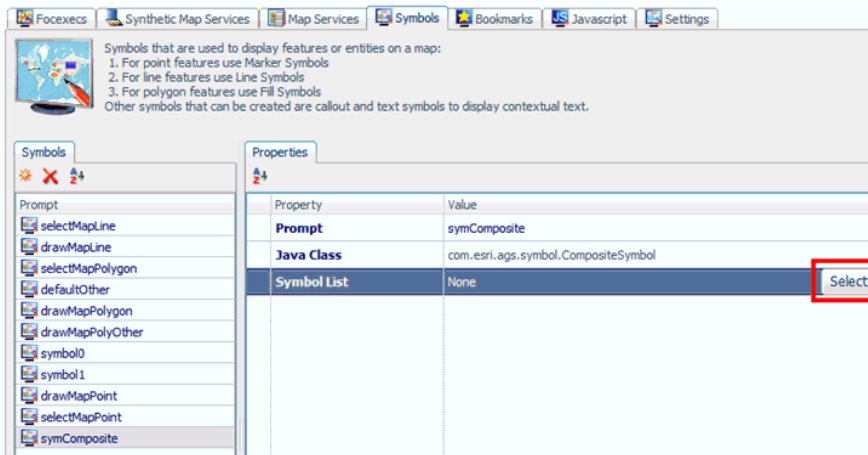
2. Click **New Symbol** in the left pane.

The Create a new symbol entry dialog opens, as shown in the following image.



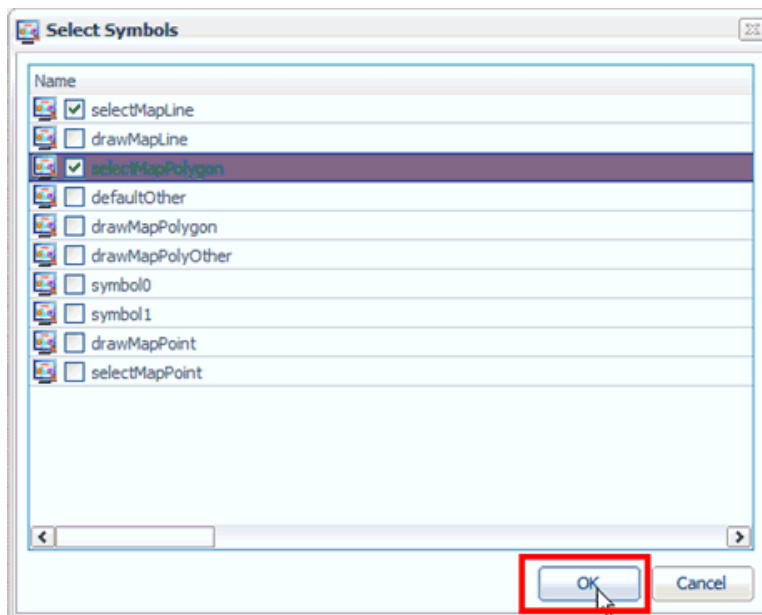
3. Provide a new value for the prompt if required.
4. Select the `com.esri.agssymbol.CompositeSymbol` Java class.
5. Click *Finish*.

The composite symbol is added to the list of Symbols.



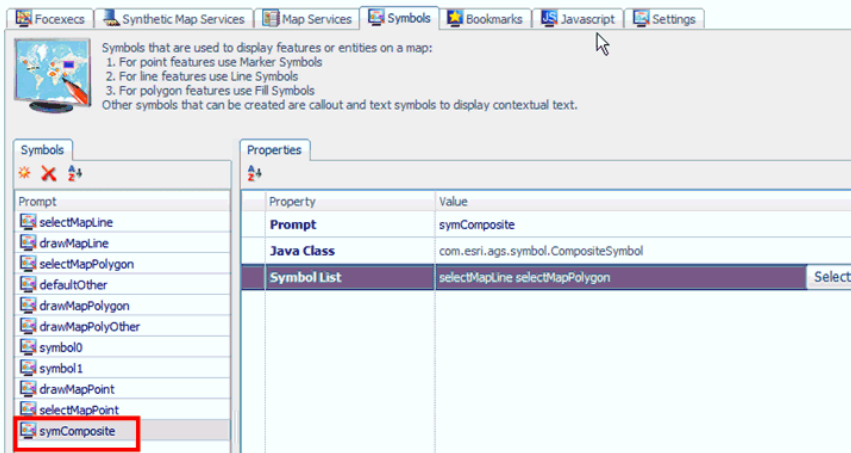
6. Click *Select*.

The Select Symbols dialog opens.



7. Select the symbol(s) that you want to add to the composite symbol you are configuring and click *OK*.

The composite symbol is added to the Symbols tab and includes the symbols that were selected during the configuration process.

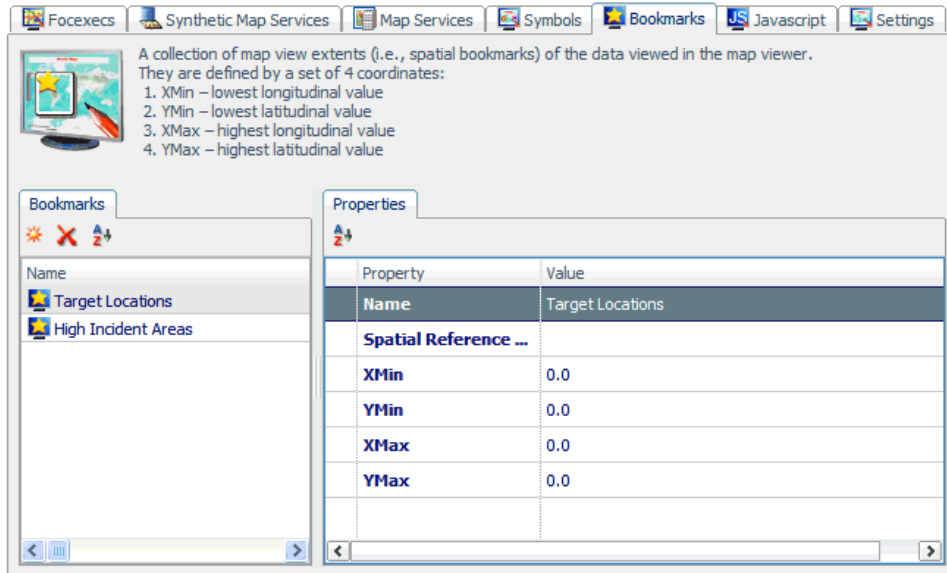


## Adding Bookmarks

The Bookmarks tab allows you to define a collection of map view extents (spatial bookmarks) of the data that is viewed in the WebFOCUS GIS Flex Viewer. Each bookmark must be defined by the following set of coordinates:

- ☐ XMin - The lowest longitudinal value.
- ☐ YMin - The lowest latitudinal value.
- ☐ XMax - The highest longitudinal value.

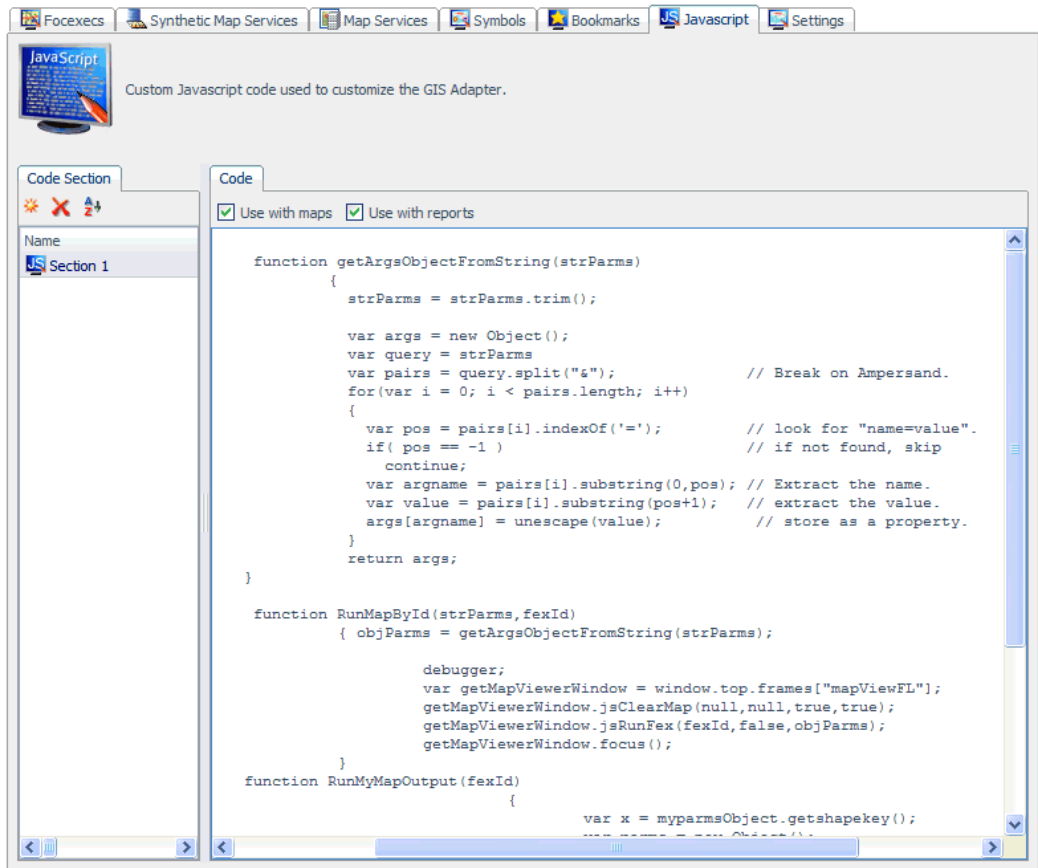
- ❑ YMax - The highest latitudinal value.





## Customizing JavaScript Syntax

The Javascript tab allows you to write JavaScript syntax that can be used to customize the WebFOCUS GIS Adapter.



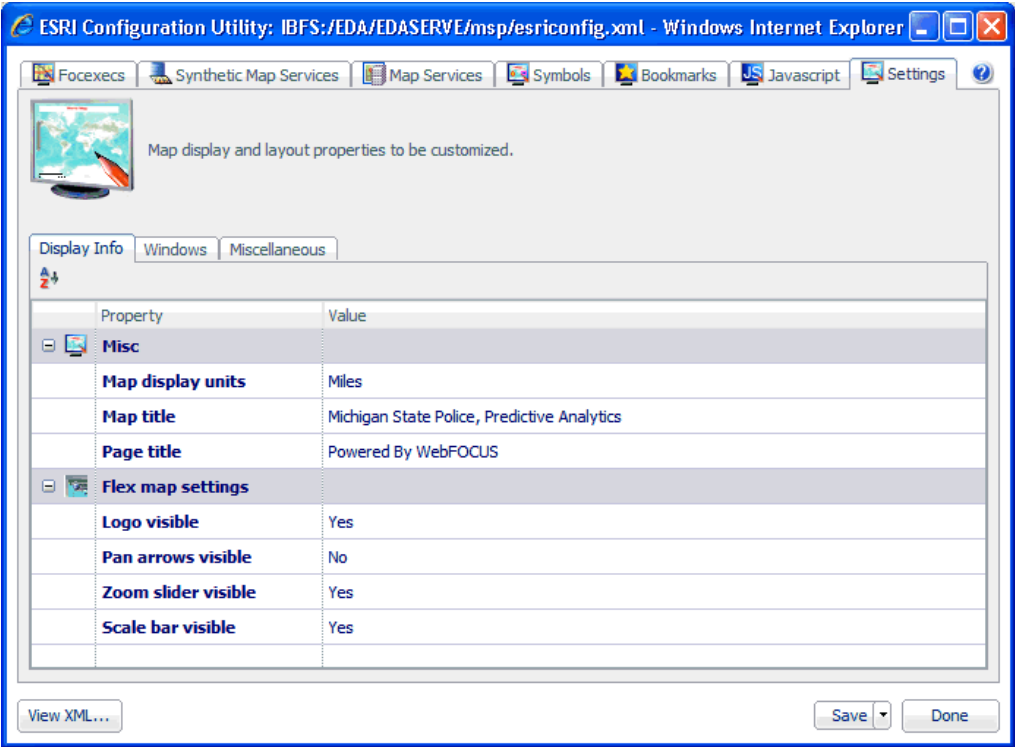
You can specify whether the custom JavaScript syntax should be used with maps and/or reports by selecting the corresponding check boxes.

## Configuring Settings

The Settings tab allows you to configure display information settings, window display settings, and miscellaneous settings.

Display Information Settings

The display information settings allow you to customize map display and layout properties. To configure display information settings, click the *Display Info* tab in the Settings pane.



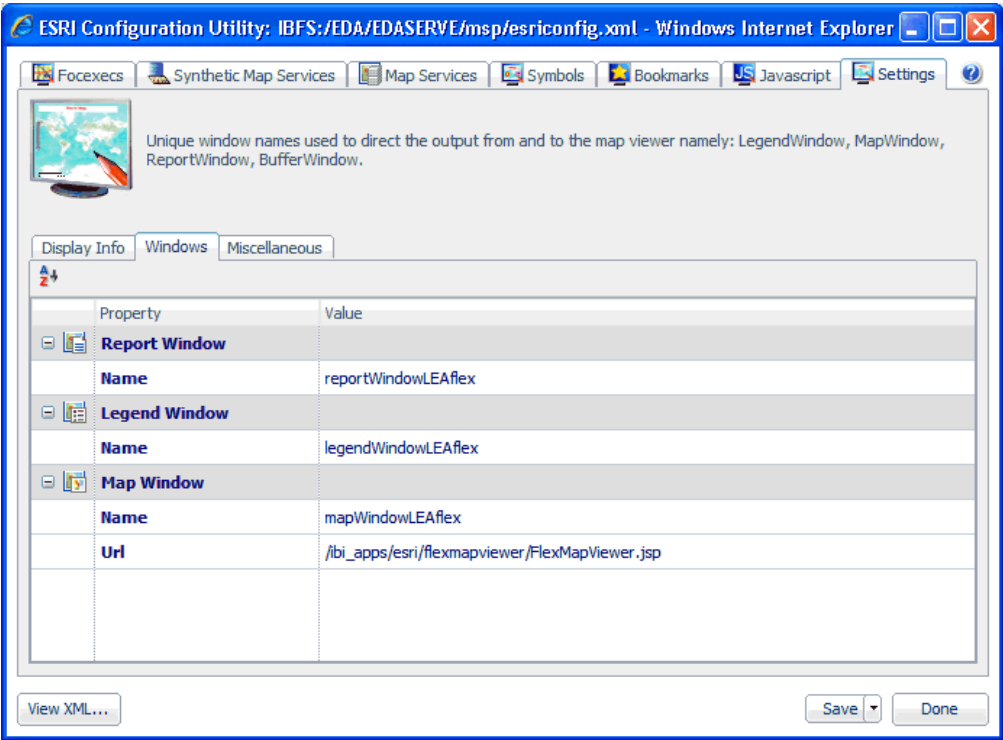
The following table lists and describes the configuration properties that are available in the Display Info tab.

Property	Description
Misc	

Property	Description
Map display units	<p>Allows you to set the display units that will be used by the map. Select one of the following units from the drop-down list:</p> <p><input type="checkbox"/> Feet</p> <p><input type="checkbox"/> Inches</p> <p><input type="checkbox"/> Meters</p> <p><input type="checkbox"/> Miles</p>
Map title	The title of the map to be displayed in the WebFOCUS GIS Viewer for Flex.
Page title	The title of the page to be displayed in the web browser window.
<b>Flex map settings</b>	
Logo visible	Determines whether to display the ESRI logo. Select true or false.
Pan arrows visible	Determines whether to display the pan arrows to drag the map. Select true or false.
Zoom slider visible	Determines whether to display the zoom navigation toolbar. Select true or false.
Scale bar visible	Determines whether to display the scale bar on the map. Select true or false.

Window Settings

The window settings allow you to customize the windows (LegendWindow, MapWindow, ReportWindow, and BufferWindow) that are used to direct the output to and from the WebFOCUS GIS Viewer for Flex. To configure window settings, click the *Windows* tab in the Settings pane.



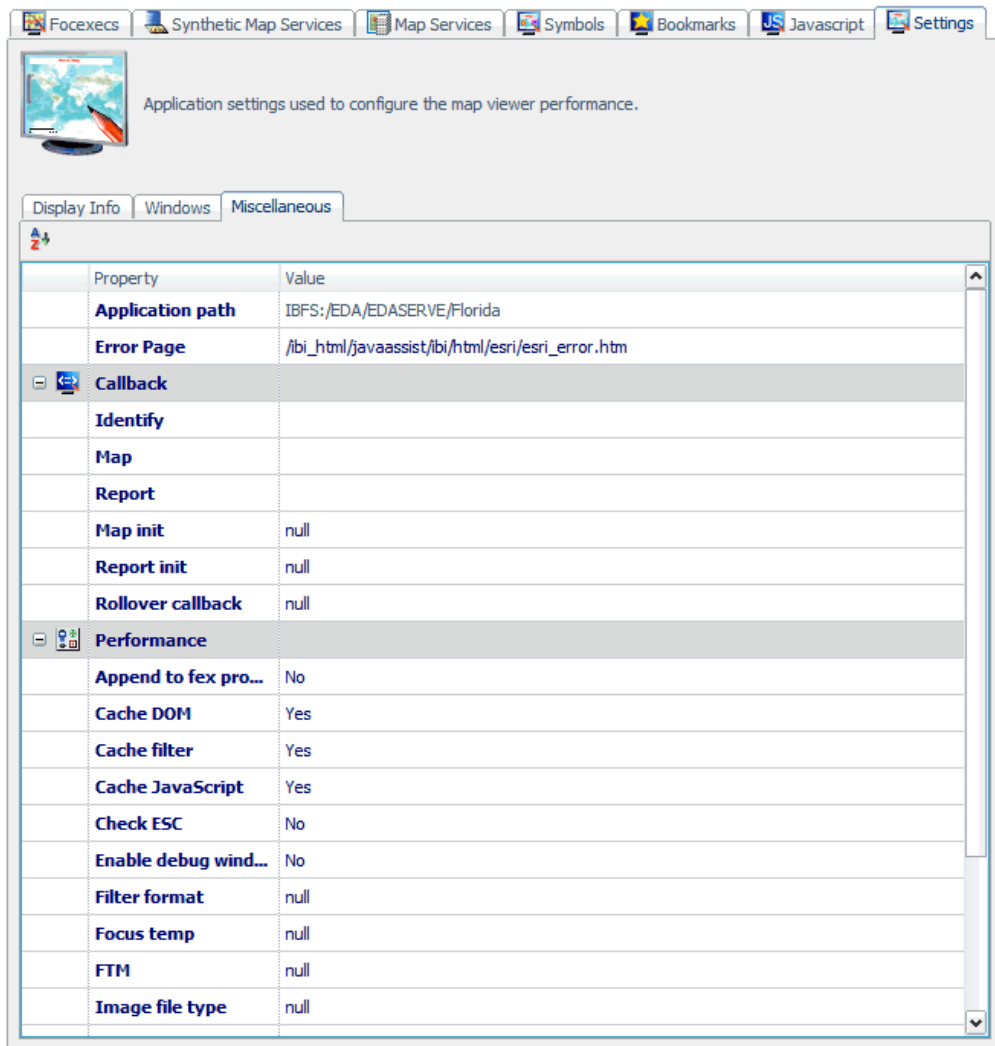
The following table lists and describes the configuration properties that are available in the Windows tab.

Property		Description
Report Window		
Name		A unique name to identify where the results from a report FOCEXEC are targeted.
Legend Window		

Property	Description
Name	A unique name to identify the legend window that is displayed.
<b>Map Window</b>	
Name	A unique name to identify where the map is going to be painted.
Url	<p>The URL used to display the map (required). For Flex the value should be:</p> <p><a href="#">/ibi_apps/esri/flexmapviewer/FlexMapView.jsp</a></p> <p>The ESRI Configuration Utility automatically adds the URL.</p>

## Miscellaneous Settings

The miscellaneous settings consist of application settings that can be used to configure map viewer performance. To configure miscellaneous settings, click the *Miscellaneous* tab in the Settings pane.



The following table lists and describes the configuration properties that are available in the Miscellaneous tab.

Property	Description
Application path	The path to the application folder on the server.
Error Page	The path to the HTML error page.
<b>Callback</b>	
Identify	The JavaScript function that is used after running an Identify FOCEXEC.
Map	The JavaScript function that is used after running a Map FOCEXEC.
Report	The JavaScript function that is used after running a Report FOCEXEC.
Map init	The JavaScript function that is used before painting the map.
Report init	The JavaScript function that is used before running a report.
Rollover callback	The JavaScript function that is used when performing a rollover (contextual).
<b>Performance</b>	
Append to fex prompt	Add .fex extension to FOCEXECs. Boolean value.
Cache DOM	Store JavaScript in DOM. Boolean value.
Cache filter	Stores the filter in memory. Boolean value.
Cache JavaScript	Stores the JavaScript in memory. Boolean value.
Check ESC	Checks for the escape character. Boolean value.
Enable debug window	Opens a window for debugging. Boolean value.
Filter format	Specifies the format to be used for filtering.

Property	Description
Focus temp	Specifies the storing format for FOCUS. The default value is TXT.
FTM	
Image file type	Specifies the image file type to be used. The default value is <i>png</i> .
Image redirect	Determines if an image redirect should be applied. Boolean value.
Map cache depth	The number of maps in memory. Increase this value for report to map drill-downs.
Max feature items	The maximum number of features to be returned after queries.
Max length image line	The maximum length of an image line.

## Flushing Tables

You must flush the tables each time you edit XML definition files. You can enter the following URL to flush tables:

```
http://server:port/ibi_apps/esri/WfArcConnector.jsp?  
IBIESRI_command=flushtables
```

where:

*server*

Is the name of the server on which WebFOCUS is installed.

*port*

Is the number of the port on which the server is listening.



The following message is displayed in your web browser to confirm that the flushtables command was executed:



## Verifying the XML Definition File

To verify any changes made to your XML definition file using the WebFOCUS GIS Flex Viewer, enter the following URL:

[http://server:port/ibi\\_apps/esri/flexmapviewer/FlexMapView.jsp?  
IBIAPP\\_app=app\\_name&IBIESRI\\_infofile=file\\_name.xml&](http://server:port/ibi_apps/esri/flexmapviewer/FlexMapView.jsp?IBIAPP_app=app_name&IBIESRI_infofile=file_name.xml&)

where:

*server*

Is the name of the server on which WebFOCUS is installed.

*port*

Is the number of the port on which the server is listening.

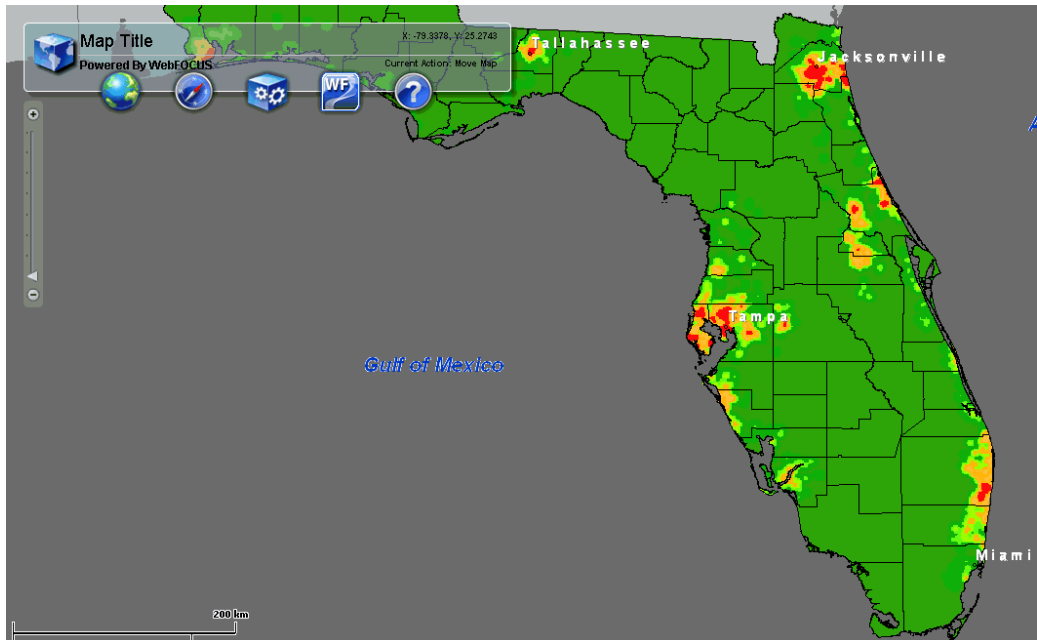
*app\_name*

Is the name of the application.

*file\_name.xml*

Is the name of the XML definition file (for example, esriconfig.xml)

For example:



## Current Limitations

The following are known limitations in the current version of the ESRI Configuration Utility:

- ☐ The ESRI Configuration Utility is missing the <menuinfo> tag.
- ☐ The ESRI Configuration Utility is missing configuration for a geoprocessing task.

## Using the WebFOCUS GIS Viewer for Flex

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The following section describes the features and usage of the WebFOCUS GIS Viewer for Flex.

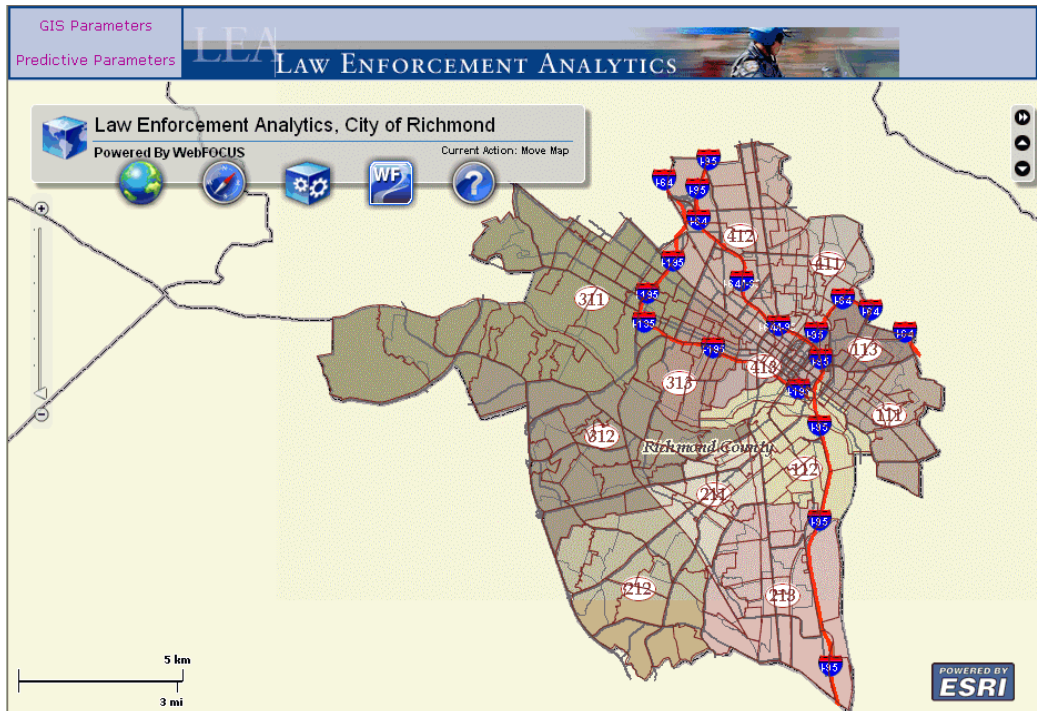
### In this chapter:

- ☐ [Overview](#)
  - ☐ [WebFOCUS GIS Viewer for Flex Components](#)
  - ☐ [WebFOCUS Map Component](#)
  - ☐ [WebFOCUS Report Component](#)
  - ☐ [Synthetic Layer Component](#)
  - ☐ [WebFOCUS Data View Component](#)
  - ☐ [JavaScript Functions Available From Flexmapviewer.jsp](#)
- 

### Overview

The new WebFOCUS GIS Viewer for Flex is developed using the Adobe Flex version 3.5 development environment and the ArcGIS API for Flex version 1.5. Adobe Flex is an open source framework that is used to develop dynamic, cross-platform Internet applications. Similar to the previous WebFOCUS GIS Map View Manager, the new WebFOCUS GIS Viewer for Flex uses an adapter to integrate the mapping capabilities of ESRI ArcGIS Server with WebFOCUS.

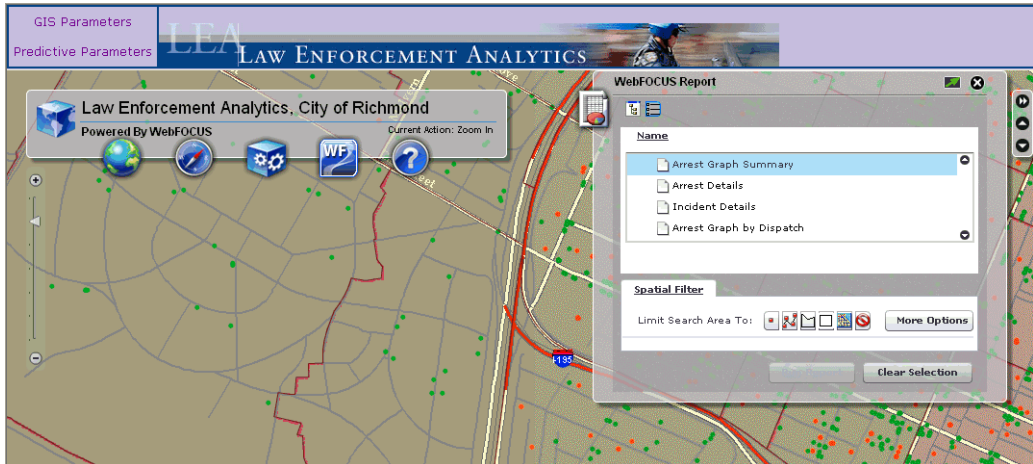
The WebFOCUS GIS Viewer for Flex simplifies the development of business intelligence solutions that result in more rapid and complete analysis of different types of data. The results of this analysis are distributed using a web 2.0 style interface in the form of interactive maps, traditional business reports, and charts for more informed and timely decisions.



Using the ESRI open source framework developed in Adobe Flex for web mapping, WebFOCUS tools have been added to enable robust reporting capabilities. The display of information is bi-directional. The WebFOCUS GIS Viewer for Flex provides three conduits to display data in this mapping interface:

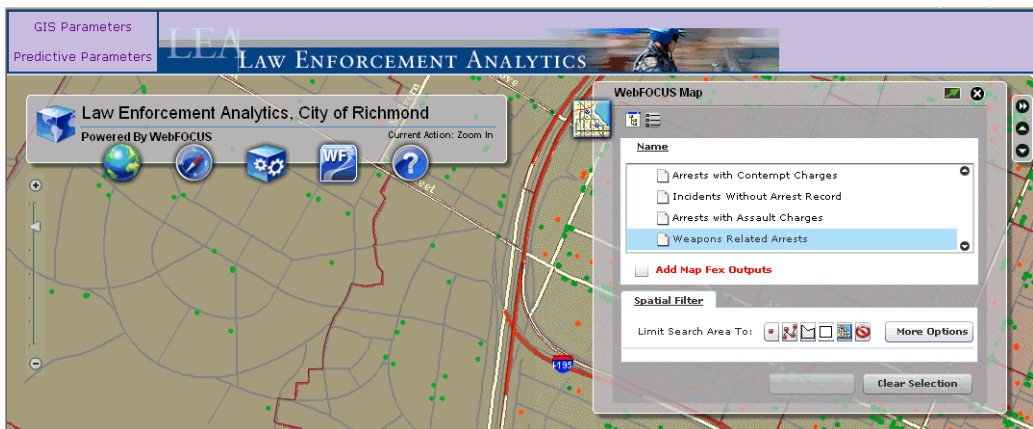
- ☐ WebFOCUS Report
- ☐ WebFOCUS Map
- ☐ WebFOCUS Identify

## WebFOCUS Report



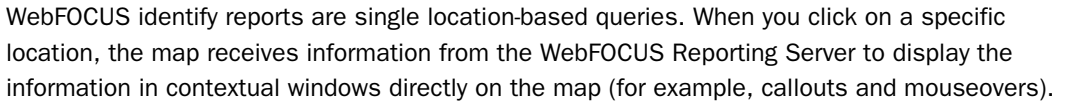
WebFOCUS reports are triggered using a location-based query, which is passed to the WebFOCUS Reporting Server and then served as stylized reports. These reports provide drill-down options to communicate with the WebFOCUS GIS Viewer for Flex to display information in a different format. As a result, the map can display this information in a visual format.

## WebFOCUS Map



WebFOCUS map reports can be triggered directly from within the map itself. After a location-based query is issued, the map communicates with the WebFOCUS Reporting Server to receive data available in any format and then displays the results on the map using graphical elements (colors, symbols, pictures, and so on).

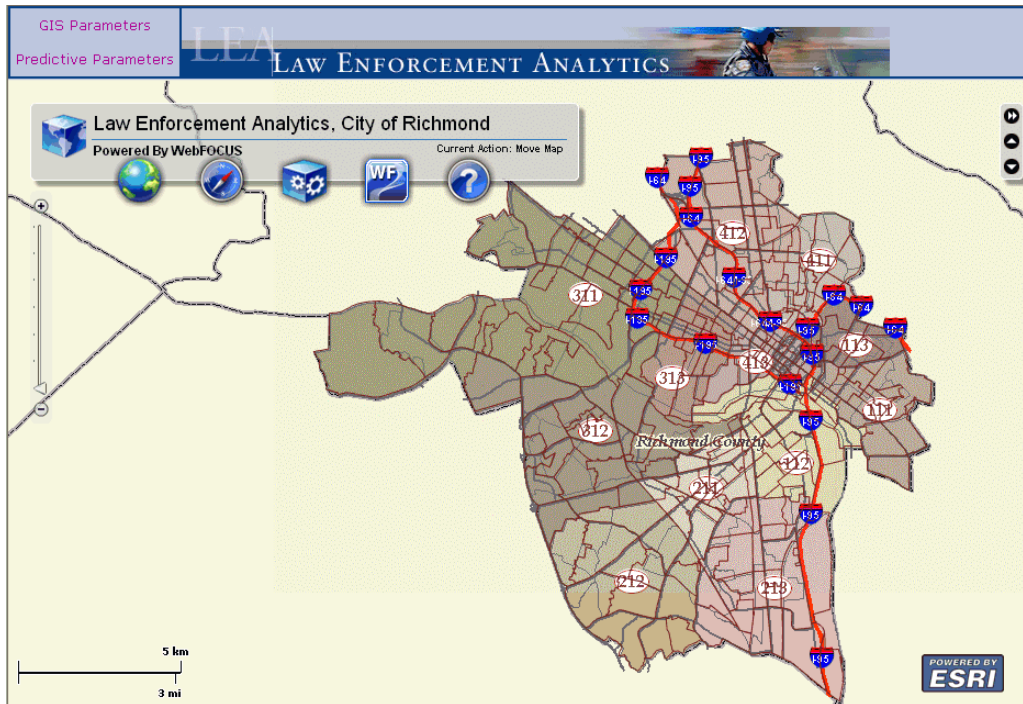
## Information Builders



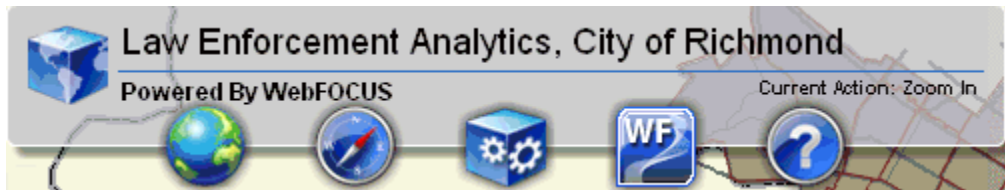


## WebFOCUS GIS Viewer for Flex Components

This section describes the various WebFOCUS GIS Viewer for Flex components that are available.



The majority of the controls are displayed in a toolbar that is located along the upper-left side of the viewer window.



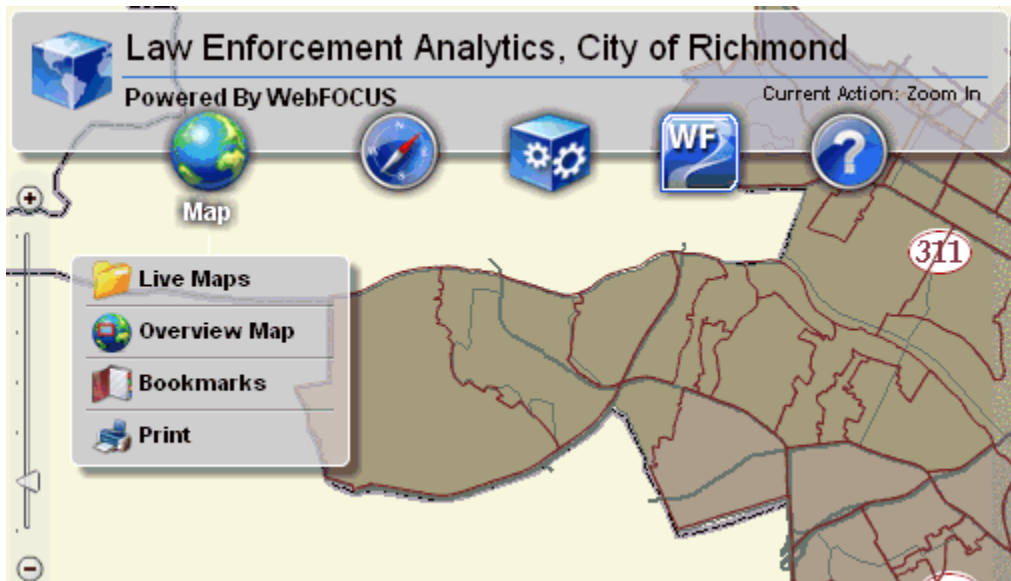
### Map Component

The Map component provides the following menu options:

- ☐ Live Maps
- ☐ Overview Map

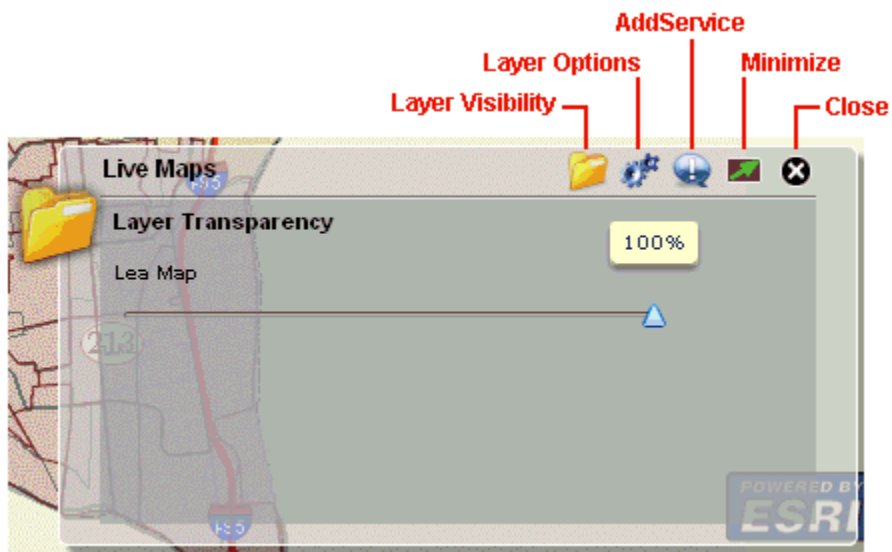
☐ Bookmarks

☐ Print



### Live Maps

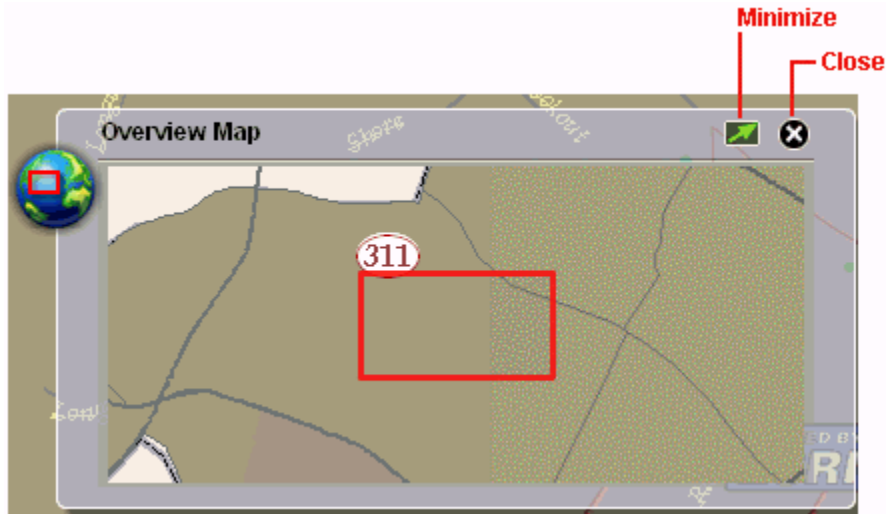
The Live Maps dialog allows you to set layer visibility, layer options, and add map services.





### Overview Map

When you zoom in to a specific area on the map, the Overview Map dialog shows a miniature full extent view of the map with the zoomed in area highlighted.



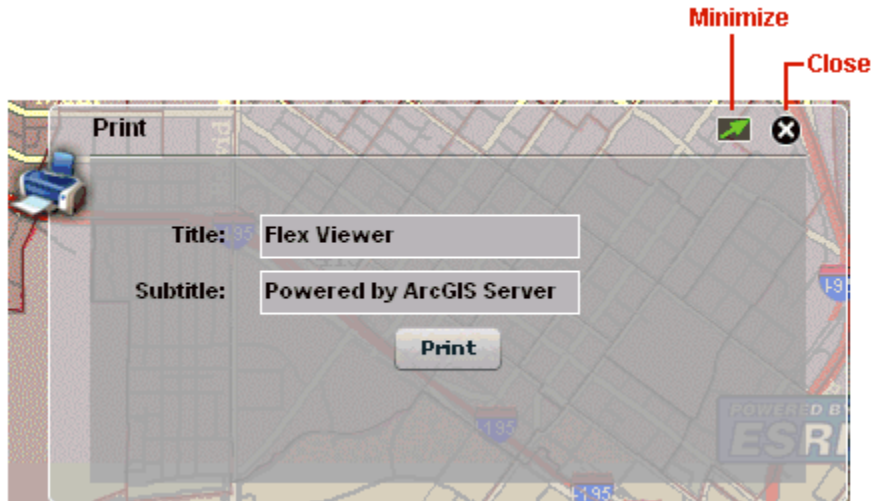
### Bookmarks

The Bookmarks dialog allows you to quickly access points of interest on the map that have been added as bookmarks.



## Print

The Print dialog allows you to print the current map view that is displayed in your web browser. You can also specify a title and subtitle for identification purposes that will appear on the printed copy.



## Navigation Component

The Navigation component provides the following menu options:

- ☐ Zoom In
- ☐ Zoom Out
- ☐ Full Extent

### ☐ Re-center Map



### **Zoom In**

Clicking *Zoom In* switches the map pointer (selection tool) to zoom in mode.

### **Zoom Out**

Clicking *Zoom Out* switches the map pointer (selection tool) to zoom out mode.

### **Full Extent**

Clicking *Full Extent* zooms out the map view to a level that fits the screen and provides an overview of the map.

### **Re-center Map**

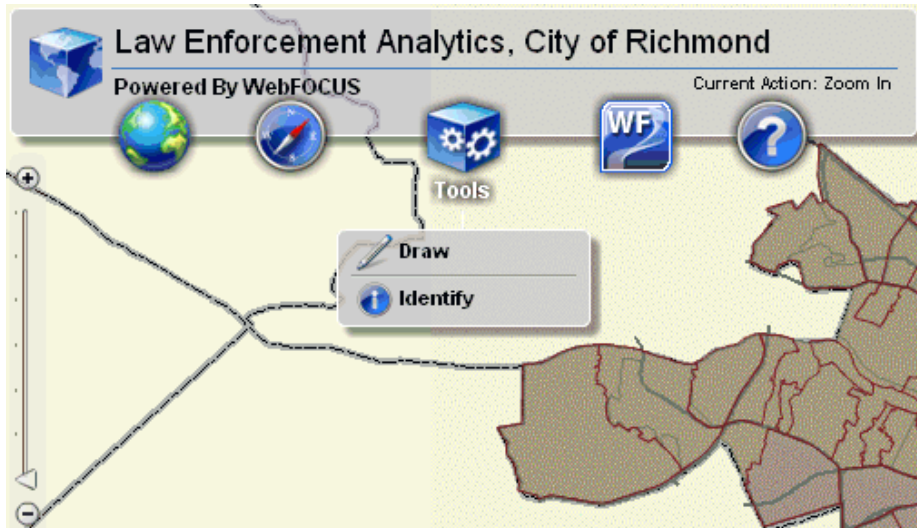
Clicking *Re-center Map* switches the map pointer (selection tool) to the hand tool, which allows you to click and drag the current map view.

## **Tools Component**

The Tools component provides the following menu options:

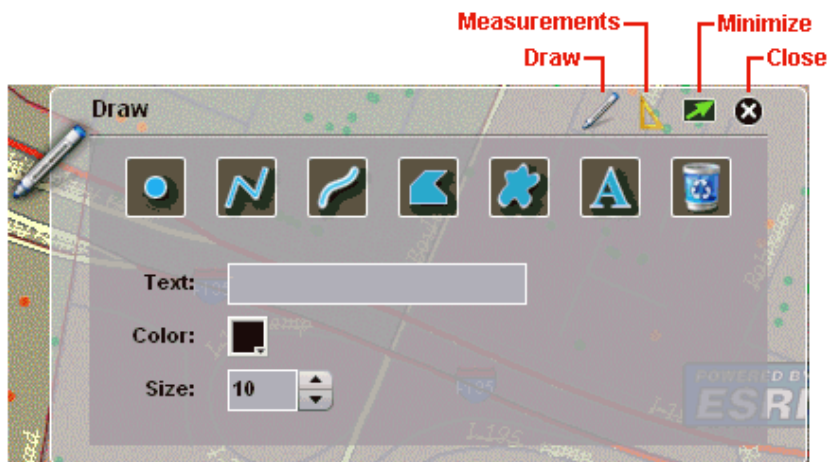
### ☐ Draw

☐ Identify



**Draw**

The Draw dialog allows you to draw points, lines, shapes, and enter text directly on the map. You can also specify the color and size of the graphic or text.

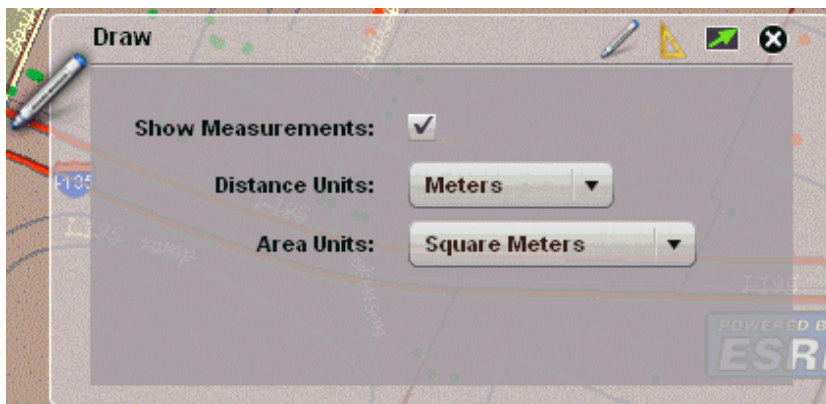


The Measurements section of the Draw dialog allows you to toggle between showing or hiding measurements for points, lines, and shapes. You can set the following distance units to be used:

- ☐ Meters
- ☐ Kilometers
- ☐ Feet
- ☐ Miles

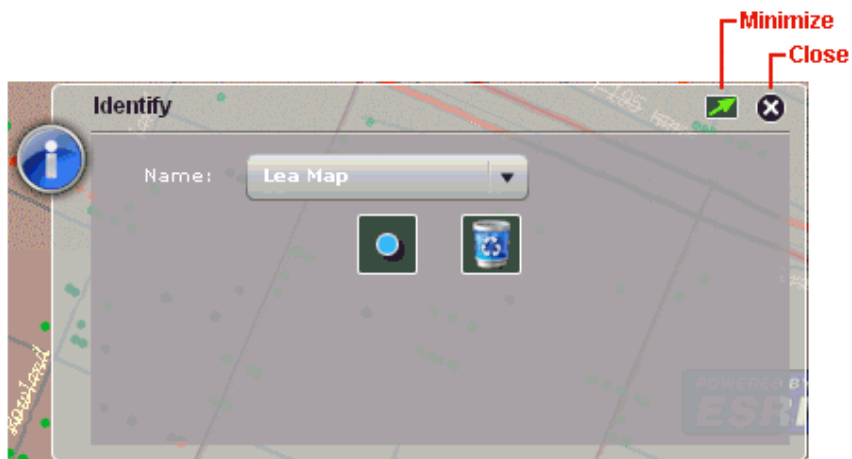
You can set the following area units to be used:

- ☐ Square meters
- ☐ Square kilometers
- ☐ Square feet
- ☐ Square miles
- ☐ Acres
- ☐ Hectares

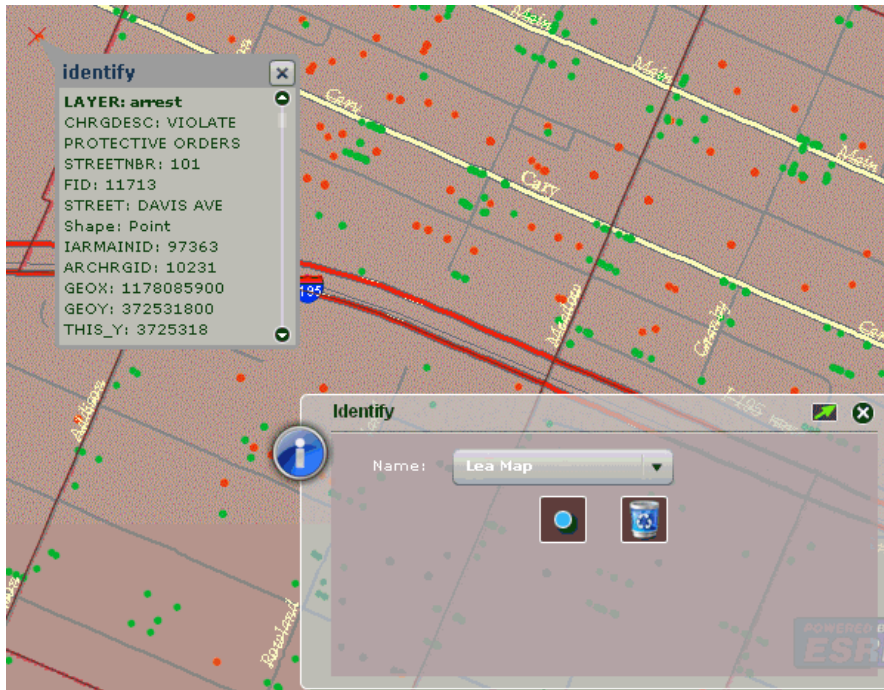


## Identify

The Identify dialog allows you to display more information (for example, type of crime) for a specific point on the map.



In the following example, *Identify* was first selected from the Tools component. Then, a point on the map from the Arrest layer (indicated by red points) was selected. When the information from the WebFOCUS Reporting Server is received, a callout is displayed on the map with detailed information about the crime (type of offense, location, and so on).



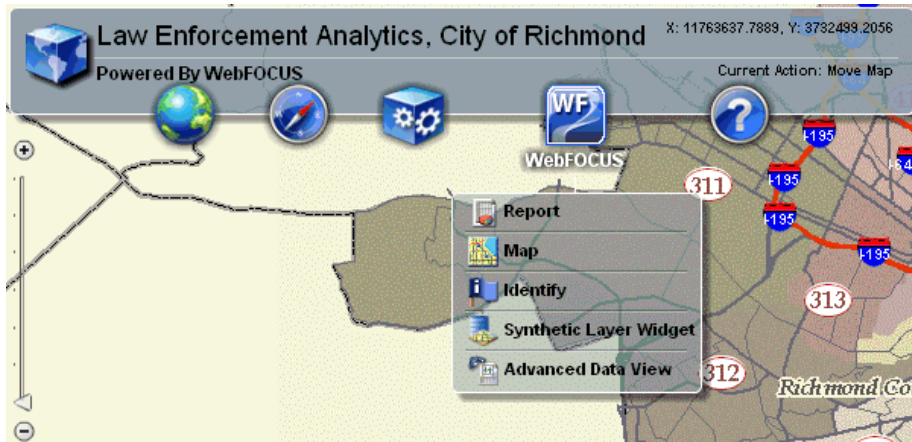
## WebFOCUS Component

The WebFOCUS component provides the following menu options:

- ☐ Report
- ☐ Map
- ☐ Identify
- ☐ Synthetic Layer Widget

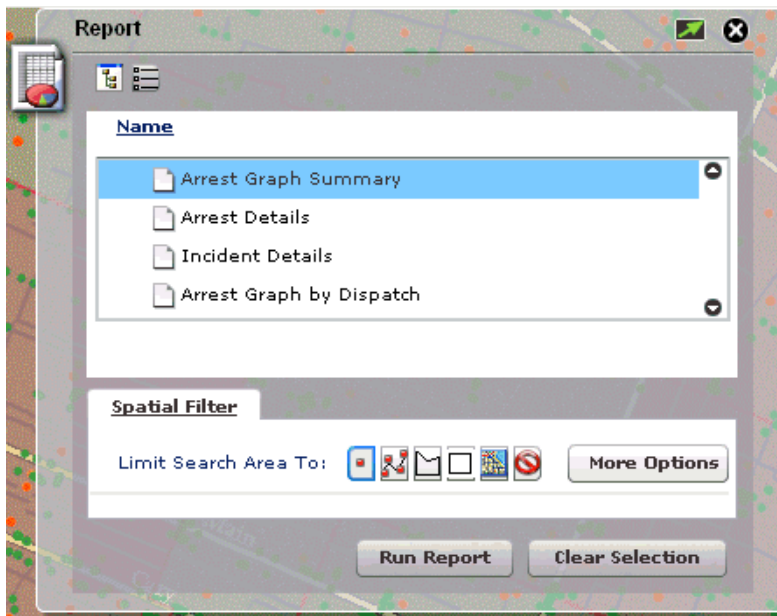


☐ Advanced Data View



## Report

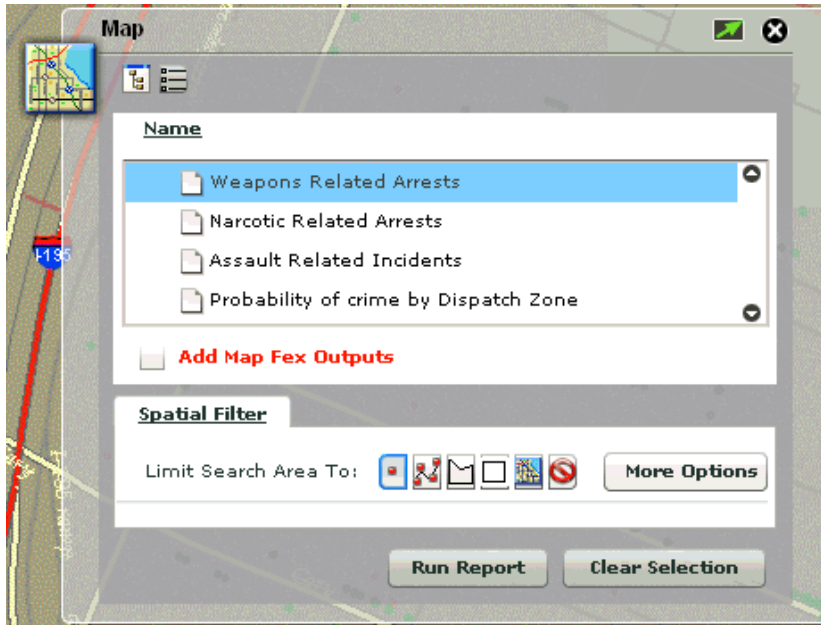
The Report dialog allows you to run the report procedures that are available for each currently visible layer on the map.





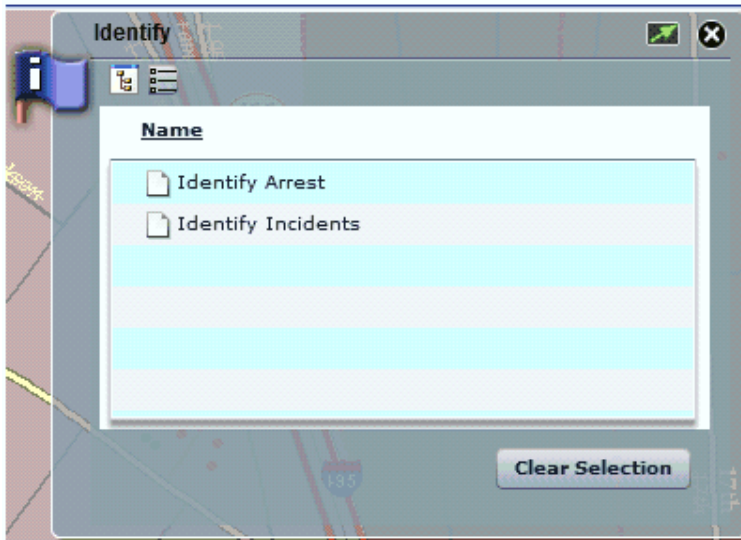
## Map

The Map dialog allows you to run the map rendering procedures that are available for each currently visible layer on the map.



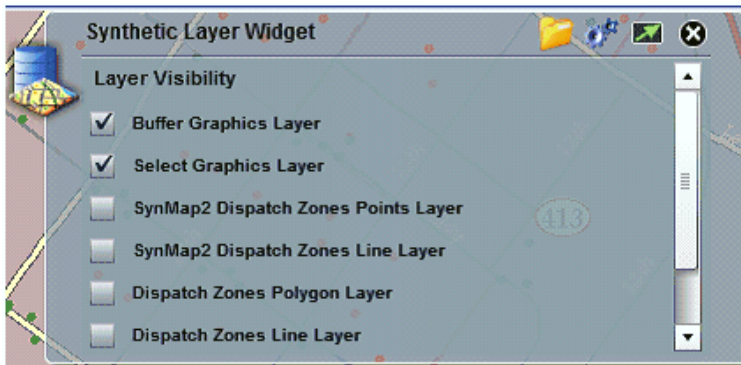
## Identify

The Identify dialog allows you to run the identify procedures that are available for each currently visible layer on the map.

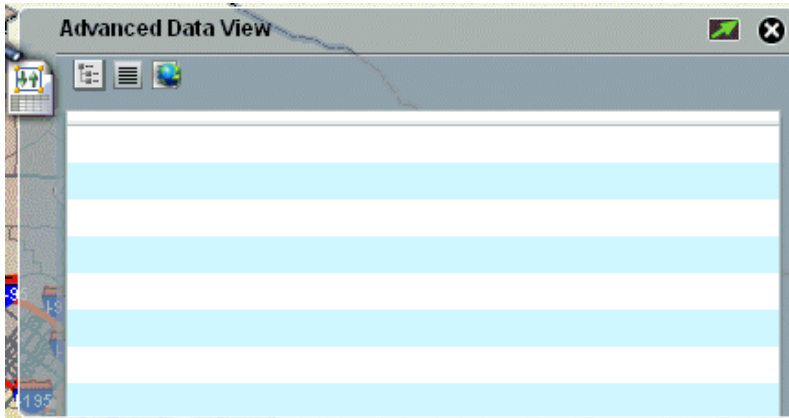


## Synthetic Layer Widget

The Synthetic Layer Widget dialog allows you to set layer transparency and layer visibility options for synthetic layers.



### Advanced Data View

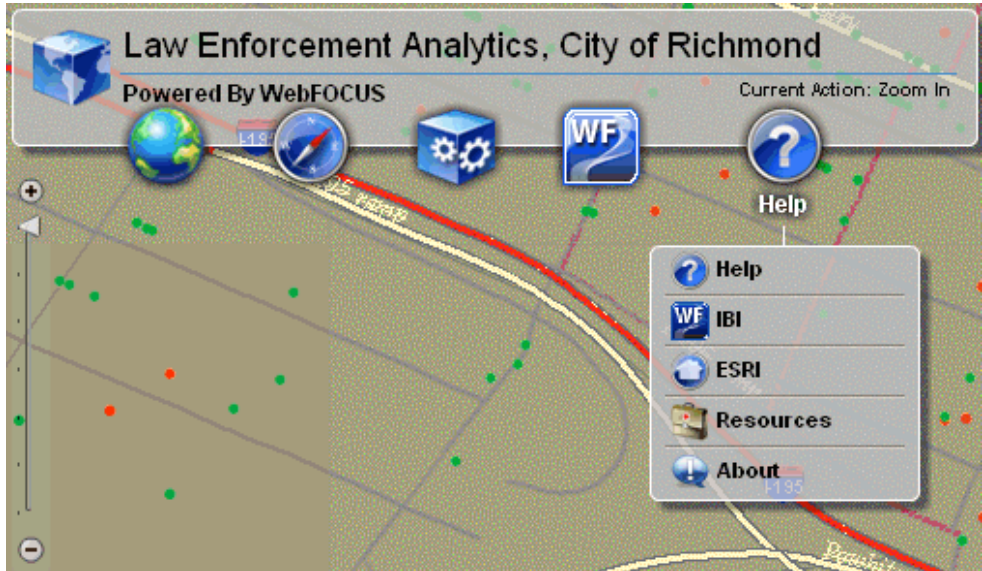


### Help Component

The Help component provides the following menu options:

- ☐ Help
- ☐ IBI
- ☐ ESRI
- ☐ Resources

❏ About



## Help

Clicking *Help* launches the online help for the WebFOCUS GIS Viewer for Flex in a new browser window.

## IBI

Clicking *IBI* opens the Information Builders website in a new browser window:

<http://www.informationbuilders.com/>

## ESRI

Clicking *ESRI* opens the ESRI website in a new browser window:

<http://www.esri.com/>

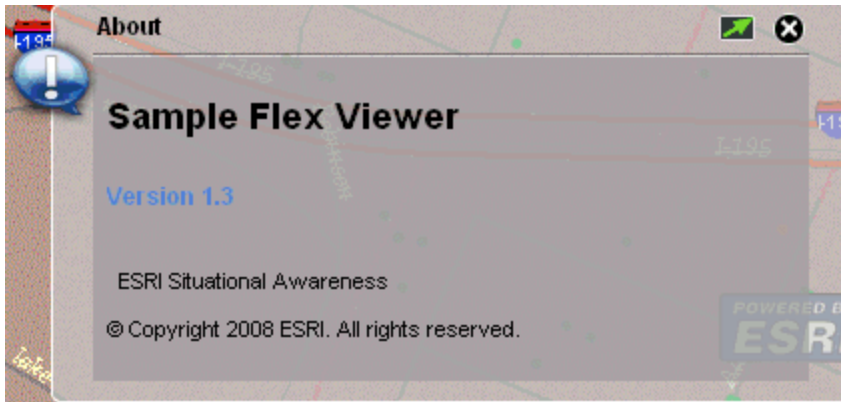
## Resources

Clicking *Resources* opens the ESRI Resources website in a new browser window:

<http://resources.esri.com/gateway/index.cfm>

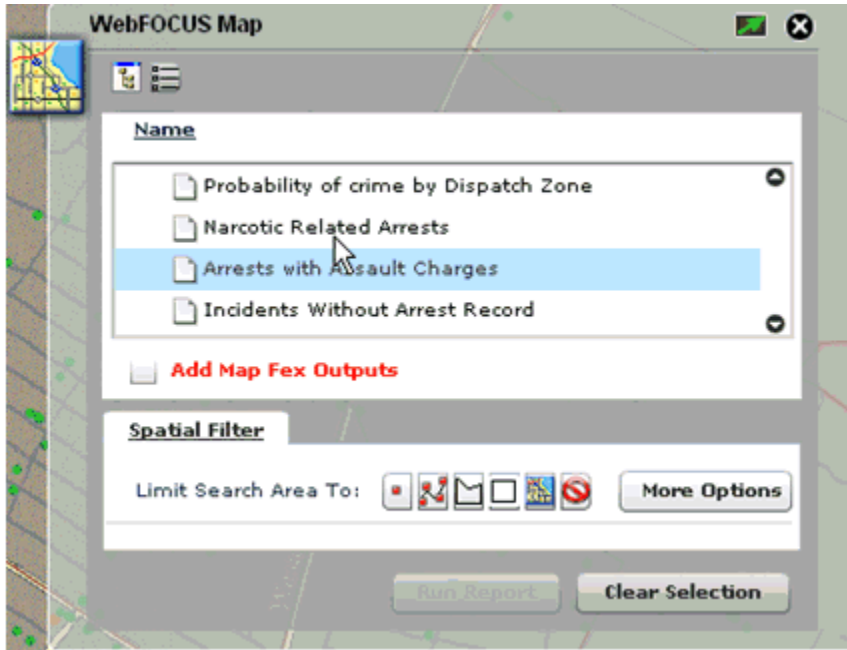
**About**

Clicking *About* opens the following About dialog in the WebFOCUS GIS Viewer for Flex:



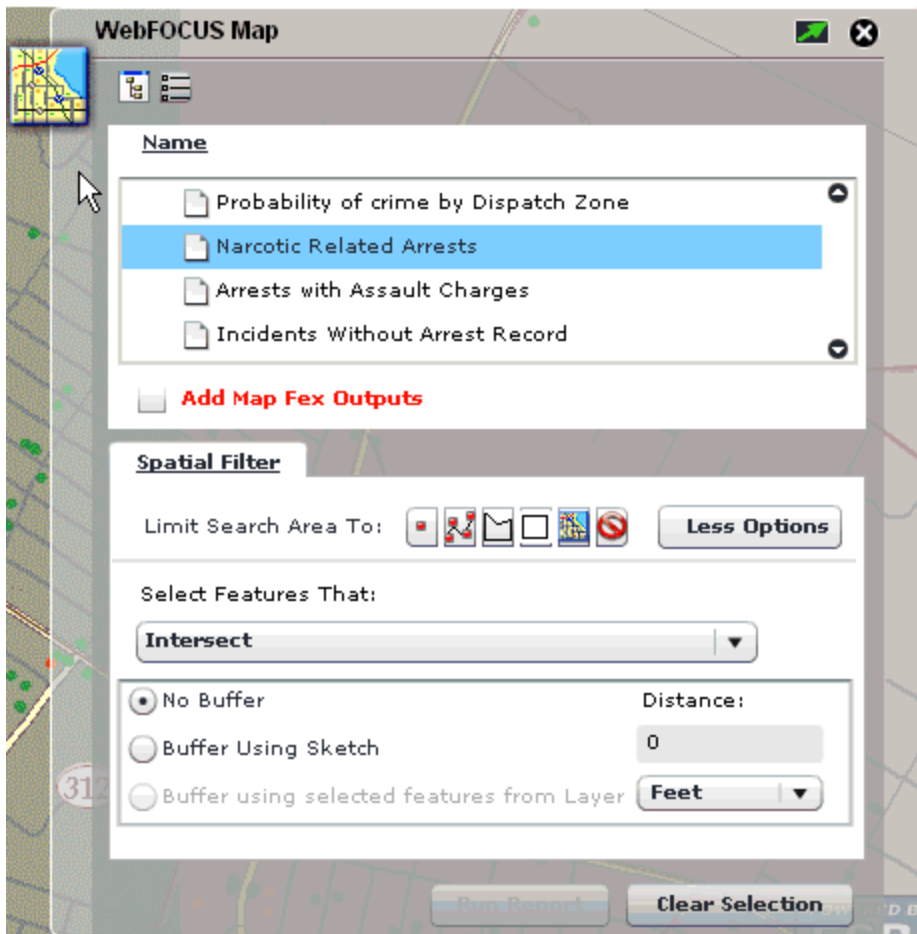
## WebFOCUS Map Component

The WebFOCUS Map component is accessed from the WebFOCUS menu control drop-down list. This component opens on the right side of the screen under the component manager or under the last opened component.









The WebFOCUS Map component allows you to run a map procedure. Select a report and then click on one of the map selection tools to select from the map view. Once the selection is completed, the report is executed automatically or by clicking on *Run Report*. By selecting the *Add Map Fex Outputs* option, you have the option of concatenating multiple outputs on to the map.

To open a more detailed view that allows you to perform more advanced map selections, click *More Options*.



The map selection can be performed using any of the options listed and described in the following table.

Option	Description
	Limits the search area to a point on the map.
	Limits the search area to a line on the map.

Option	Description
	Limits the search area to a free hand polygon on the map.
	Limits the search area to a rectangular polygon on the map.
	Limits the search area to the current map extent.
	Clears the selection graphic from the map view.

There are spatial relationships by which you can use to select from the map, which include:

- ☐ Intersect (default)
- ☐ Overlap
- ☐ Within

In the advanced options of the WebFOCUS Map component there is also the option of using buffers for selections. This is done by selecting the *Buffer Using Sketch* option. Then the measure of distance is provided with distance values in the input field and the units from a drop-down list.

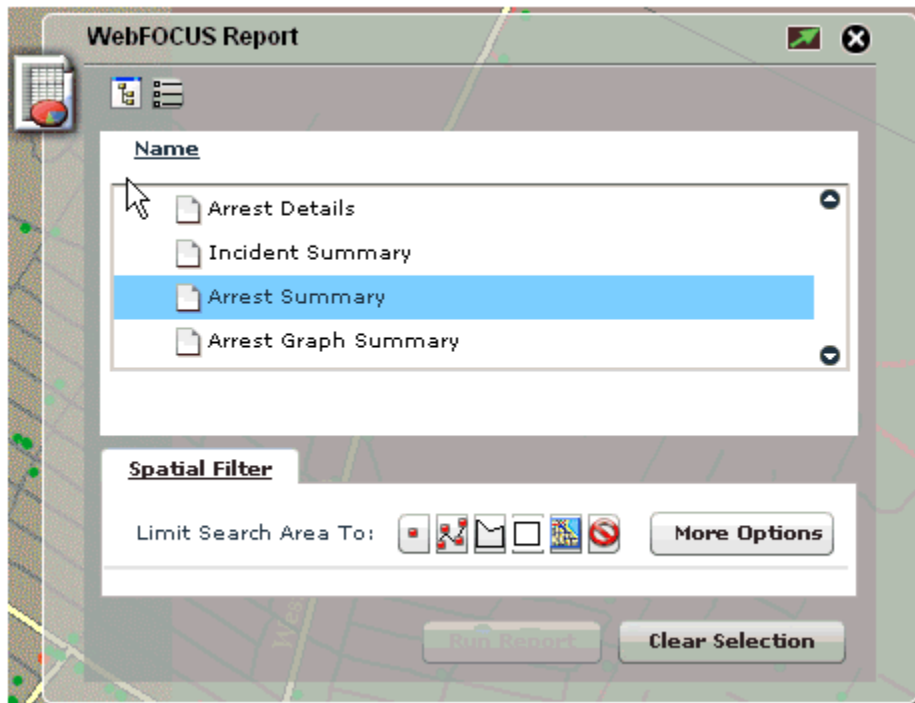
<input checked="" type="radio"/> No Buffer	Distance:
<input type="radio"/> Buffer Using Sketch	0
<input type="radio"/> Buffer using selected features from Layer	Feet ▼

Click *Less Options* at any point to collapse the WebFOCUS Map component to the original view.



## WebFOCUS Report Component

The WebFOCUS Report component is accessed from the WebFOCUS menu control drop-down list. This component opens on the right side of the screen under the component manager or under the last opened component.

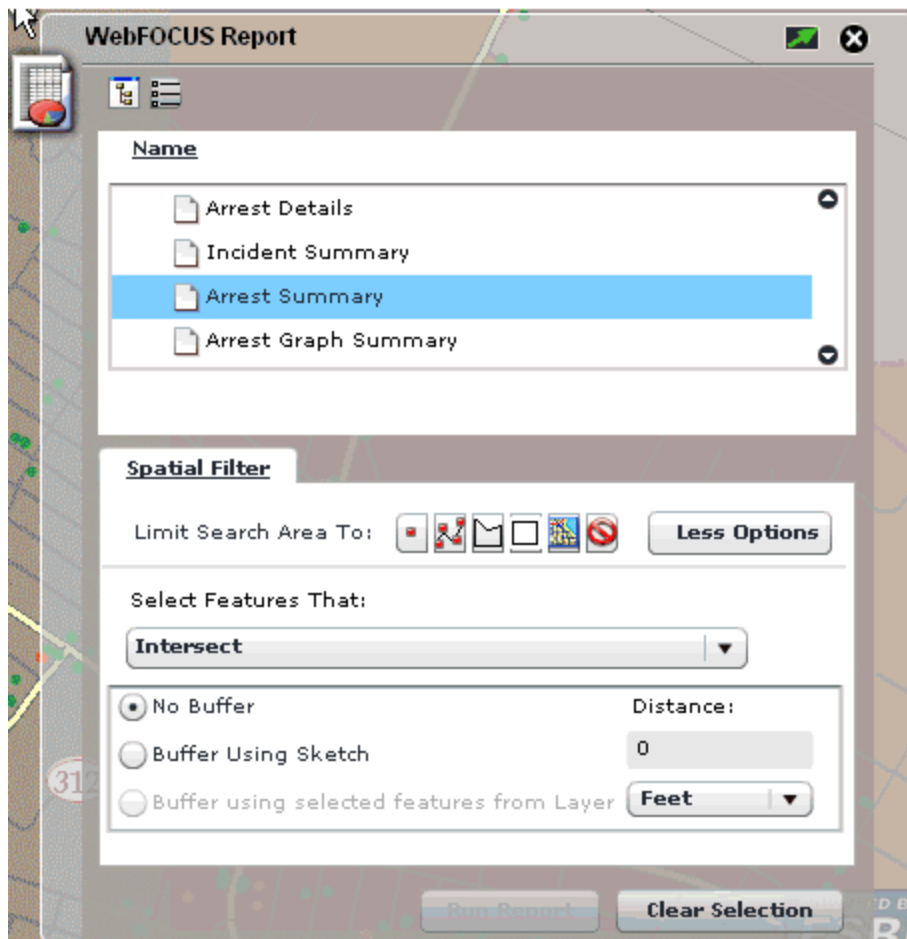


The report procedures are available for each currently visible layer on the map. As a result of scale-dependent rendering, all map layers may not be visible at all times. If only one layer is visible that has report procedures associated with it, then the Reports drop-down list will contain the list of reports for that layer. If multiple layers that have report procedures associated with them are visible, then the Layers drop-down list will display the layer names. As the layer is selected, the Reports drop-down list will display report procedures for that layer.



After the report procedure is selected, you must select a feature set from the map. The selection methods available in the WebFOCUS Report component are point, free-hand, line, and free-hand polygon. If no selection is made, then the default selection of a rectangle is assumed.





To run another report that will use an existing map selection, select the report from the drop-down list and click *Run Report*. No selection operation is required. To clear the selected map, click the *Clear Selection* icon or close the WebFOCUS Report component.

To open a more detailed view that allows you to perform more advanced map selections, click *More Options*, as shown in the following image.



The map selection can be performed using any of the options listed and described in the following table.

Option	Description
	Limits the search area to a point on the map.
	Limits the search area to a line on the map.

Option	Description
	Limits the search area to a free hand polygon on the map.
	Limits the search area to a rectangular polygon on the map.
	Limits the search area to the current map extent.
	Clears the selection graphic from the map view.

The following spatial relationships can be used to make selections from the map.

- ☐ Intersect (default)
- ☐ Overlap
- ☐ Within

In the advanced options of the WebFOCUS Report component there is also the option of using buffers for selections. This is done by selecting the *Buffer Using Sketch* option. Then the measure of distance is provided with distance values in the input field and the units from a drop-down list.

<input checked="" type="radio"/> No Buffer	Distance:
<input type="radio"/> Buffer Using Sketch	0
<input type="radio"/> Buffer using selected features from Layer	Feet ▼

Click *Less Options* at any point to collapse the WebFOCUS Report component to the original view.

## Synthetic Layer Component

The Synthetic Layer component displays all of the available synthetic layers on the map. It also displays map report procedure output as executed in the map environment.



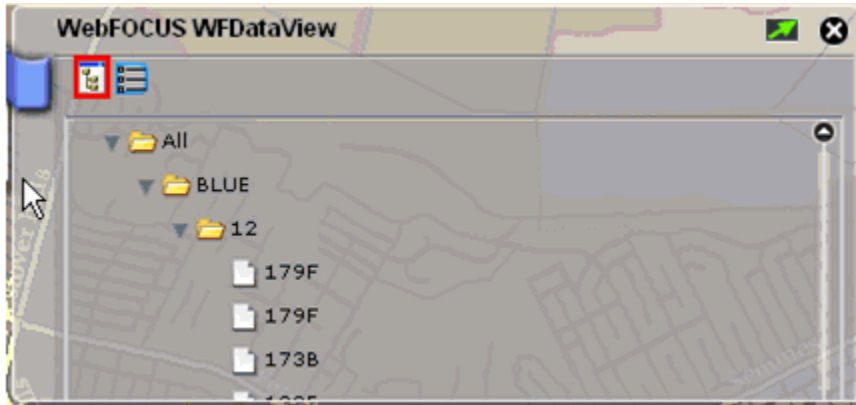
The Synthetic Layer component also allows you to control the layer transparency, as shown in the following image.



## WebFOCUS Data View Component

The WebFOCUS Data View component is a view of the data that is sorted and grouped by outbound layer columns. It reads report columns and then displays the data. You can click on rows to zoom to individual records from the WebFOCUS Data View component.

The following image shows the Tree View mode for the WebFOCUS Data View component.



The following image shows the List View mode for the WebFOCUS Data View component.

COLOR	SIZE	TRACT
BLUE	12	179F
BLUE	12	179F
BLUE	12	173B
BLUE	12	183E
BLUE	12	180A

## JavaScript Functions Available From Flexmapviewer.jsp

This section lists and describes the JavaScript functions that are available from the Flexmapviewer.jsp file.

### jsRunFex

Function:

```
jsRunFex(fexids,disableZoom,parms,callback,geometry,geometrySymbol,
spatialRelationship,buffer,bufferUnits,bufferType,bufferSymbols,options)
```

The following table lists and describes the parameters for the jsRunFex function.

Parameters	Type	Description
<code>fexids</code>	String	A comma delimited list of FEX IDs to execute.
<code>disableZoom</code>	Boolean	Disables or enables the <i>Zoom to features</i> setting if it is on or off in the FEX.
<code>parms</code>	Object	A JavaScript object that contains values to pass along to the FEX, (&amp;ers)
<code>callback</code>	String	Call to a JavaScript function, once the current FEX is executed.
<code>geometry</code>	Object	An array of coordinates.
<code>geometrySymbol</code>	String	Symbol ID to draw geometry.
<code>spatialRelationship</code>	String	Spatial filtering criteria needed to perform selections from a layer. Select one of the following values: <ul style="list-style-type: none"> <li><input type="checkbox"/> <code>esriGeometryRelationCross</code></li> <li><input type="checkbox"/> <code>esriGeometryRelationIntersection</code> (default)</li> <li><input type="checkbox"/> <code>esriGeometryRelationLineTouch</code></li> <li><input type="checkbox"/> <code>esriGeometryRelationOverlap</code></li> <li><input type="checkbox"/> <code>esriGeometryRelationWithin</code></li> </ul>
<code>buffers</code>	Number	Distances to be used for buffering.
<code>bufferUnits</code>	Number	Distance units for buffering. The default is 9002, feet.
<code>bufferType</code>	String	Type of buffering.
<code>bufferSymbols</code>	String	List of symbol IDs for each buffer distance. The default is null.

Parameters	Type	Description
<code>options</code>	String	Buffering options: <ul style="list-style-type: none"> <li><input type="checkbox"/> <code>bufferDataInclusive</code></li> <li><input type="checkbox"/> <code>bufferUnionResults</code></li> <li><input type="checkbox"/> <code>dataInclusive</code></li> </ul>

## jsSetLayerVisible

Function:

```
jsSetLayerVisible(callback, fexids, mapserviceids:syntheticLayerIds,
visible, alpha)
```

The following table lists and describes the parameters for the `jsSetLayerVisible` function.

Parameters	Type	Description
<code>callback</code>	String	Call to a JavaScript function, once the current FEX is executed.
<code>fexids</code>	String	A comma delimited list of FEX IDs.
<code>mapserviceids</code>	String	The unique ID of the map service.
<code>syntheticLayerIds</code>	String	A list of synthetic layer IDs as defined in the XML definition file.
<code>visible</code>	Boolean	Disables or enables synthetic layers.
<code>alpha</code>	Number	Controls the transparency of the layers drawn by WebFOCUS. Values can range from 0 (full transparency) to 1 (no transparency, full visibility).

## jsClearMap

Function:

```
jsClearMap(callback,fexids,clearSelect,clearBuffer)
```

The following table lists and describes the parameters for the jsClearMap function.

Parameters	Type	Description
<code>callback</code>	String	Call to a JavaScript function, once the current FEX is executed.
<code>fexids</code>	String	A comma delimited list of FEX IDs after the function.
<code>clearSelect</code>	Boolean	Clears selected features if set to <i>true</i> .
<code>clearBuffer</code>	Boolean	Clears buffered zones if set to <i>true</i> .

## jsSetMapExtent2

Function:

```
jsSetMapExtent2(geometry)
```

The following table lists and describes the parameter for the jsSetMapExtent2 function.

Parameters	Type	Description
<code>geometry</code>	Object	An array of coordinates.



## Creating WebFOCUS GIS Procedures

---

The WebFOCUS GIS Adapter uses standard FOCUS language commands to accomplish the integration between WebFOCUS and ArcGIS Server. You can use WebFOCUS App Studio to create your report, identify and, map procedures.

The following section describes how to create WebFOCUS GIS procedures.

### **In this chapter:**

- ☐ [Incorporating the GIS Filter](#)
  - ☐ [Creating a Report Procedure](#)
  - ☐ [Creating an Identify Procedure](#)
  - ☐ [Creating a Map Procedure](#)
- 

### **Incorporating the GIS Filter**

The WebFOCUS GIS Adapter interface allows the developer to select from multiple parameter passing styles.

The three styles offered are:

#### ☐ Amper as String

If the field in the database you will be accessing is alphanumeric, you should choose this. The Filter will be comprised of each of the selected values enclosed in single quotes and separated by "OR," for example, 'AK' OR 'AL' OR 'AR' OR 'AZ.'

#### ☐ Amper as Number

If the field in the database you will be accessing is numeric, you should choose this. The Filter will be comprised of each of the selected values separated by "OR," for example, 10001 OR 10002 OR 10003 OR 10004.

#### ☐ Data in File

If the values selected from the map will be extensive this would be the best option. The values will be placed in a sequential file within the WebFOCUS temporary disk space.

**Procedure: How to Incorporate the GIS Filter for Amper as String and Amper as Number Styles in WebFOCUS App Studio**

1. Launch WebFOCUS App Studio.
2. Use the Report canvas to develop the procedure.
3. On the *Report* tab, in the *Filter* group, click *Filter*, and then click *Where*.

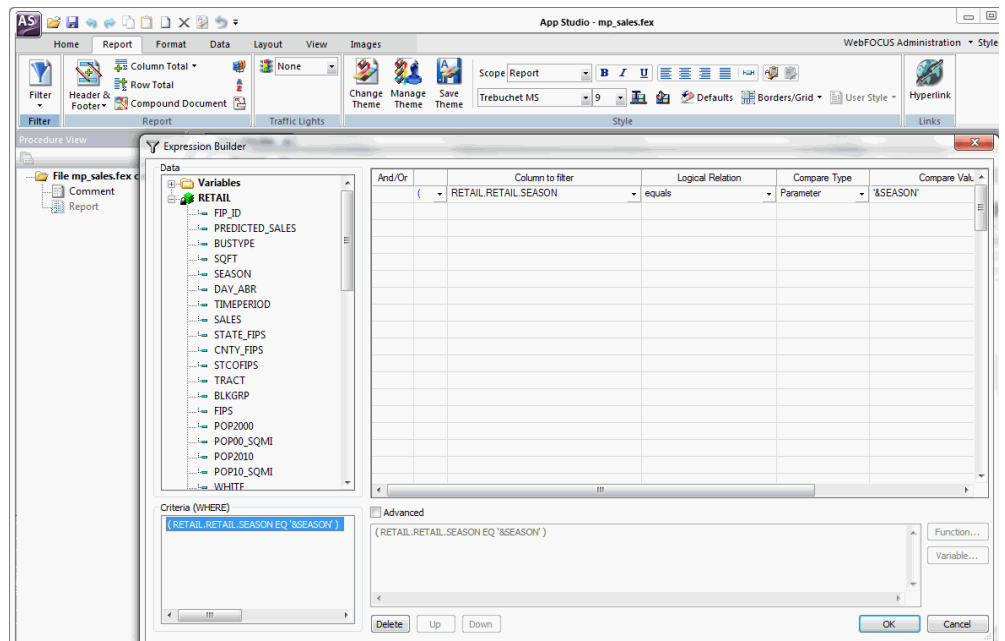
The Expression Builder dialog box opens.

4. Double-click the field on which you will filter.
5. Select *equals* from the Logical Relation column.
6. Select *Parameter* from the Compare Type column.
7. Double-click to edit the Compare Value.
8. Ensure that the name of the Filter in the Name field of the Variable Editor dialog box is the one you want for this variable.

The name that is displayed here will be specified later during the FEX procedure definition.

9. Click *OK* to return to the Expression Builder dialog box.

An example of a completed expression is shown below.

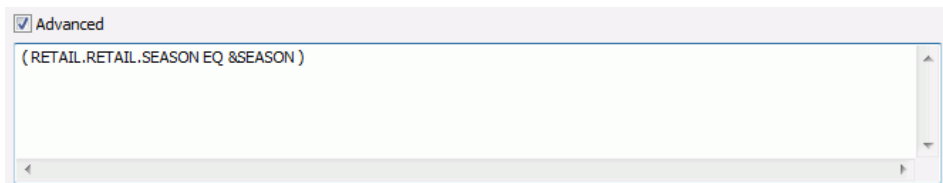


10. Select the *Advanced* check box.

If the field you are filtering against is alphanumeric, the Expression Builder dialog box will enclose the Compare Value name in single quotes.



Since the value string being passed to the procedure will already have single quotes around each of the values you must remove them in the editor. Change the expression to resemble the example.



11. Click *OK* to close the Expression Builder dialog box.

### ***Procedure:*** How to Incorporate the GIS Filter for the Data in File Style

When the list of map features that will be selected would extend past the limit of a parameterized WHERE clause, it is necessary to refer to the filter list as a sequential file. This requires one slight difference in the way the filter is specified.

Perform the following steps to incorporate the GIS filter for the Data in File style.

1. Launch WebFOCUS App Studio.
2. Use the Report canvas to develop the procedure.
3. On the *Report* tab, in the *Filter* group, click *Filter*, and then click *If*.

The Expression Builder dialog box opens.

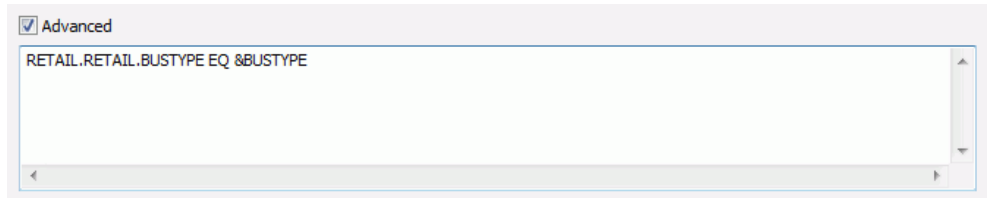
4. Double-click the field on which you will filter.
5. Select *equals* from the Logical Relation column.
6. Select *Parameter* from the Compare Type column.
7. Double-click to edit the Compare Value.
8. Ensure that the name of the Filter in the Name field of the Variable Editor is the one you want for this variable.

The name that is displayed here will be specified later during the FEX procedure definition.

9. Click *OK* to return to the Expression Builder dialog box.
10. Select the *Advanced* check box.

The variable name will need to be enclosed in parentheses to refer to the sequential file the GIS Adapter will create.

Change the following expression:



to:



For more information on filtering your request with a sequential file of values, see your WebFOCUS documentation.

11. Click *OK* to close the Expression Builder dialog box.

## Creating a Report Procedure

Creating a WebFOCUS report that is responsive to the filters created by the WebFOCUS GIS Adapter requires the addition of a single Where/If clause to the report procedure. For more information, see [Incorporating the GIS Filter](#) on page 161.

Add this procedure as a new FEX in the ESRI Configuration Utility with type=report.

## Creating an Identify Procedure

Creating an identify procedure is similar to the report procedure described in the previous section. However, the design of the output of this procedure is different. The area that opens over the map image is of a limited size (300 x 150 pixels). Identify procedures are meant to be short and simple. Filtering an identify procedure is easily accomplished using the Amper as String or Amper as Number methods.

Add this procedure as a new FEX in the ESRI Configuration Utility with type=identify.

## Creating a Map Procedure

A map procedure is slightly different in its construction from a report procedure. This procedure will not have any visible output as a report would. Instead the adapter will alter the output format so that it is returned as XML.

The type of filtering you will use is dependent on the number of values. For more information, see [Incorporating the GIS Filter](#) on page 161.

### **Procedure:** How to Create a Map Procedure Using WebFOCUS App Studio

1. Launch WebFOCUS App Studio.
2. Use the Report canvas to create the map procedure.
  - ☐ Only print the one field that contains values that are common between the WebFOCUS data source and the ArcGIS Server map layer.
  - ☐ Depending on the type of map layer being drawn you will need to add fields to the procedure that represent the COLOR, SHAPE, SIZE and TITLE attributes. This can be accomplished using either COMPUTE or DEFINE fields.

For more information on creating COMPUTE or DEFINE fields, see the App Studio online Help.
3. Add the GIS filter clause.
4. Add this procedure as a new FEX in the ESRI Configuration Utility with type=map.



## Useful Techniques and Examples

---

The following section provides useful techniques when working with the WebFOCUS GIS Adapter.

### In this chapter:

- ☐ [Creating Drill-Downs From a Report to a Map](#)
  - ☐ [Drawing Multiple Map Layers](#)
  - ☐ [Including Custom Libraries](#)
  - ☐ [Embedding Custom JavaScript Functions in the ESRIINFO.XML File](#)
  - ☐ [Directing Alternate Report Output to Different Windows](#)
  - ☐ [Specifying Custom Colors in Your FOCEXEC](#)
  - ☐ [Automatically Zooming On Selected Portions of the Map](#)
  - ☐ [Automatically Zooming On Drawn Map Features](#)
  - ☐ [Controlling the Visible Map Viewing Area](#)
  - ☐ [Increasing the Maximum Number of Selectable Map Features](#)
  - ☐ [Improving Map and Report Response Time](#)
  - ☐ [Defining a Tiled Map Service](#)
  - ☐ [Loading the Flex Map Viewer](#)
  - ☐ [Using Symbols Defined in Your Configuration File](#)
  - ☐ [Controlling Layers That are Visible](#)
  - ☐ [Enabling a Buffer Using Selected Features From the Layer](#)
  - ☐ [Creating Rollovers](#)
  - ☐ [Passing Parameters From an HTML Layout](#)
  - ☐ [Navigating to a Geoprocessing REST Endpoint](#)
  - ☐ [Creating a Report or Map Binding Using a Geoprocessing Service](#)
  - ☐ [Controlling the Visibility of Dynamic Map Layers](#)
- 

### Creating Drill-Downs From a Report to a Map

When you are developing your REPORT type procedure using WebFOCUS App Studio, you can define drill-down actions for different areas within the report.

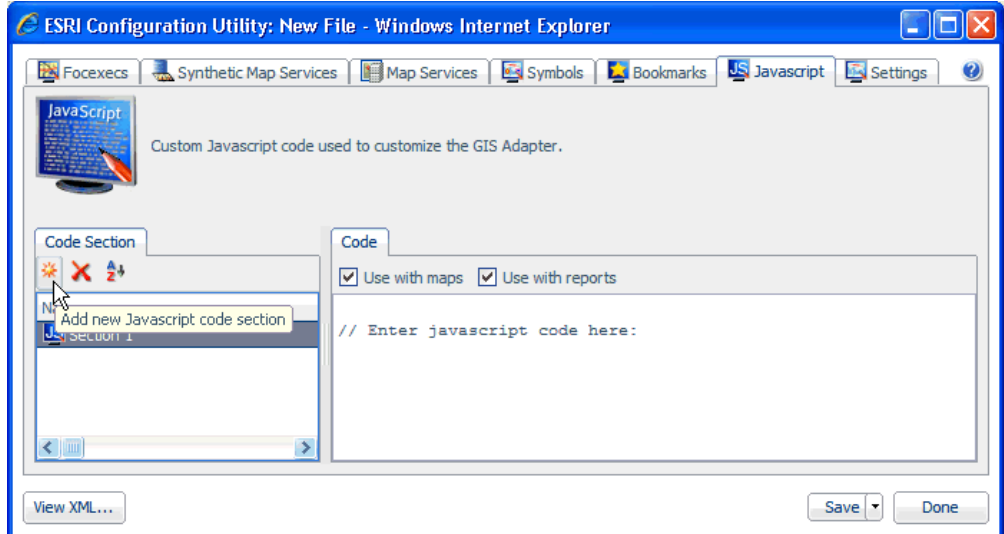
## **Procedure: How to Create Drill-Downs From a Report to a Map**

To create drill-downs from a report to a map:

1. In WebFOCUS App Studio, create a WebFOCUS FOCEXEC that will be used for the Report procedure.
2. In the ESRI Configuration Utility, create the FOCEXEC binding for the Report procedure to drill-down from. For more information on how to create the FOCEXEC binding, see [Configuring FOCEXECs](#) on page 72.
3. In WebFOCUS App Studio, create a WebFOCUS FOCEXEC that will be used for the Map procedure. You must also include a GIS filter. For more information on how to include a GIS filter, see [Incorporating the GIS Filter](#) on page 161.

Note the name that you specified for the GIS filter in step 9 of [How to Incorporate the GIS Filter for Amper as String and Amper as Number Styles in WebFOCUS App Studio](#) on page 162.

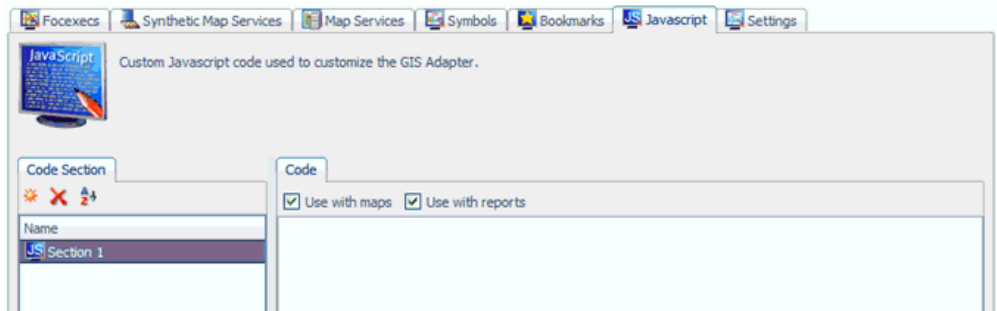
4. In the ESRI Configuration Utility, create the FOCEXEC binding for the Map procedure to drill-down to. For more information on how to create the FOCEXEC binding, see [Configuring FOCEXECs](#) on page 72. Define an inbound layer. For more information on how to define an inbound layer, see [Configuring Inbound Layers](#) on page 91.
5. Click the *Javascript* tab located at the top of the ESRI Configuration Utility.



6. Click *Add new Javascript Function* in the Code Section tab, which is located in the left pane.



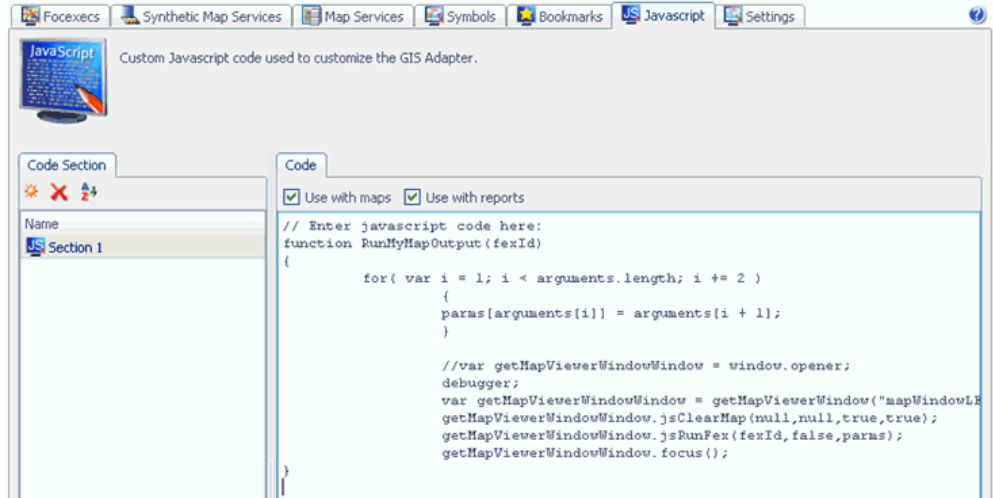
A new JavaScript section (for example, Section 1) is added, as shown in the following image.



7. Add the following JavaScript function named RunMyMapOutput with an input value for fexId.

```
function RunMyMapOutput(fexId)
{
  for( var i = 1; i < arguments.length; i += 2 )
  {
    parms[arguments[i]] = arguments[i + 1];
  }
  //var getMapViewWindowWindow = window.opener;
  debugger;
  var getMapViewWindowWindow = getMapViewWindow("mapWindowLEAflex");
  getMapViewWindowWindow.jsClearMap(null,null,true,true);
  getMapViewWindowWindow.jsRunFex(fexId,false,parms);
  getMapViewWindowWindow.focus();
}
```

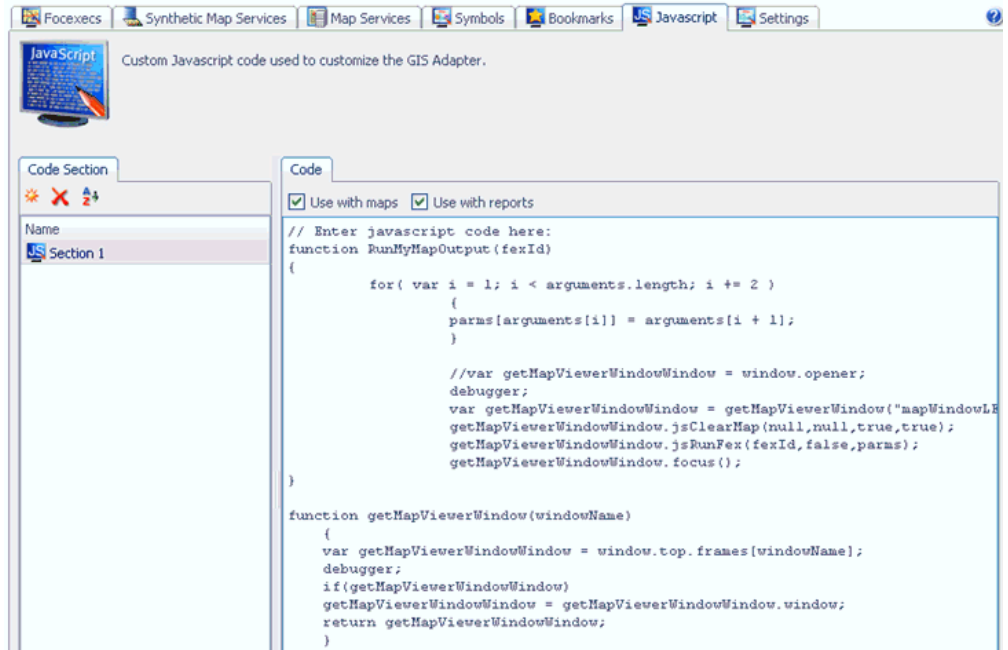
For example:



8. Within the same Javascript section (Section 1), add the following JavaScript function, `getMapViewWindow`, to refer to the map window.

```
function getMapViewWindow(windowName)
{
    var getMapViewWindowWindow = window.top.frames[windowName];
    debugger;
    if(getMapViewWindowWindow)
    getMapViewWindowWindow = getMapViewWindowWindow.window;
    return getMapViewWindowWindow;
}
```

For example:



9. In the Report FOCEXEC, call the RunMyMapOutput JavaScript function on the drill-down column. The first parameter for the RunMyMapOutput function will be the ID of the Map procedure fex binding, the second parameter is the name of the GIS filter, and the third parameter is the name of the column in the Report FOCEXEC that is to be passed into the filter. Refer to the example in the graphic below.

```

- ELSE IF &PARMTOUR EQ 2 THEN 'Second, 08:00 - 15:59'
- ELSE IF &PARMTOUR EQ 3 THEN 'Third, 16:00 - 23:59';
"Tour: &DAYTOUR "
-GOTO SKIP_PARMH2
-SKIP_PARMH2
"All Tours"
-SKIP_PARMH2
-*
"Arrests Occurring From: &FROMDATE To: &TODATE"
"Reported on <+0>&DATEtrMDYY <+0> "
-*
ON TABLE SUMMARIZE
ON TABLE ROW-TOTAL
ON TABLE SET PAGE-NUM OFF
ON TABLE SET ONLINE-FMT HTML
ON TABLE SET HTMLCSS ON
ON TABLE SET STYLE *
-INCLUDE lea_blue.sty
TYPE=DATA,
    COLUMN=ARR_CHRG,
    STYLE=-UNDERLINE,
    drillMenuItem='Map Arrests for this Charge',
    JAVASCRIPT=RunMyMapOutput('fex18' 'CHRGCODE' ARR_CHRG),
    drillMenuItem='Arrest Detail Report for this Offense',
    JAVASCRIPT=BuildReportNamedVars('fex1' 'CHRGCODE' ARR_CHRG),
$
TYPE=DATA,
    COLUMN=CHRGDESC,
    STYLE=-UNDERLINE,
    drillMenuItem='Map Arrests for this Charge',
    JAVASCRIPT=RunMyMapOutput('fex18' 'CHRGCODE' ARR_CHRG),
    drillMenuItem='Arrest Detail Report for this Offense'
    
```

## Creating Drill-Downs Between Reports

When developing your REPORT type procedure with WebFOCUS App Studio, you can define drill-down actions for different areas within the report.

### **Procedure:** How to Create Drill-Downs From a Report to a Report in WebFOCUS App Studio

1. On the *Report* tab, in the *Links* group, click *Hyperlink*.

The Drill Down dialog box opens.

2. Click *Add*.
3. Select *JavaScript* from the drop-down list within the *Drill Down Type* column.

You have the choice of using two JavaScript functions provided by the WebFOCUS GIS Adapter.

- ❑ **BuildReportAmpVars.** Creates generic AMPER variable names in the order in which they are encountered in the function call.

```
BuildReportAmpVars(fexId, value1, ..., valueN)
```

where:

*fexId*

Is the ID value in ESRIINFO.xml of the FOCEXEC you wish to invoke.

*value1*, ..., *valueN*

Are the parameter values to be passed to the FOCEXEC as AMPER variables. Each value is assigned a generic name beginning with &ESRI0001.

- ❑ **BuildReportNamedVars.** Creates specific AMPER variable names. The format of the call requires the variable name and value to be provided in pairs.

```
BuildReportNamedVars(fexId, name1, value1, ..., nameN, valueN)
```

where:

*fexId*

Is the ID value in ESRIINFO.xml of the FOCEXEC you wish to invoke.

*name1*, *value1*, ..., *nameN*, *valueN*

Are the parameter names and value pairs that are passed to the FOCEXEC as AMPER variables. Each value is assigned to the name provided.

## Drawing Multiple Map Layers

In general, the information required to draw particular features on a map come from different structures within a database or even different databases.

Begin by creating a FOCEXEC with multiple TABLE requests. If you already have separate MAP type procedures, it will be easier to begin by combining the code from each into a single procedure. The filtering code is still necessary for each request. The filter list will be made available by the WebFOCUS GIS adapter based on the INBOUND layer definition.

Make sure that you uniquely name the rendering elements in each TABLE request. The rendering elements are the fields in the request associated with COLOR, SHAPE, SIZE and TITLE. An easy way of keeping track of each is to add the layer ID value to the end of the rendering element name.

```
TABLE FILE data_layer_1
PRINT colname1
    COMPUTE COLOR1/A25='RED';
    COMPUTE TITLE1/A255='your title goes here for layer 1';
_*
-IF &FLTRLST1.EXIST NE 1 GOTO SKIP_FILT_1;
    IF some_field EQ (&FLTRLST1)
-SKIP_FILT_1
-*/
ON TABLE PCHOLD FORMAT XML
END
-RUN
_*
TABLE FILE data_layer_2
PRINT colname2
    COMPUTE COLOR2/A25='BLUE';
    COMPUTE SIZE2/A3='10';
    COMPUTE SHAPE2/A10='STAR';
    COMPUTE TITLE2/A255='your title goes here for layer 2';
_*
-IF &FLTRLST2.EXIST NE 1 GOTO SKIP_FILT_2;
    IF some_field EQ (&FLTRLST2)
-SKIP_FILT_2
-*/
ON TABLE PCHOLD FORMAT XML
END
```

Open the definition editor and access the appropriate application. Create a configuration for a MAP type FOCEXEC. Depending on the particular data circumstances it may be necessary to create multiple INBOUND layer definitions. Create the multiple OUTBOUND layer definitions and associate the rendering elements with the appropriate layer in the definition.

### Drawing Identical Map Layers Using Alternative Methods

You may encounter situations that require you to show the same map feature with multiple rendering styles. For example, a polygon you want to display may be too small and difficult to visually locate on a map. However, adding a symbol, such as a star in a contrasting color could make it easier for the user to locate the feature.

Begin by creating a FOCEXEC with a single TABLE request. Create the fields you will associate with the layer to be rendered.

```

TABLE FILE data_layer
PRINT colname
-* Color for the POLYGON symbol
COMPUTE COLOR1/A12='RED';
-*
-* Color, shape, size for the POINT symbol
  COMPUTE COLOR2/A12='YELLOW';
  COMPUTE SHAPE2/A12='STAR';
  COMPUTE SIZE2/A12='15';
-*
  COMPUTE TITLE1/A255='your title goes here for the layer';
-*
-DEFAULT &FLTRLST2 = 'FOC_NONE';
...
WHERE some_field IN FILE &FLTRLST2;
-SKIP_FILT_1
-*ON TABLE PCHOLD FORMAT XML
END
-RUN

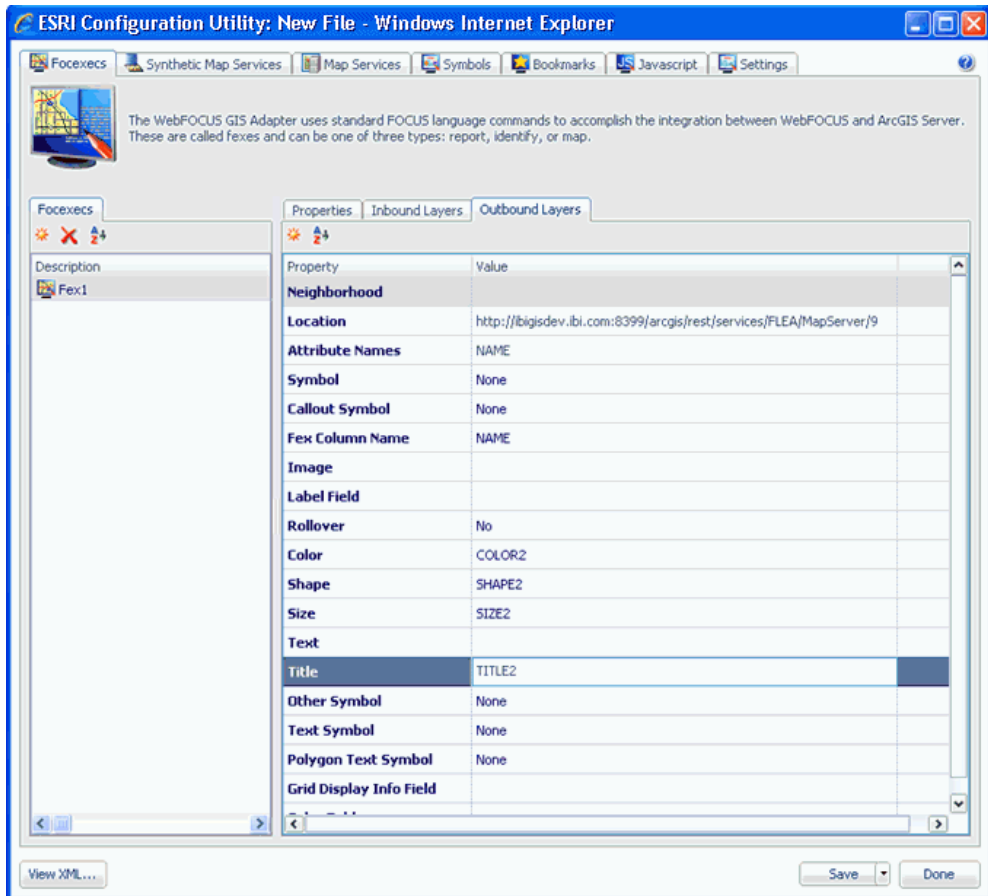
```

Make sure you use different names to keep the attributes correctly identified.

Using the definition editor, create the configuration for the FOCEXEC with duplicate outbound layer definitions. Specify a different SYMBOLID for each of the layer definitions.

In this example the first definition will use a POLYGON symbol. Associate the field COLOR1 to the COLOR attribute.

The second definition will use a POINT symbol. Associate the fields COLOR2, SHAPE2 and SIZE2 to the appropriate attributes. When you are finished, the XML definition will look like the following example.



## Including Custom Libraries

You can include custom JavaScript libraries in your WebFOCUS Report FOCEXEC by inserting the following line near the top of the procedure:

```
SET JSURL='&ESRIJSURL yourFile.js'
```

where:

*yourFile*

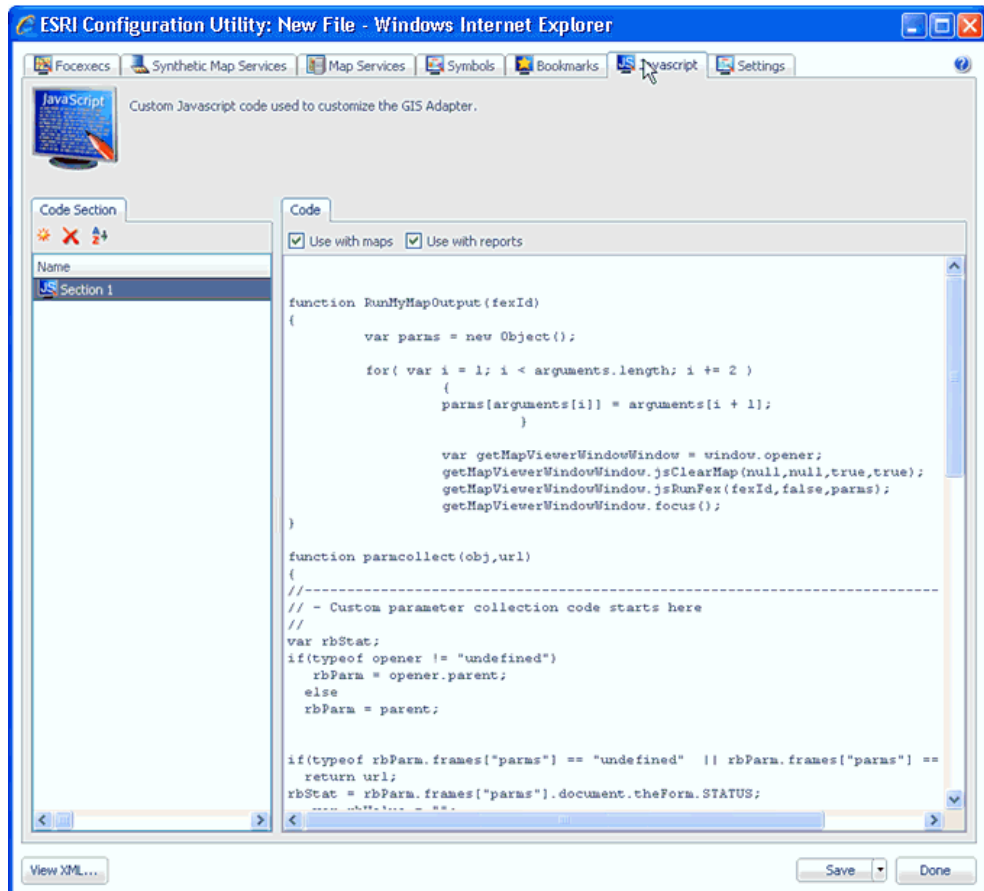
Is the name of the JavaScript library you want to include.



## Embedding Custom JavaScript Functions in the ESRIINFO.XML File

You can include custom JavaScript functions in the definition file that will be invoked when a report, map, or identify procedure is selected. This can be very useful for collecting parameter selections to be passed to the procedures.

You can add your own JavaScript sections using the ESRI Configuration Utility. Click the *JavaScript* tab located at the top of the ESRI Configuration Utility, as shown in the following image.



## Directing Alternate Report Output to Different Windows

When using alternate report output formats (for example, Microsoft EXCEL or Adobe PDF), you must direct this output to a different browser session.

In the ESRI Configuration Utility, include a new value for the window name parameter in the report FOCEXEC binding. When the report is invoked, a new browser session will be initiated and the output is directed accordingly.

### Specifying Custom Colors in Your FOCEXEC

The WebFOCUS GIS Adapter supports all 143 standard HTML colors by name, from ALICEBLUE to YELLOWGREEN. For more information on the standard HTML color values that are supported, see [HTML Color Values](#) on page 299.

However, if you want to define a custom color configuration in the WebFOCUS FOCEXEC, you can use your own RGB color values. Add a COMPUTE statement in the FOCEXEC and name the computed field as COLOR. Set the field equal to any RGB combination, which is a string of three numbers that are separated by commas. Each number value has a minimum value of 0 and a maximum value of 255. For example:

```
COMPUTE COLOR/A20 = "255,125,100";
```

In the ESRI Configuration Utility, add the COLOR field as the value of the Color property in the outbound layer of the FOCEXEC binding that you want to use. Set the outbound layer to use a symbol that has, in its symbol definition, the Color property set to Variable: in the drop-down list on the left pane, and is set to color in the drop-down list on the right pane. When the GIS procedure is run, the symbol will refer to the COLOR attribute in the outbound layer, which has been configured to refer to the COLOR field in the FOCEXEC.

### Automatically Zooming On Selected Portions of the Map

When executing a Report procedure, while opening the WebFOCUS report in a new window, you can also set the map viewer to automatically zoom in to the selected features on the map. This is helpful in situations where you have a map that is already crowded with other features.

To achieve this effect, you must set both the Draw Select Map property and the Zoom property to Yes in the Report fex binding, using the ESRI Configuration Utility.

### Automatically Zooming On Drawn Map Features

When executing a Map procedure, in order to emphasize the resulting specific set of features that are drawn on the map, you can set the map viewer to automatically zoom in to those features. In the ESRI Configuration Utility, set the Zoom property to Yes in the Map fex binding.

## Controlling the Visible Map Viewing Area

By passing values to the WebFOCUS GIS Adapter, it is possible to control how much of the map is visible or to move to a completely different section faster than the pan control or the navigation arrows.

Because these URL keywords are unique to the WebFOCUS GIS Adapter, they all begin with IBIESRI\_. The rest of the keyword is appended to the end as mapminx, mapminy, mapmaxx, and mapmaxy.

For example:

```
http://localhost/ibi_apps/esri/esri_index.jsp?IBIAPP_app=splychain&
continued...
IBIESRI_mapminx=-20.42293053502735&
IBIESRI_mapminy=31.514536318192284&
IBIESRI_mapmaxx=-112.3404630629581&
IBIESRI_mapmaxy=36.909262622962316&
```

Invoking this URL will cause the view to change to the area around Southern California. One method of gathering these values is to pass your cursor over the map and make note of the X: and Y: values. In the western hemisphere, the minx and miny values are typically to the lower-left of the viewable area and the maxx and maxy values are to the upper-right of the viewable area.

Instead of creating bookmarks, you can create map-markers that allow the user to move from one part of the globe to another with the click of a button.

## Adding Additional Attributes to the URL

You can also add the following attributes to the URL for greater control.

- ❑ **IBIESRI\_infofile.** Can be added to the URL to specify an alternate XML definition file.
- ❑ **IBIESRI\_fexid.** Can be added to the URL to execute a particular FOCEXEC.

The following example specifies a different XML file to be used and that the FOCEXEC to be run is identified by fex99.

```
http://localhost/ibi_apps/esri/esri_index.jsp?
IBIAPP_app=...&
IBIESRI_infofile=other_esriinfo.xml&
IBIESRI_fexid=fex99&
```

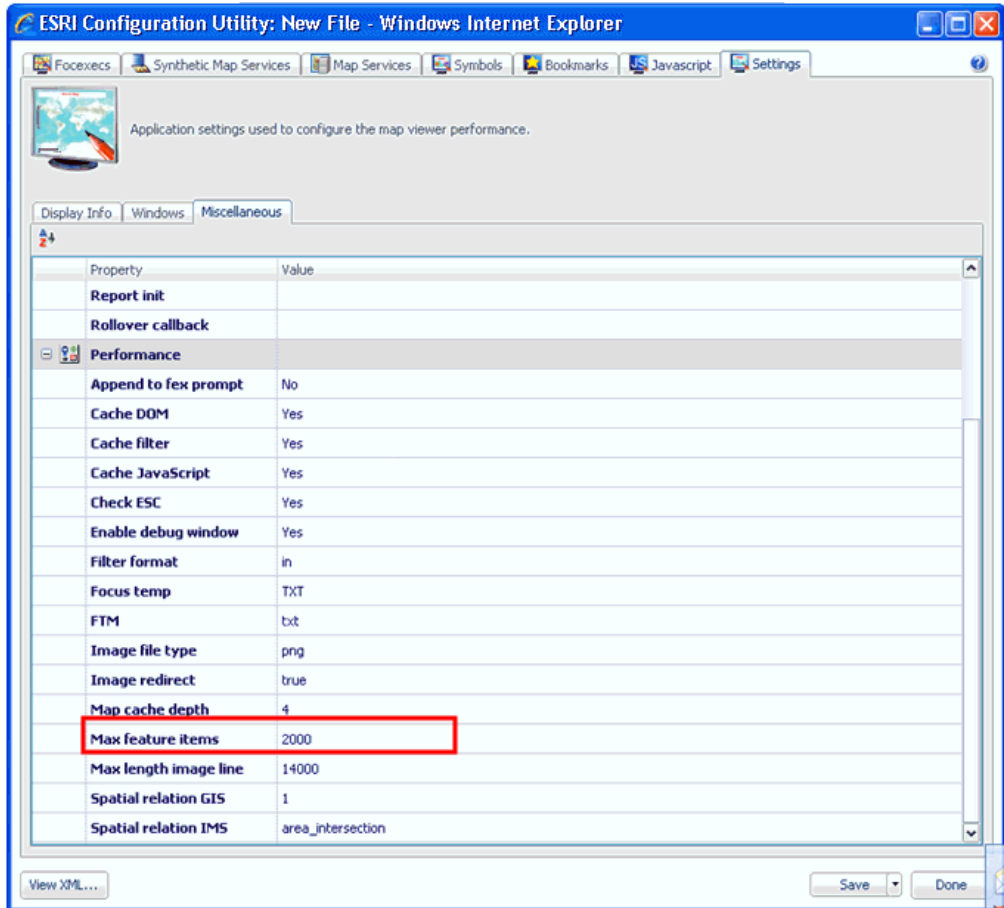
## Increasing the Maximum Number of Selectable Map Features

The default number of map features that can be selected by an end-user is 2000. This is an attempt to reduce the answer set to something that every relational database can manage as part of a WHERE IN clause.

The WebFOCUS GIS adapter now allows you to increase this number for high-volume map selection situations. When a large number of features are selected, some alternate techniques are necessary within the WebFOCUS procedure to incorporate the larger filter list.

The maxfeatureitems attribute can be found within the <Performance> tag.

You can set the Max feature items parameter using the ESRI Configuration Utility. Click the *Settings* tab located at the top of the ESRI Configuration Utility. Then click the *Miscellaneous* tab. Scroll down to the Performance section, as shown in the following image.



## Alternate Techniques

When using a maxfeatureitems value greater than 2000, the developer must specify Data in File as the input format for the inbound layer.

**Note:** Attempting to use Amper as String or Amper as Number to pass many filter values may generate an error message.

Within the FOCEXEC, the developers should code a JOIN statement that uses the attribute name and File name from the inbound map layer definition.

For example, if you are working with the CRIME data and want to select many individual crimes from the map layer, the inbound definition would specify All crimes as the layer ID, the attribute name would be REPORTID, and the file name could be MAXITEM.

The JOIN would look like:

```
JOIN REPORTID IN MAXITEM TO REPORTID IN CRIMEDATA AS J1
```

Then the TABLE request would begin as follows:

```
TABLE FILE MAXITEM
```

```
...
```

If there is a difference between the format or length of the map layer attribute and the field length or format in the WebFOCUS data source, a JOIN will not work. One alternative is to create a DEFINE-based JOIN. Another alternative is to use MATCH FILE.

## Improving Map and Report Response Time

In the XML definition file, the PERFORMANCE tag contains several attributes that can be used to improve the speed of processing certain aspects of the integration.

- ☐ **cachedom.** Specifies that the Document Object Model of the XML definition file be held in memory until explicitly cleared with a FLUSHTABLES command. This action prevents the adapter from reading the definition file from disk on every access. This is held once for the server.
- ☐ **cachejs.** Specifies that the JavaScript created from the DOM be held in memory. When cached, the adapter does not have to generate the JavaScript for return to the map or report viewers. This is held once for the server.
- ☐ **cachefilter.** Specifies that the filter list generated by a user selection from the map be held in memory. When the adapter holds the filter list in memory, it does not have to query ArcGIS Server for the map features until the selection geometry has been modified by the user. This is held once for each user session.

## Clear Server Internal Cache Information

Issuing the following command from a browser will clear the internal cache of objects at the server:

```
http://machine/ibi\_apps/esri/WfArcConnector.jsp?IBIESRI\_command=flushtables
```

Perform this action after any changes are made to the application XML definition file. Once the cache has been cleared, the next command to the WebFOCUS GIS Adapter will cause it to read the XML definition from disk.

It is a good idea to add this as a favorite in your browser.

## Defining a Tiled Map Service

Create a new map service using the `<mapservice>` element tag. For example:

```
<mapservice id="mapservice0" servertime="REST" url="http://<host name>:
8399/arcgis/rest/services/<mapservice>/MapServer"
label="Lea Map" type="tiled" visible="true" alpha="1"
icon="com/esri/solutions/flexviewer/assets/images/icons/i_shuttle.png">
```

The `servertime="REST"` and `type="tiled"` attributes are used to identify that this is a pooled and tiled map service. When using the ESRI Configuration Utility to configure a new map service, this is done automatically.

## Loading the Flex Map Viewer

Load the JavaScript Map Viewer for Flex (FlexMapView.jsp file) to your map window using the `<mapwindow>` element tag. For example:

```
<mapwindow fadedelay="50" fadefactor="20" height="-1" left="-1"
name="xxx" top="-1" url="/ibi_apps/esri/flexmapviewer/FlexMapView.jsp"
width="-1"/>
```

## Using Symbols Defined in Your Configuration File

Use the `FXFSYMBOLID` variable in your WebFOCUS procedure to refer to symbols defined in your XML file.

Enter the following syntax in your WebFOCUS procedure (FOCEXEC):

```
COMPUTE FXFSYMBOLID/A20 = DECODE TYP_ENG('FRAUD/FORGERY' 'symPicFraud'
'DRUG POSSESSION-SUBSTANCE/PARAPHERNALIA' 'symPicDrug'
);
```

Enter the following syntax to refer to symbols defined in the `esriinfo` file:

```
<symbol id="symPicDrug" setWidth="34"
setHeight="34" setSource="http://localhost:8080/approot/<app
name>//drugs-alcohol-violations.png" setXoffset=".5" setYoffset=".5" />

<symbol id="symPicFraud" setWidth="34"
setHeight="34" setSource="http://localhost:8080/approot/<app
name>/fraud.png" setXoffset=".5" setYoffset=".5" />
```

## Controlling Layers That are Visible

For the layer node, set the `limitlayers` attribute to `true` or `false`. Any layer that you want to display, which has no features to be rendered, must have no value specified for the attribute name.

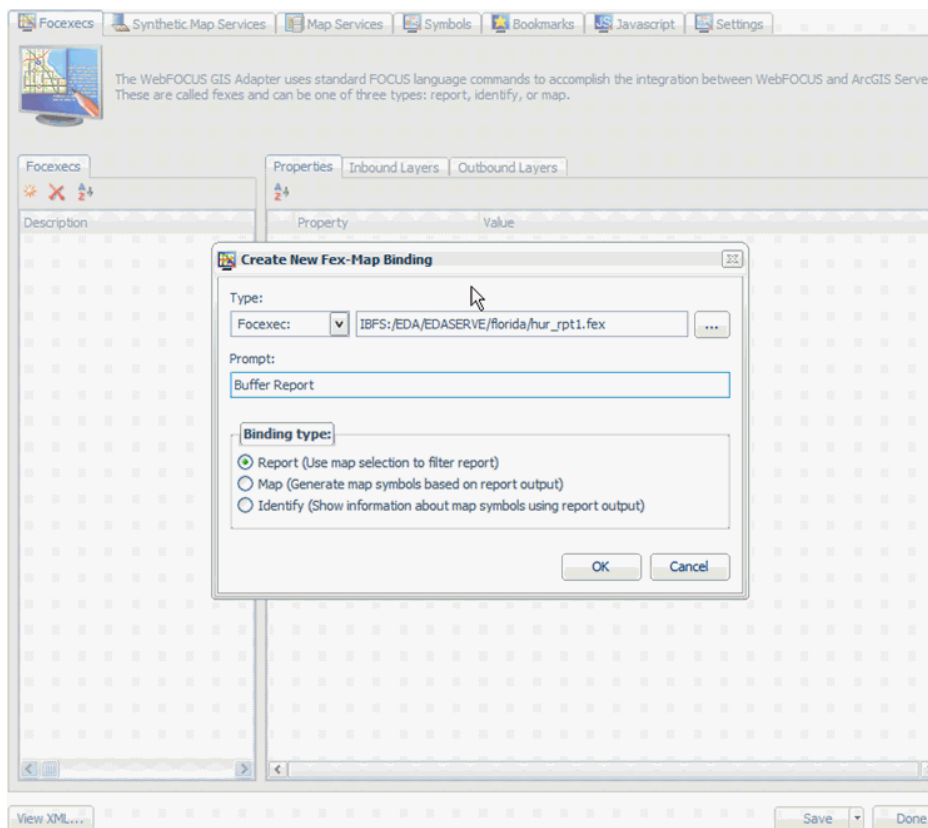
## Enabling a Buffer Using Selected Features From the Layer

This section describes how to enable a buffer using selected features from the layer.

### ***Procedure:*** How to Enable a Buffer Using Selected Features From the Layer

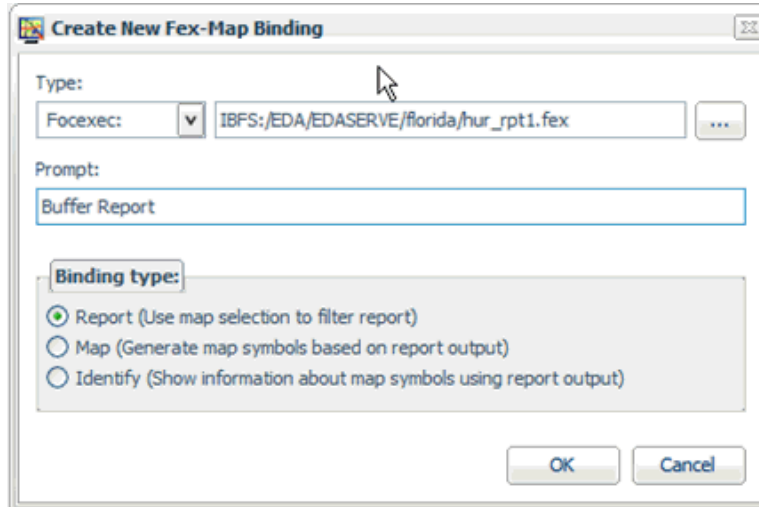
To enable a buffer using selected features from the layer:

1. Create a FOCEXEC using the ESRI Configuration Utility.

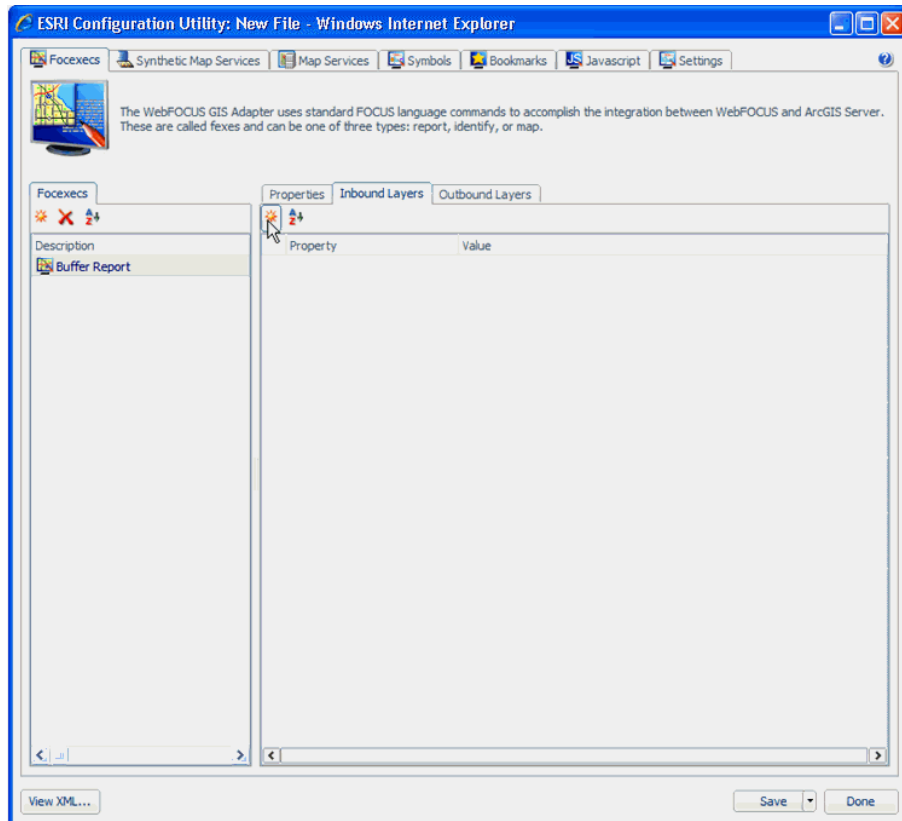




2. Select *Report* in the Binding type area and click *OK*.

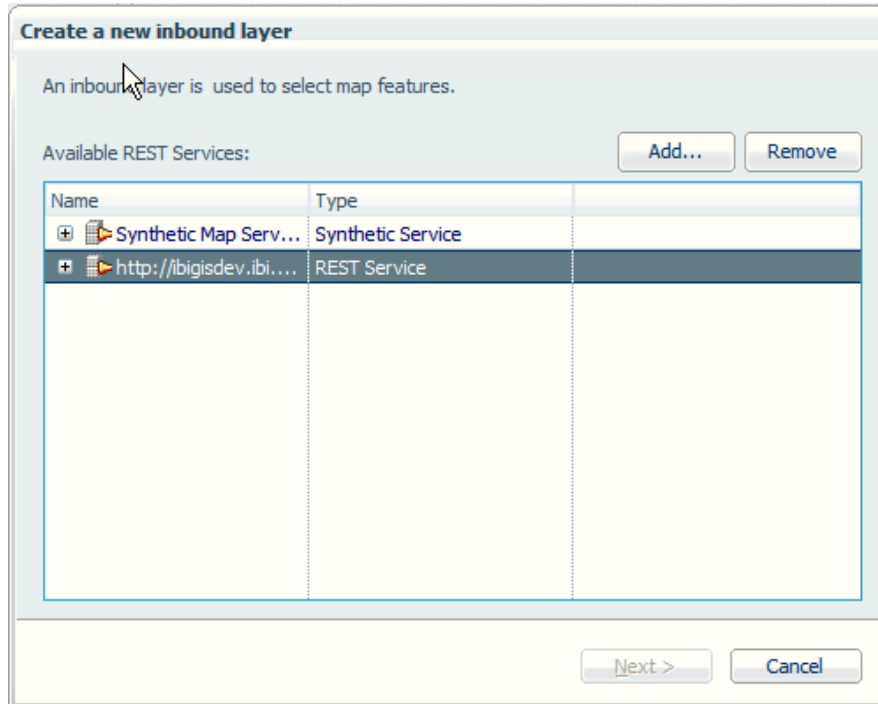


3. Click the *Inbound Layers* tab and add a new inbound layer.

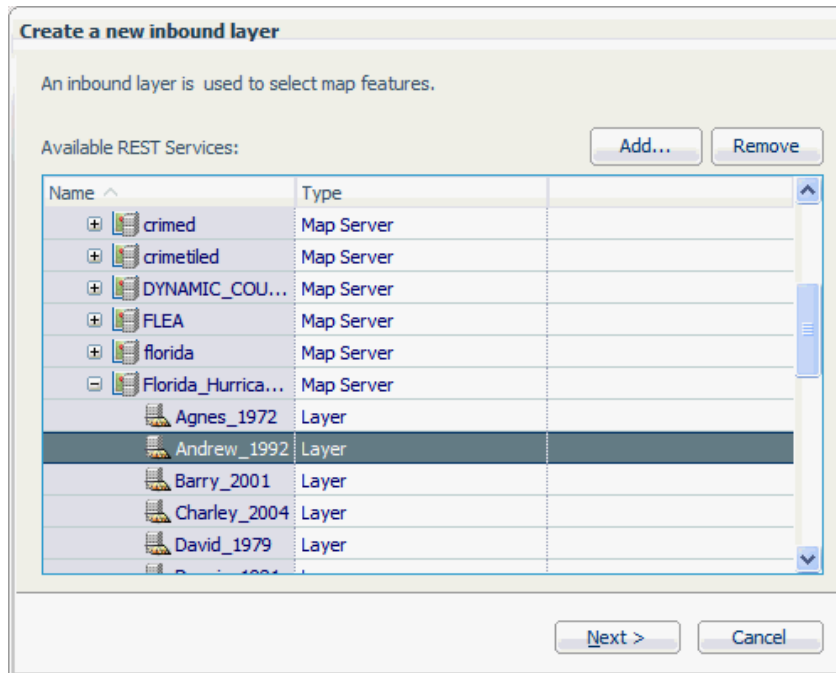


For more information on creating inbound layers, see [Configuring Inbound Layers](#) on page 91.

4. In the Create a new inbound layer dialog box, select a REST endpoint.



5. Expand the REST endpoint and navigate to the map service. Expand the map service and select the map layer that you want to buffer, then click Next.



The Select Attributes pane opens, which is populated with all of the attribute names from the layer that was selected.

6. Select the required attribute(s) and click Next.

**Create a new inbound layer**

Select attribute(s) to be used with the focexec.  
Define a Focus field format, ESRI layer field size and a quote to be used for queries from an ESRI layer. Use single quote with shapefile layers and double quote with SDE layers.

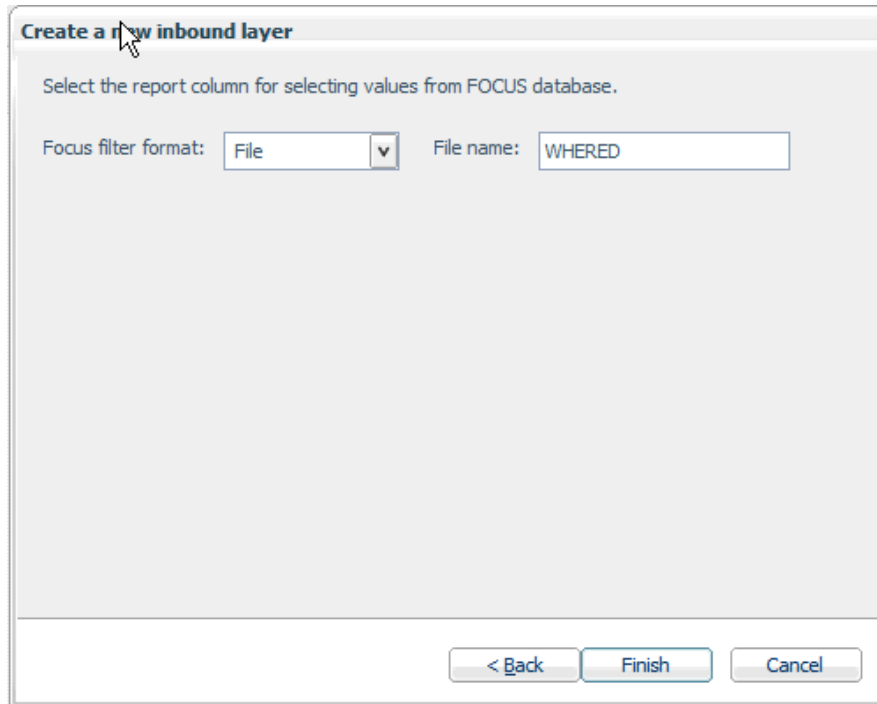
Select Attributes:

Name	Alias	Type	To	Format	Size	Quote
<input type="checkbox"/> DAY	DAY	Integer	->	N/A	N/A	N/A
<input type="checkbox"/> AD_TIME	AD_TIME	String	->	N/A	N/A	N/A
<input type="checkbox"/> BTID	BTID	Integer	->	N/A	N/A	N/A
<input checked="" type="checkbox"/> NAME	NAME	String	->	A20	20	Single
<input type="checkbox"/> LAT	LAT	Double	->	N/A	N/A	N/A
<input type="checkbox"/> LONG	LONG	Double	->	N/A	N/A	N/A
<input type="checkbox"/> WIND_KTS	WIND_KTS	Double	->	N/A	N/A	N/A
<input type="checkbox"/> PRESSURE	PRESSURE	Integer	->	N/A	N/A	N/A
<input type="checkbox"/> CAT	CAT	String	->	N/A	N/A	N/A

☐ Use Buffering

< Back   Next >   Cancel

The following pane opens, which allows you to select the report column for selecting values from a FOCUS database.



The screenshot shows a dialog box titled "Create a new inbound layer". Inside the dialog, there is a text label "Select the report column for selecting values from FOCUS database." Below this label, there are two input fields. The first is labeled "Focus filter format:" and contains a dropdown menu with "File" selected. The second is labeled "File name:" and contains the text "WHERE". At the bottom of the dialog, there are three buttons: "< Back", "Finish", and "Cancel".

7. Choose the filter type (File, String Amper, or Numeric Amper) from the Focus filter format drop-down list and specify a file name that is used to name the filter variable.
8. Click *Finish*.
9. Add this layer again as another inbound layer, by repeating steps 3, 4, and 5.

10. Select the required attribute(s) and the *Use Buffering* check box in the Select Attributes area, and click *Next*.

**Create a new inbound layer**

Select attribute(s) to be used with the focexec.  
Define a Focus field format, ESRI layer field size and a quote to be used for queries from an ESRI layer. Use single quote with shapefile layers and double quote with SDE layers.

Select Attributes:

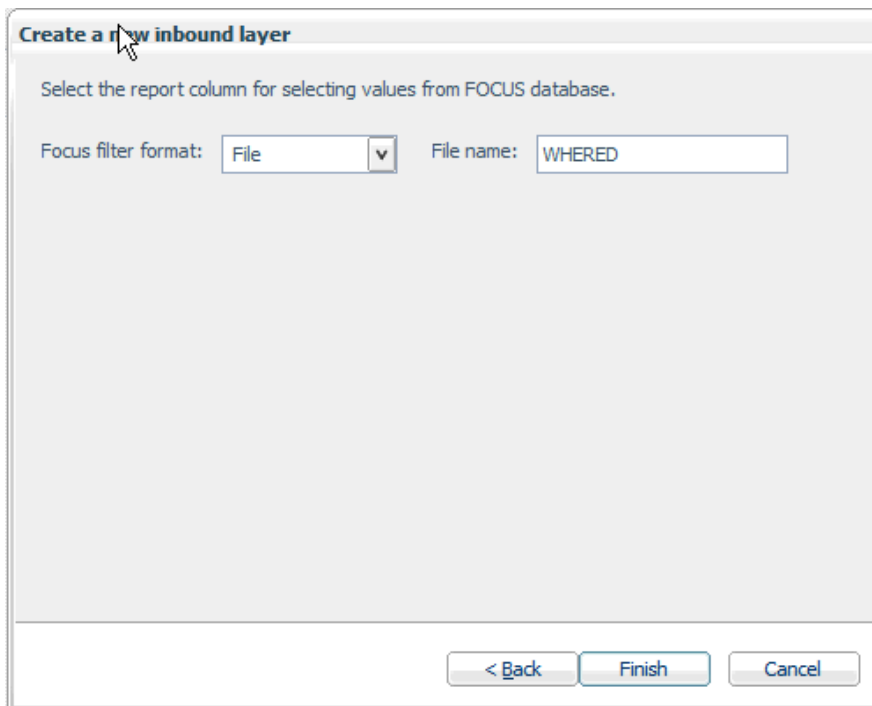
Name	Alias	Type	To	Format	Size	Quote
<input type="checkbox"/> DAY	DAY	Integer	->	N/A	N/A	N/A
<input type="checkbox"/> AD_TIME	AD_TIME	String	->	N/A	N/A	N/A
<input type="checkbox"/> BTID	BTID	Integer	->	N/A	N/A	N/A
<input checked="" type="checkbox"/> NAME	NAME	String	->	A20	20	Single
<input type="checkbox"/> LAT	LAT	Double	->	N/A	N/A	N/A
<input type="checkbox"/> LONG	LONG	Double	->	N/A	N/A	N/A
<input type="checkbox"/> WIND_KTS	WIND_KTS	Double	->	N/A	N/A	N/A
<input type="checkbox"/> PRESSURE	PRESSURE	Integer	->	N/A	N/A	N/A
<input type="checkbox"/> CAT	CAT	String	->	N/A	N/A	N/A

☒ Use Buffering

< Back   Next >   Cancel

The following pane opens, which allows you to select the report column for selecting values from a FOCUS database.

11. Choose the filter type (File, String Amper, or Numeric Amper) from the Focus filter format drop-down list and specify a file name that is used to name the filter variable.



12. Click *Finish*.

## Creating Rollovers

The following section describes creating rollovers using the ESRI Configuration Utility. Rollovers are useful interactive features that can be used to display additional information about key points on a map.

### ***Procedure:*** How to Create Rollovers

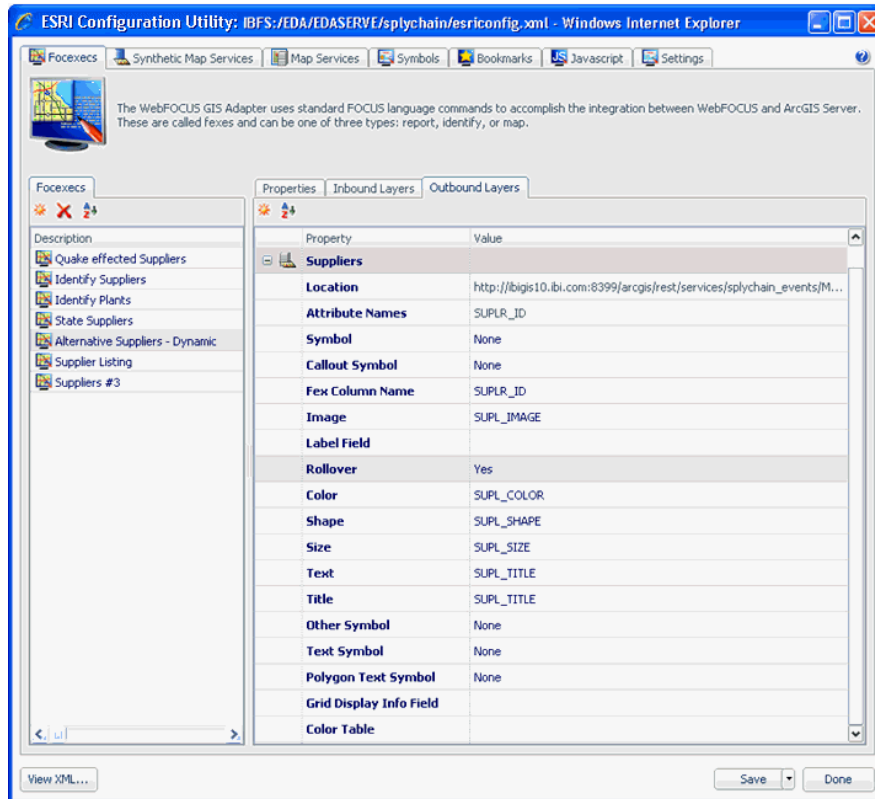
To create rollovers:

1. Create a Map FOCEXEC in the Focexecs tab.
2. Add an outbound layer.

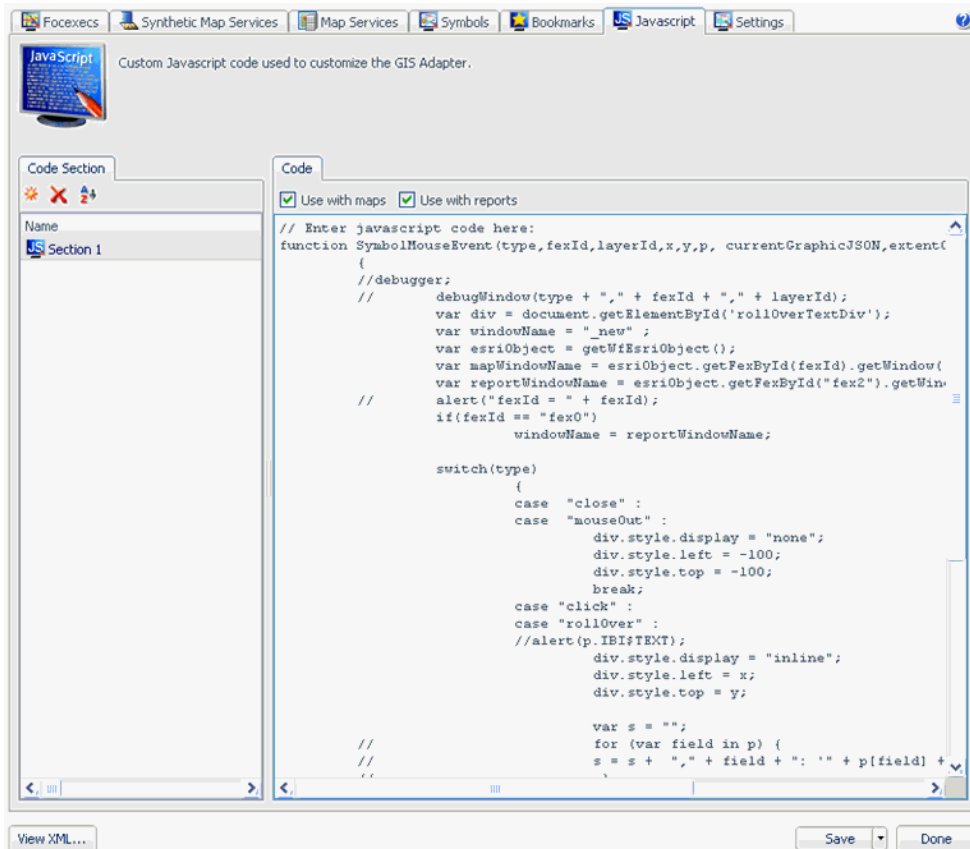
For more information on creating outbound layers, see [Configuring Outbound Layers](#) on page 99.



3. In the Outbound Layers tab, select Yes for the Rollover property.



- Click the *Javascript* tab and create a new Javascript function called *SymbolMouseEvent*.



The following syntax provides a sample of the SymbolMouseEvent Javascript function:

```
function SymbolMouseEvent(type,fexId,layerId,x,y,p,
currentGraphicJSON,extentGraphicJSON)
{
    var div = document.getElementById('rollOverTextDiv');
    var windowName = "_new" ;
    var esriObject = getWfEsriObject();
    var mapWindowName = esriObject.getFexById(fexId).getWindow();
    var reportWindowName =
esriObject.getFexById("fex2").getWindow();
    // just some report to get windowname
    if(fexId == "fex0")
        windowName = reportWindowName;

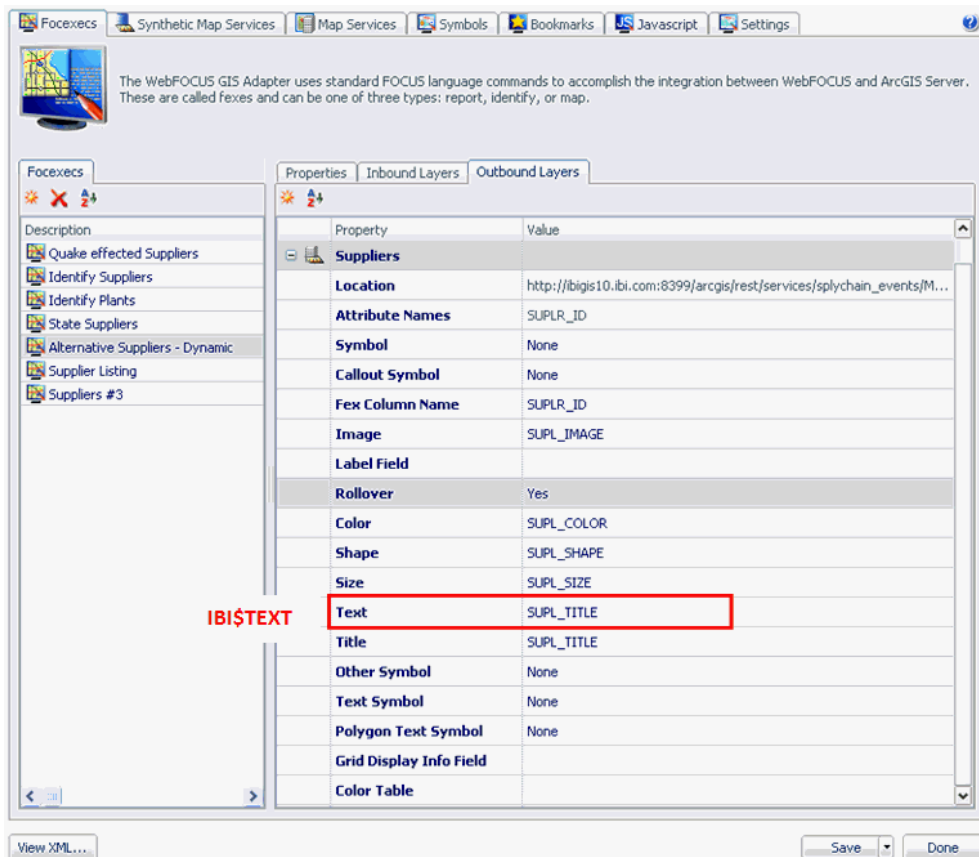
    switch(type)
    {
        case "close" :
        case "mouseOut" :
            div.style.display = "none";
            div.style.left = -100;
            div.style.top = -100;
            break;
        case "click" :
        case "rollOver" :
            div.style.display = "inline";
            div.style.left = x;
            div.style.top = y;
            var s = "";

            if(fexId == "fex11" || fexId == "fex12" || fexId ==
"fex21" || fexId == "fex22")
            {
                s = s + p.IBI$TEXT;
            }

            div.innerHTML = s;
            break;
        case "mouseMove" :
            div.style.left = x;
            div.style.top = y;
            break;
        case "mouseover" :

            break;
    default :
        debugWindow(type + "," + fexId + "," + layerId);
        break;
    }
}
```

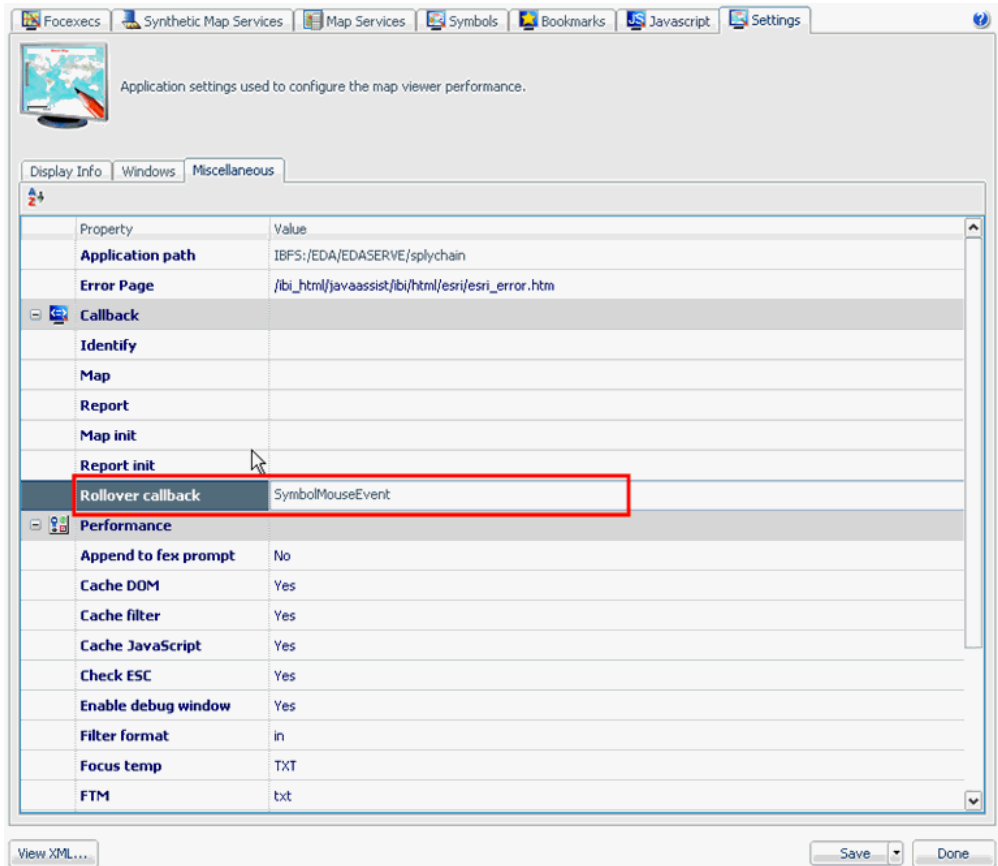
IBI\$TEXT refers to the value that is returned from the outbound layer node in the FOCEXEC.



**Note:** Rollovers can contain HTML text.

- Click the *Settings* tab located at the top of the ESRI Configuration Utility and then click the *Miscellaneous* tab.

- Enter the name of the Javascript function (for example, SymbolMouseEvent) in the Rollover callback field.



- Click Save.

## Passing Parameters From an HTML Layout

This section describes how to pass parameters from an HTML layout.

### **Procedure:** How to Pass Parameters From an HTML Layout

To pass parameters from an HTML layout:

- Create a layout using HTML Composer Layout Painter by inserting ESRI components.

For more information about using HTML Composer Layout Painter, see the *Designing a User Interface for a Web Application With HTML Composer*.

- Click the *Settings* tab located at the top of the ESRI Configuration Utility and then click the *Miscellaneous* tab.

If you want to pass parameters from the HTML layout to:

- ☐ A map FOCEXEC, add IBI\_GetLayoutPainterParameters in the Map field under the Callback section.
- ☐ A report FOCEXEC, add IBI\_GetLayoutPainterParameters in the Report field under the Callback section.
- ☐ An identity FOCEXEC, add IBI\_GetLayoutPainterParameters in the Identify field under the Callback section.

Application settings used to configure the map viewer performance.

Display Info Windows Miscellaneous

Property	Value
Application path	IBFS:/EDA/EDASERVE/imap
Error Page	/ibi_html/javaassist/ibi_html/esri/esri_error.htm
Callback	
Identify	
Map	IBI_GetLayoutPainterParameters
Report	
Map init	
Report init	
Rollover callback	
Performance	
Append to fex prompt	No
Cache DOM	Yes
Cache filter	Yes
Cache JavaScript	Yes
Check ESC	Yes
Enable debug window	Yes
Filter format	in
Focus temp	txt
FTM	txt

View XML... Save Done

- Click Save.

## Navigating to a Geoprocessing REST Endpoint

Enter the following URL in your browser to access a geoprocessing REST endpoint:

<http://ibigis10.ibi.com:8399/arcgis/rest/services/GP/HotSpotAnalysismsp/GPServer>

Supported tasks for the service are listed, as shown in the following image.

<b>ArcGIS Services Directory</b>
<a href="#">Home</a> > <a href="#">GP</a> > <a href="#">HotSpotAnalysismsp (GPServer)</a>
<h3>GP/HotSpotAnalysismsp (GPServer)</h3> <p><b>Service Description:</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Hot_Spot_With_Rendering</a></li> </ul> <p><b>Execution Type:</b> esriExecutionTypeAsynchronous</p> <p><b>Result Map Server Name:</b> GP/HotSpotAnalysismsp</p> <p><b>Supported Interfaces:</b> <a href="#">REST</a> <a href="#">SOAP</a></p>

Click on a task name, for example, *Hot\_Spot\_With\_Rendering*.

A list of parameters for the selected task that are required for geoprocessing is displayed, as shown in the following image.

**ArcGIS Services Directory**

Home > GP > HotSpotAnalysismsp (GPServer) > Hot\_Spot\_With\_Rendering

**Task: Hot\_Spot\_With\_Rendering**

Display Name: Hot\_Spot\_With\_Rendering

Category:

Help URL: [http://ibigis10:8399/arcgis/server/arcgisoutput/GP\\_HotSpotAnalysismsp/HotSpotWithRendering.htm](http://ibigis10:8399/arcgis/server/arcgisoutput/GP_HotSpotAnalysismsp/HotSpotWithRendering.htm)

Execution Type: esriExecutionTypeAsynchronous

Parameters:

**Parameter:** Input\_Features

**Data Type:** GPFeatureRecordSetLayer

**Display Name:** Input Features

**Direction:** esriGPPParameterDirectionInput

**Default Value:**  
**Geometry Type:** esriGeometryPoint  
**Spatial Reference:** 4326  
**Fields:**  
FID (*esriFieldTypeOID*)  
Shape (*esriFieldTypeGeometry*)  
Id (*esriFieldTypeInteger*)

**Parameter Type:** esriGPPParameterTypeRequired

**Category:**

**Parameter:** XY\_Tolerance

**Data Type:** GPLinearUnit

**Display Name:** XY Tolerance

**Direction:** esriGPPParameterDirectionInput

**Default Value:** 20.0 esriFeet

**Parameter Type:** esriGPPParameterTypeOptional

**Category:**

**Parameter:** rasteroutput\_tif

**Data Type:** GPRasterDataLayer

**Display Name:** rasteroutput.tif

**Direction:** esriGPPParameterDirectionOutput

**Parameter Type:** esriGPPParameterTypeRequired

**Category:**

Supported Operations: [Submit Job](#)Supported Interfaces: [REST](#)



## Creating a Report or Map Binding Using a Geoprocessing Service

This section describes how to create a report or map binding using a geoprocessing service.

### Step 1

Create a reference to the geoprocessing REST endpoint in the mapservice node using `type="geoprocess"`, as shown in the following sample syntax:

```
<mapservice id="mapservice3" servertype="REST"
url="http://ibigis10.ibi.com:8399/arcgis/rest/services/GP/HotSpotAnalysismsp/GPServer"
type="geoprocess" label="HotSpotAnalysismsp" visible="true" alpha="1"
icon="com/esri/solutions/flexviewer/assets/images/icons/i_shuttle.png">
</mapservice>
```

This geoprocessing map service is referred to by the `serverid` attribute of the `<geoprocess>` element.

### Step 2

The `<geoprocess>` element is a child element of an inbound or outbound layer.

To create a report FOCEXEC, nest the `<geoprocess>` element as a subelement of the inbound layer.

To create a map FOCEXEC, nest the `<geoprocess>` element as a subelement of the outbound layer.

Report FOCEXEC:

Add an inbound layer to select features from, then refer to the attributes required by the `Input_Features` parameter.

The `Input_Features` parameter requires the following attributes:

- ☐ FID
- ☐ Shape (added only for synthetic layers, not ArcGIS Server layers)
- ☐ ID

Add these attributes to the inbound layer and to the layer definition under <mapservice>, as shown in the following sample syntax:

```
<mapservice id="mapservice4" servertime="REST"
url="http://ibigis10.ibi.com:8399/arcgis/rest/services/MSP_incidents/MapServer"
type="dynamic"
label="MSP_incidents" visible="false" alpha="1"
icon="com/esri/solutions/flexviewer/assets/images/icons/i_shuttle.png">
  <defaulttext minx="-87.4115815188558" miny="44.3020857207546"
maxx="-82.1167145134819" maxy="46.3098708603763"></defaulttext>
  <fulltext minx="-102.6449" miny="0" maxx="0" maxy="47.3957"></fulltext>
  <defaulttextwidth></defaulttextwidth>
  <layer layerid="0" name="incidents"
url="http://ibigis10.ibi.com:8399/arcgis/rest/services/MSP_incidents/MapServer/0"
shape="point"
allowselect="false">
    <attribute id="attribute7" attributename="FID" focusfieldformat="A20"
esri_size="20" esri_quote=""></attribute>
    <attribute id="attribute8" attributename="INCIDENTID"
focusfieldformat="D10.4" esri_size="10" esri_quote=""></attribute>
  </layer>
</mapservice>
```

**Note:** INCIDENTID will be mapped to the attribute ID.

```
<layer attributename="FID,SHAPE,INCIDENTID" calloutsymbolid="" layerid="0"
symbolid="selectMapPoint"
mapservice="mapservice4" bufferSymbols="" filename="INCIDENTLIST"
focuswhereformat="file" selectiontype="respectall">
</layer>
```

Map FOCEXEC:

For outbound layers, repeat the same configuration steps as for a report FOCEXEC. Map outbound layer attributes to act as geoprocessing Input\_Features fields.

For example:

```
<layer attributename="FID,SHAPE,INCIDENTID" calloutsymbolid="" layerid="synlyr0"
symbolid="SimpleMarkerSymbol1" mapservice="mapservice2" colname="INCIDENTID"
image="" labelfield=""
othersymbolid="" rollover="false" color="" shape="" size="" text=""
textsymboldid="" textpolysymbolid="" title="" griddisplayfields="" colortable="">
</layer>
```

### Step 3

Add a second layer to act as a placeholder for the geoprocessing task. This is where the output for the geoprocessing result is located.

Report FOCEXEC (inbound layer):

```
<layer attributename="Id" esri_precision="0" esri_quote="" esri_size="8"
esri_type="12"
filename="GRIDLIST" focusfieldformat="A8" focuswhereformat="file" layerid="3"
selectiontype="respectall">
```

Map FOCEXEC (outbound layer):

```
<layer attributename="Id" calloutsymbolid="" layerid="3" symbolid=""
mapservice="mapservice0"
colname="GRIDID" image="" labelfield="" othersymbolid="" rollover="false" color=""
shape="" size="" text=""
textsymbolid="" textpolysymbolid="" title="" griddisplayfields="" colortable="">
```

#### Step 4

You can start your geoprocess node at this point. Refer to it using the mapservice ID created in Step 1.

The following list describes the required attributes:

- ❑ **serverid.** The mapservice ID.
- ❑ **task.** The task name as referred to on the REST endpoint.
- ❑ **async.** Determines if the task is asynchronous or not. On the REST endpoint, refer to Execution Type (esriExecutionTypeAsynchronous or esriExecutionTypeSynchronous). If esriExecutionTypeAsynchronous, then `async="true"`. If esriExecutionTypeSynchronous, then `async="false"`.

For example:

```
<geoprocess serverid="mapservice3" task="Hot_Spot_With_Rendering"
async="true">
```

#### Step 5

Nest your parameters in the `<geoprocess>` element. Refer to the parameters required on the REST endpoint. For each required parameter in the geoprocessing task, map it to the source type.

The following list describes the required attributes:

- ❑ **name.** The name of the parameter as referred to on the REST endpoint.
- ❑ **source.** Determines where the parameter is going to derive values from, either featureset, constant, and so on. For more information, see the description of the sub-child element parameter. If the source is derived from an inbound or outbound layer, use a referential index (0 based) to refer to that layer.

- ❑ **type.** The type of parameter as required by the geoprocessing parameter. For more information, see the description of the sub-child element parameter.

For example:

```
<parm name="Input_Features" source="outbound" field="featureset"
type="featureset">0</parm>
```

This refers to the first outbound layer of the map FOCEXEC shown below:

```
<layer attributename="FID,SHAPE,INCIDENTID" calloutsymbolid="" layerid="synlyr0"
symbolid="SimpleMarkerSymbol1" mapservice="mapservice2" colname="INCIDENTID"
image="" labelfield=""
othersymbolid="" rollover="false" color="" shape="" size="" text="" textsymbolid=""
textpolysymbolid=""
title="" griddisplayfields="" colortable="">
</layer>
```

### Step 6

Declare how the result will be handled using the `<result>` element.

The following list describes the required attributes:

- ❑ **name.** The name as referred to on the REST endpoint. This name must be specified exactly as is.
- ❑ **target.** Determines how to post process the result, either display or use as a parameter.
- ❑ **type.** The type of result as referred to on the REST endpoint.

For example:

```
<result name="rasteroutput_tif" target="display" type="GPRasterDataLayer"></
result>
```

## Controlling the Visibility of Dynamic Map Layers

The visibility of layers can only be controlled in a dynamic map service. To control the visibility of individual map layers, you must set the visible attribute to true or false. For example:

```
<layer layerid="0" allowselect="false" name="Dennis_2005" shape="line"
visible="false">
```

**Note:** By default, the visible attribute is set to true. If this value is not in your ESRI Configuration Utility, you will have to update the XML definition file manually to include it.

## XML Schema Reference

The following section lists and describes XML schema elements, classes, and constants that are used to configure the WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcIMS.

### In this appendix:

- ☐ [Root Element <mapfexs>](#)
- ☐ [Class Definitions](#)
- ☐ [Constants](#)

### Root Element <mapfexs>

```
<mapfexs version="1.1">
```

Attribute Name	Values	Description
version	Number	Set value for the version. The default is 1.1.

### Child Element <performance>

```
<performance appendidtofxprompt="false" cachedom="true" cachefilter="true"
cachejs="true" checkesc="true" enableddebugwindow="true" filterformat="in"
foctemp="TXT" ftm="txt" imagefiletype="png" imageredirect="true"
mapcachedepth="4" maxfeatureitems="2000" maxlengthimageline="14000"
spatialrelationgis="1" spatialrelationims="area_intersection"/>
```

Attribute Name	Values	Description
appendidtofxprompt	Boolean	
cachedom	Boolean	Specifies that the Document Object Model of the XML definition file be held in memory until explicitly cleared with a FLUSHTABLES command.

Attribute Name	Values	Description
<code>cachefilter</code>	Boolean	Specifies that the filter list generated by a user selection from the map be held in memory.
<code>cachejs</code>	Boolean	Specifies that the JavaScript created from the DOM be held in memory.
<code>enabledebugwindow</code>	Boolean	Enables the launch of the debug window.
<code>filterformat</code>	String	Specifies the filter format that is used for FOCUS.
<code>foctemp</code>	String	Specifies the storing format that is used for FOCUS. The default value is TXT.
<code>ftm</code>	String	Temporary files or Alphanumeric HOLD files name.
<code>imagefiletype</code>	String	Image file type only used with ArcGIS Server non-pooled and ArcIMS services. The default is png.
<code>imageredirect</code>	Boolean	Determines if an image redirect should be applied.
<code>mapcachedepth</code>	Number	Specifies the number of maps in memory. Increase this value for report to map drilldowns.
<code>maxfeatureitems</code>	Number	Specifies the maximum number of features that will be returned after a query.
<code>maxlengthimageline</code>	Number	Specifies the maximum length of an image line.
<code>spatialrelationgis</code>	Number	Values that denote the relationship of the query geometry to target geometry. This value ranges from 0 to 9.
<code>spatialrelationims</code>	Constants, String	Values that denote relationships of the query geometry to target geometry. Only use in ArcIMS.

## Child Element <jsincludes>

**Sub-child Element:** <file>

```
<file map="true" report="true">
```

Attribute Name	Values	Description
map	Boolean	Reports values to be returned to the map viewer.
report	Boolean	Reports values to be returned to the report viewer.

**Sub-child Element:** <fexinfo>

**Sub-child Element:** <appinfo>

**Sub-child Element:** <IBIF\_adhocfex>

## Child Element <errorpage>

```
<errorpage page="/ibi_html/javaassist/ibi/html/esri/esri_error.htm"/>
```

Attribute Name	Values	Description
page	String	Value to where error pages are written.

## Child Element <menuinfo>

```
<menuinfo class="clsMenuMAP" order="file"/>
```

Attribute Name	Values	Description
class	String	Class name used for the menu.

Attribute Name	Values	Description
<code>order</code>	String (prompt, file)	Options for ordering menu items as they appear in the Report and Menu widgets:  <input type="checkbox"/> <b>Prompt.</b> Uses the FEX prompt value for alphabetical sorting.  <input type="checkbox"/> <b>File.</b> Random sorting.

Child Element <reportserver>

Sub-child Element: `<classinfo>`

Sub-sub-child Element: `<default>`

Sub-sub-child Element: `<fixed>`

Sub-child Element: `<appinfo>`

Sub-sub-child Element: `<default>`

`<default IBIAPP_app="esri" IBIC_server="EDASERVE" />`

Attribute Name	Values	Description
<code>IBIAPP_app</code>	String	Application folder name. The default value is esri.
<code>IBIC_server</code>	String	Reporting Server Node. The default value is Reporting Server Node.

Sub-sub-child Element: `<fixed>`

Sub-child Element: `<mreinfo>`

Sub-sub-child Element: `<default>`

Sub-sub-child Element: `<fixed>`



## Child Element <displayinfo>

```
<displayinfo mapscaledisplayunits="meters">
```

Attribute Name	Values	Description
mapscaledisplayunits	String (meters, feet, inches, miles)	Units of Map Display.

**Sub-child Element:** <layout> (used only in ArcIMS/ArcGIS Server)

```
<layout displayarrows="true" displayinfo="true" displayticks="true"
horizontal="false" sdragable="false" numberoftoolsperrow="2" onright="false">
```

Attribute Name	Values	Description
displayarrows	Boolean (true)	Displays arrows on the map.
displayinfo	Boolean (true)	Shows information along the bottom.
displayticks	Boolean (true)	Shows zoom tick marks and icons.
horizontal	Boolean (false)	Shows the toolbar vertically and/or horizontally.
sdragable	Boolean (false)	Places the toolbar adjacent to map and allows the user to position the toolbar by dragging the mouse.
numberofroolsperrow	Number	Values. 1, 2.
onright	Boolean (false)	Toolbar position on the left or right of the map image.

**Sub-child Element:** <maptitle>

```
<maptitle>Crime Demo</maptitle>
```

**Sub-child Element:** <pagetitle>

```
<pagetitle>Powered By WebFOCUS</pagetitle>
```

Sub-child Element: <flexmapsettings>

```
<flexmapsettings>  
  <logoVisible type="boolean">>false</logoVisible>  
  <panArrowsVisible type="boolean">>false</panArrowsVisible>  
  <zoomSliderVisible type="boolean">>false</zoomSliderVisible>  
  <scaleBarVisible type="boolean">>false</scaleBarVisible>  
</flexmapsettings>
```

Sub-child Element: <logoVisible>

Attribute Name	Values	Description
type	Boolean (false)	Displays a logo on the map.

Sub-child Element: <panArrowsVisible>

Attribute Name	Values	Description
type	Boolean (false)	Displays pan arrows on the map.

Sub-child Element: <zoomSliderVisible>

Attribute Name	Values	Description
type	Boolean (false)	Displays zoom slider on the map.

Sub-child Element: <scaleBarVisible>

Attribute Name	Values	Description
type	Boolean (false)	Displays pan scale bar on the map.

Sub-child Element: <tool>

```
<tool display="true" index="0" type="clear vmr"/>
```

Attribute Name	Values	Description
display	Boolean (true)	Visible/Invisible.
index	Number	Index number of the tool, 0 based.
type	String (clear vmr, report fex, units, map fex, pan, identify, selection type, legend, print, layers, zoom out, zoom in)	Tool name to be displayed.

Tools List <type>:

```
0 - Erase
1 - Report Fex
2 - Set Units
3 - Map Fex
4 - Pan Map
5 - Identify Fex
6 - Selection Type
7 - Legend
8 - Print
9 - Layers
10 - Zoom out
11 - Zoom in
```

**Sub-child Element:** <defaultsymbols>

```
<defaultsymbols mapimagenortharrowid="" mapimagescaleid=""
mapnortharrowid=""
mapscaleid="" northarrowid="" scaleid="scale0" selectmapnortharrowid=""
selectmapscaleid=""/>
```

**Sub-child Element:** <symbol>

```
<symbol
class="com.esri.aims.mtier.model.map.layer.renderer.symbol.SimpleLineSymbol"
  id="selectMapLine" setAntialiasing="false" setColor="255,0,0"
setLineType="solid"
  setOverlap="true" setWidth="2" shape="line"/>
```

Attribute Name	Values	Description
class	Appendix List	Lists the classes that are used to symbolize features in the map.
id	String	Name of the symbol.

Refer to Individual Symbols for Additional Attributes.

**Sub-child Element:** <displaygroups>

```
<group id="group0" prompt="Basic Group"/>
```

Attribute Name	Values	Description
id	groupnn	Unique ID of the group. 0 based index.
prompt	String	Name of the group that will appear in the menu.

**Sub-child Element:** <colors>

**Sub-sub-child Element:** <colormap>

```
<colormap id="colormap0" prompt="Precinct Numbers" type="table">
```

Attribute Name	Values	Description
id	colormapnn	Unique ID of the colormap. 0 based index.
prompt	String	Name of the colormap.

Attribute Name	Values	Description
<code>type</code>	String (table, gradient)	Type of colormap.

**Sub-sub-sub-child Element:** `<color>`

```
<color id="colorentry0" key="0" value="0,0,0"/>
```

Attribute Name	Values	Description
<code>id</code>	<i>colorentrynn</i>	Unique ID of the colorentry. 0 based index.
<code>key</code>	Name	Name of the key to be used.
<code>value</code>	Hexadecimal values, RGB values, names, use color swatch	The ArcGIS API for Fex requires hexadecimal values.

## Child Element `<windows>`

**Sub-child Element:** `<reportwindow>`

```
<reportwindow height="-1" left="-1" name="reportWindowESRI" top="-1" width="-1"/>
```

Attribute Name	Values	Description
<code>height</code>	Number	Specifies the height of the report window.
<code>left</code>	Number	Specifies the relative position of the report window left.
<code>name</code>	String	Specifies the name of the report window.

Attribute Name	Values	Description
<code>top</code>	Number	Specifies the relative position of the report window top.
<code>width</code>	Number	Specifies the width of the report window.

**Sub-child Element:** <legendwindow>

```
<legendwindow height="-1" left="-1" name="legendWindowESRI" top="-1" width="-1"/>
```

Attribute Name	Values	Description
<code>height</code>	Number	Specifies the height of the legend window. Not available in Flex.
<code>left</code>	Number	Specifies the relative position of the legend window. Not available in Flex.
<code>name</code>	String	Not available in Flex.
<code>top</code>	Number	Specifies the relative position of the legend window. Not available in Flex.
<code>width</code>	Number	Not available in Flex.

**Sub-child Element:** <mapwindow>

```
<mapwindow fadedelay="50" fadefactor="20" height="-1" left="-1"
name="mapWindowESRI" top="-1" url="" width="-1"/>
```

Attribute Name	Values	Description
height	Number	Specifies the height of the map window.
left	Number	Specifies the relative position of the map window left.
name	String	Specifies the unique name of the map window.
top	Number	Specifies the relative position of the map window top.
url	String  /ibi_apps/esri/ flexmapviewer/ FlexMapView.jsp	This value is used for the mapviewer built with ArcGIS API for Flex.
width	Number	Specifies the width of the map window.

**Sub-child Element:** <bufferwindow>

```
<bufferwindow height="-1" left="-1" name="bufferWindowESRI" top="-1"
width="-1"/>
```

Attribute Name	Values	Description
height	Number	Not available in Flex.
left	Number	Not available in Flex.
name	String	Reference to the buffer window.
top	Number	Not available in Flex.

## Root Element <mapfexs>

Attribute Name	Values	Description
<code>width</code>	Number	Not available in Flex.

## Child Element <callback>

```
<callback identify="" map="" mapinit="" postxmlparse="" report=""  
reportinit="" rollovercallback="" />
```

Attribute Name	Values	Description
<code>identify</code>	Boolean	Procedure type is Identify.
<code>map</code>	Boolean	Procedure type is Map.
<code>mapinit</code>	String	Function to call before Map is initialized.
<code>report</code>		Procedure type is Report.
<code>reportinit</code>	String	Function to call before Report is initialized.
<code>rollovercallback</code>	String	Function to call before Rollover is initialized.

## Child Element <mapservice>

```
<mapservice IBIESRI_Encryption="true"  
  IBIESRI_domain="localhost"  
  IBIESRI_pass="0049fb825aa7976f7faa642cf4c6e82ede"  
  IBIESRI_user="arcgis" host="localhost" id="mapservice0" port="5300"  
  protocol="TCP" servertype="ARCGIS" service="CRIMED">  
  
<mapservice id="mapservice0" servertype="REST"  
  url=http://ibigisdev.ibi.com:8399/arcgis/rest/services/FLEA/MapServer  
  label="Lea Map" type="tiled" visible="true" alpha="1"  
  icon="com/esri/solutions/flexviewer/assets/images/icons/i_shuttle.png">
```



```
<mapservice id="mapserviceIgeo" servertime="REST" type="geometry"
  url="http://ibigisdev.ibi.com:8399/arcgis/rest/services/Geometry/
  GeometryServer" />
```

Attribute Name	Values	Description
<code>IBIESRI_domain</code>	String	Server Name.
<code>IBIESRI_pass</code>	String	Used for ArcGIS servertime.
<code>IBIESRI_user</code>	String	Used for ArcGIS servertime. The default is arcgis.
<code>host</code>	String	The name of the server where the application resides.
<code>id</code>	Unique service ID	Mapservice unique ID, 0 index based.
<code>port</code>	Number	Used for ArcGIS servertime. The default is 5300.
<code>protocol</code>	String	Used for ArcGIS servertime. The default is TCP.
<code>servertime</code>	String (ARCGIS, ARCGIS, WEBFOCUS, REST)	Mapservice server type.
<code>service</code>	String	List of all the service names hosted in <i>IBIESRI_domain</i> .
<code>type</code>	String (tiled, dynamic, geometry, geoprocess)	Used only for REST Mapservices.
<code>alpha</code>	Number	Controls the transparency. Values can range from 0 (full transparency) to 1 (no transparency, full visibility).
<code>icon</code>	String	Reference to an icon (.png, bmp, and so on).

Sub-child Element: <defaulttextent>

```
<defaulttextent maxx="5823888.370505974" maxy="2169983.287258233"
minx="5752309.304089934" miny="2117961.342813789" />
```

Attribute Name	Values	Description
maxx	Number, Double	Maximum Longitude values of the envelope viewed in the map.
maxy	Number, Double	Maximum Latitude values of the envelope viewed in the map.
minx	Number, Double	Minimum Longitude values of the envelope viewed in the map.
miny	Number, Double	Minimum Latitude values of the envelope viewed in the map.

Sub-child Element: <defaultmapdisplay>

```
<defaultmapdisplay setBackground="255,255,255" />
```

Attribute Name	Values	Description
setBackground	Hexadecimal, RGB, name color values, use color swatch	Background color.

Sub-child Element: <mapdisplay>

```
<mapdisplay id="maptransbackground" setBackground="255,255,255"
setTransparentColor="255,255,255"/>
```

Attribute Name	Values	Description
<code>id</code>	String	Unique ID.
<code>setBackground</code>	Hexadecimal, RGB, name color values, use color swatch	Background color.
<code>setTransparentColor</code>	Hexadecimal, RGB, name color values, use color swatch	Transparency color.

**Sub-child Element:** `<defaultlegenddisplay>`

```
<defaultlegenddisplay setAutoExtend="true" setBackground="255,255,255"
setCanSplit="false" setFont="Verdana"
setLayerFontSize="10" setTitleFontSize="12" setValueFontSize="8"
setWidth="180"/>
```

**Sub-child Element:** `<defaulttextentwidth>`

**Sub-child Element:** `<defaultsymbols>`

**Sub-child Element:** `<layer>`

**Feature Layers:**

```
<layer allowselect="false" layerid="0" name="Incidents" sampledata="true"
shape="point" visible="false"/>
```

**Synthetic Layers:**

```
<layer allowselect="true" coordinate_system=""
  defaultvisibility="true" disabled="false" factor="1.0"
  layerid="syntheticlayer0" maximumscale="1.7976931348623157E308"
  minimumscale="0" name="State Plane Coordinates (Orange)"
  polyendpointsymbolid=""
  polypointsymbolid="" polystartpointsymbolid="" sampledata="false"
  shape="point"
  symbolid="drawMapPoint" synthetic="true" transformation=""
  transformation_direction=""
  xoffset="0.0" yoffset="0.0">
```

Attribute Name	Values	Description
visible	Boolean	Use to control only the visibility of individual map layers. This is only available of dynamic map service layers.
allowselect	Boolean	
coordinate_system	String	Refers to a list of Coordinate System, blank if using the same coordinate system as the map, used with synthetic layers.
defaultvisibility	Boolean	Visible or Invisible, used with synthetic layers.
disabled	Boolean	Causes the synthetic layer definition to be ignored by WebFOCUS.
layerid	Number	Layer ID, derived from the mapservice. 0 index based.
maximumscale	Number	The maximum scale at which the layer is rendered, used with synthetic layers.
minimumscale	Number	The minimum scale at which the layer is rendered, used with synthetic layers.
name	String	Name used to identify the layer.

Attribute Name	Values	Description
<code>polyendpointsymbolid</code>	String	Refers to a SimpleMarkerSymbol to draw polygon ends.
<code>polypointsymbolid</code>	String	Refers to a SimpleMarkerSymbol to draw polygon centroids.
<code>sampladata</code>	Boolean	Allows to see sample data before selecting attributes.
<code>shape</code>	String	Type of layer, values - point, line, polygon. Mapservice based.
<code>symbolid</code>	String	Refers to a symbol defined in the configuration, used with synthetic layers.
<code>transformation</code>	String	Transformation necessary to project a layer, used with synthetic layers.
<code>transformation_directi on</code>	String (forward, reverse)	Used with synthetic layers.
<code>xoffset</code>	Number, Double	X Shift to draw map features, used with synthetic layers.
<code>yoffset</code>	Number, Double	Y Shift to draw map features, used with synthetic layers.

Used only with Synthetic Layers

**Sub-sub-child Element:** `<drawfex>`

**Sub-sub-child Element:** `<fexinfo>`

**Sub-sub-sub-child Element:** `<appinfo>`

**Sub-sub-child Element:** `<selectfex>`

**Sub-sub-child Element:** `<fexinfo>`

## Sub-sub-sub-child Element: &lt;appinfo&gt;

Attribute Name	Values	Description
<code>IBIAPP_app</code>	String	Select an application from the list for the selected reporting server. Usually refers to the current application.
<code>IBIF_ex</code>	String (value selected)	This should refer to a procedure in the <i>IBIAPP_app</i> folder. User selects a procedure from a drop-down list.

## Child Element &lt;fex&gt;

```
<fex defaultFex="true" displaygroup="" drawselectmap="true" esrinotn="true"
height="" id="fex0" legenddetail="true" limitlayers="true" nomenu="true"
northarrowid="arrow0" prompt="FEXPROMPT_BOX" promptastitle="true"
scaleid="scale0" type="report" width=""
windowname="WINDOWNAME_BOX" zoomfeatures="true">
```

Attribute Name	Values	Description
<code>defaultFex</code>	Boolean	Designates the procedure (map, report) to be launched when no other is specified.
<code>displaygroup</code>	Selection of created group(s)	Assigns the procedure to a display group. This is reflected in the menu for reports.
<code>drawselectmap</code>	Boolean	Changes the map view after the user makes a selection.

Attribute Name	Values	Description
<code>esrinotn</code>	Boolean	Suppresses the display of the Select Map image (thumbnail) on the first page of the report output.
<code>height</code>	Integer	The value is not controlled from the GUI but could be set in the XML file to size the map.
<code>id</code>	<code>fexnnn</code>	Unique value assigned to identify the FEX (map, report, identify).
<code>legenddetail</code>	Boolean	Displays a legend detail in the map when selected.
<code>limitlayers</code>	Boolean	Displays layers that are only listed within the Outbound area.
<code>nomenu</code>	Boolean	Removes this procedure from the menu of the Map View Manager.
<code>northarrowid</code>	Selection of predefined NA	Displays the North arrow symbol on the generated map.
<code>prompt</code>	String	Provided string value will be used to identify this procedure in the list of available procedures in the Map View.
<code>promptastitle</code>	Boolean	Displays a title on the map. This option is selected by default.

Attribute Name	Values	Description
<code>scaleid</code>	Selection of predefined scales	Displays a scale on the generated map.
<code>type</code>	report, map, identify	Three types of the FOCEXEC procedures.
<code>width</code>	Integer	The value is not controlled from the GUI but could be set in the XML file to size the map.
<code>windowname</code>	String	Displays the report output in a new window with specified string value.
<code>zoomfeatures</code>	Boolean	Zooms into the area that was selected in the Map View Manager.
<code>buffersymbolid</code>	String	Refers to a symbol defined, should be the type of SimpleFillSymbol.

**Sub-sub-child Element:** <fexinfo>

**Sub-sub-sub-child Element:** <appinfo>

```
<appinfo IBIAPP_app="XMLFILES" IBIF_ex="exersize2"/>
```

Attribute Name	Values	Description
<code>IBIAPP_app</code>	String	Select an application from the list for the selected reporting server. Usually refers to the current application.



Attribute Name	Values	Description
<code>IBIF_ex</code>	String (value selected)	This should refer to a procedure in the <i>IBIAPP_app</i> folder. User selects a procedure from a drop-down list.

**Sub-child Element:** `<sendselectmap>`

```
<sendselectmap imagefiletype="png" sendheight="100" sendimage="false"
  sendlegend="false" sendlegendfilename="ESRIIMGSLG"
  sendmapfilename="ESRIIMGSEL"
  sendwidth="200" />
```

Attribute Name	Values	Description
<code>imagefiletype</code>	String	The default is png.
<code>sendheight</code>	Number	The height of the image to be rendered.
<code>sendimage</code>	Boolean	Option box control. Select true or false.
<code>sendlegend</code>	Boolean	Option box control. Select true or false.
<code>sendlegendfilename</code>	String	Value set by the app to send the name of a file containing legend.
<code>sendmapfilename</code>	String	Value set by the app to send the name of a file containing map.
<code>sendwidth</code>	Number	The width of the image to be rendered.

**Sub-child Element:** `<sendmapmap>`

```
<sendmapmap fexid=" " imagefiletype="png" sendheight="100" sendimage="false"
  sendlegend="false" sendlegendfilename="ESRIIMGMLG"
sendmapfilename="ESRIIMGMAP" sendwidth="200" />
```

Attribute Name	Values	Description
<code>fexid</code>	<code>fexnnn</code>	Unique value assigned to identify the fex (map, report, identify).
<code>imagefiletype</code>	png, gif, jpeg	File type of image to be rendered.
<code>sendheight</code>	Number	Height of the image to be rendered.
<code>sendimage</code>	Boolean	Image to be sent. The default is false.
<code>sendlegend</code>	Boolean	Legend to be displayed. The default is false.
<code>sendlegendfilename</code>	String	Legend file Name.
<code>sendmapfilename</code>	String	Image file Name.
<code>sendwidth</code>	Number	Width of the image to be rendered.

**Sub-child Element:** <mapinfo>

```
<mapinfo mapservice="mapservice0">
```

Attribute Name	Values	Description
<code>mapservice</code>	String	Select an attribute from the list for the selected ArcGIS Server.

**Sub-sub-child Element:** <inbound>**Sub-sub-sub-child Element:** <layer>

```

<inbound>
  <layer attributename="BEATNUM" bufferunits="" distance=""
esri_precision="0"
  esri_quote="" esri_size="2" esri_type="5" filename="WHEREED"
  focusfieldformat="I6" focuswhereformat="file" layerid="2"
  selectiontype="respectall" symbolid="selectMapPolygon"/>
</inbound>

```

**Sub-sub-child Element:** <outbound>

**Sub-sub-sub-child Element:** <layer>

```

<outbound>
  <layer attributename="REPORTID" calloutsymbolid="" colname="CRIMEID"
color="COLOR#"
  colortable="" esri_precision="0" esri_quote=" ' " esri_size="8"
esri_type="12"
  focusfieldformat="A8" image="IMAGEDIS" labelfield="" layerid="0"
  othersymbolid="" rollover="true" shape="SHAPE#" size="SIZE#"
symbolid="drawMapPoint"
  text="OUTBOUNDTEXT_BOX" textpolysymbolid="" textsymbolid=""
title="TITLEDIS"/>
</outbound>

```

**Layer Attributes (inbound/outbound):**

Attribute Name	Values	Description
<code>attributename</code>	Value selected from the drop-down list  <code>IBI\$BUFFER</code> , <code>IBI\$BUFFERINDEX</code>	Select an attribute from the list for the selected layer, using <i>IBI\$BUFFER</i> .  <i>IBI\$BUFFERINDEX</i> indicates the buffering capabilities of an inbound layer. Can only be used in an inbound layer.
<code>calloutsymbolid</code>	calloutsymbol	Symbol used when adding label information to a point layer. The source of the information displayed will be a map layer attribute.

Attribute Name	Values	Description
<code>colname</code>	String	The column name from the WebFOCUS data source that contains values that match the map layer attribute.
<code>color</code>	String	Default value is the column name of the output of the map FOCEXEC. Valid parameters for all three shapes: point, line and polygon.
<code>colortable</code>	Value selected from the predefined drop-down list	GIS adapter determines how many unique colors are needed depending on the result set of the map report. The adapter spreads the color values evenly across the answer set.
<code>esri_precision</code>	Integer	Precision for the format of the attribute field selected.
<code>esri_quote</code>	String	ArcGIS Server symbol used for quotation.
<code>esri_size</code>	Integer	The length of the attribute field selected.
<code>esri_type</code>	Integer	The format of the attribute field selected.
<code>focusfieldformat</code>	String	Format depends on the incoming data from the selected attribute field of the layer.
<code>image</code>	Path to the image file	Custom image to represent the symbol.
<code>labelfield</code>	Input for layer fields	

Attribute Name	Values	Description
<code>layerid</code>	Integer	Value depends on the selected layer during the definition of outbound layer.
<code>othersymbolid</code>	Value selected from the predefined drop-down list	To symbolize any additional features on the map that are not specified in the XML stream
<code>rollover</code>	Boolean	Enables mouse over support for a map layer. Only supported for point layers.
<code>shape</code>	String	Default value is the column name of the output of the map FOCEXEC. Valid parameter for only one shape: point.
<code>size</code>	String	Default value is the column name of the output of the map FOCEXEC. Valid parameter for two shapes: point and line.
<code>symbolid</code>	Value selected from the drop-down list	Symbol that will be used to render the map.
<code>text</code>	String	Input the field name from the WebFOCUS XML output. Used for mouse over support for point layers.
<code>textpolysymbolid</code>	Value selected from the predefined drop-down list	Value has to be selected from the drop-down list. The symbol is predefined and used for adding label information to a point layer. The source of the information displayed will be the XML output from a Map procedure.

Attribute Name	Values	Description
<code>textsymbolid</code>	Value selected from the predefined drop-down list	Value has to be selected from the drop-down list. The symbol is predefined and used for adding label information to a point layer. The source of the information displayed will be the XML output from a Map procedure.
<code>title</code>	String	The value is used to create the layer legend that can be viewed from the Viewer.
<code>mapservice</code>	String	Used for REST mapservices, to mix different mapservices
<code>bufferSymbols</code>	String (list populated using SimplePolygonFillSymbol)	Symbols used to draw buffers.
<code>griddisplayfields</code>	String	Used to display fields in the WebFOCUS dataview widget. The default is colname.

## Child Element &lt;livemaps&gt;

```

<livemaps>
  <mapservice label="LatestVisibleSatellite"
    type="wms" visible="true" alpha="0.6">http://egisws01.nos.noaa.gov/
    wmsconnector/com.esri.wms.Esrimap/census2000mapping?request=
    getcapabilities&service=WMS&version=1.1.1</mapservice>
</livemaps>

```

**Sub-child Element:** <mapservice>

Attribute Name	Values	Description
<code>label</code>	String	User provided ID to distinguish the mapservice.

Attribute Name	Values	Description
<code>type</code>	String	The type of mapservice to be used. The default is wms.
<code>visible</code>	Boolean	Visibility of the service.
<code>alpha</code>	Number	Controls the transparency. Values can range from 0 (full transparency) to 1 (no transparency, full visibility).

## Class Definitions

This section lists and describes the classes that are used to configure the WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcIMS.

### ScaleBar

**Class:**

`ScaleBar`

**Package:**

`com.esri.aims.mtier.model.acetate`

Method	Values	Description
<code>setAntialiasing</code>	Boolean	
<code>setBarColor</code>	String (use color swatch to set values)	Sets the bar color value for this ScaleBar object.
<code>setBarTransparency</code>	Double (transparency)	Sets the value of transparency for this ScaleBar object. 1.0 indicates 0 percent transparent and 0.0 is 100 percent transparent.
<code>setBarWidth</code>	Int (width)	Sets the given value as width of this ScaleBar object.

Method	Values	Description
setDistance	Distance (double)	Sets the distance value for this ScaleBar object.
setFont	String (font)	Sets the font value for this ScaleBar object.
setFontColor	String (font color)	Sets the font color for this ScaleBar object.
setFontSize	Int (font size)	Sets the font size of this ScaleBar object.
setFontStyle	String (bold, regular)	Sets the given font style for this Scalebar object.
setID	String (value of the identifier)	
setMapUnits	String (degrees, feet, kilometers, meters, miles)	Sets the map units value for this ScaleBar object.
setMode	String (cartesian, geodesic)	Sets the mode value when the map units are in decimal degrees.
setOutline	String (regular, underline, bold)	Sets the given font style for this Scalebar object.
setOverlap	Boolean (true, false)	Sets the overlap value for this Scalebar object. When true, labels can overlap. When false, labels will not overlap the symbol.
setPrecision	Int (precision)	Sets precision value for this ScaleBar object.
setRound	Double (round)	Sets the number of digits to round.
setScaleUnits	String (feet, kilometers, meters, miles)	Sets the scale units for this ScaleBar object.



Method	Values	Description
setScreenLength	Int (screen length)	Sets the screen length value for this ScaleBar object.
setTextTransparency	Double (text transparency)	Sets the text transparency value for this ScaleBar object.
setX	Double (X coordinate)	Sets the X-coordinate value of this ScaleBar object.
setY	Double (Y coordinate)	Sets the Y-coordinate value of this ScaleBar object.

## NorthArrow

### Class:

[NorthArrow](#)

### Package:

[com.esri.aims.mtier.model.acetate](#)

Methods	Values	Description
setAngle	Double (angle)	Sets the angle of the north arrow in degrees.
setAntialiasing	Boolean (antialiasing)	Sets the antialiasing value for this NorthArrow object.
setArrowType	String (1,2,3,4,5,6,7,8)	Sets the arrow type value for this NorthArrow object.
setOutline	String (color)	Sets the outline color for this NorthArrow object.
setOverlap	Boolean (overlap)	Sets if labels can overlap this NorthArrow object.

Methods	Values	Description
setShadow	String (shadow color)	Sets the shadow color for this NorthArrow object.
setSize	Int (size)	Sets the given value as size for this NorthArrow object.
setTransparency	Double (transparency)	Sets the percentage of transparency for this object.
setX	Double (X coordinate location)	Sets the X-coordinate location for this object.
setY	Double (Y coordinate location)	Sets the Y-coordinate location for this NorthArrow object.

## ArrowMarkerSymbol

**Class:**[ArrowMarkerSymbol](#)**Package:**[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double (angle (in))	Marker symbol angle.
setColor	IColor (reference to the com.esri.arcgis.display.IColor (in))	Marker symbol color.
setLength	Double (length (in))	Marker symbol length.
setMapLevel	Int (MapLevel (in))	Current map level for drawing multi-level symbols.

Methods	Values	Description
setROP2	Int <code>com.esri.arcgis.display.esriRasterOpCode</code> <code>constant (in)</code>	Raster operation code for pixel drawing.
setRotateWithTransform	Boolean (flag (in))	Indicates if the symbol rotates with the display.
setSize	Double (size (in))	Marker symbol size.
setStyle	Int (0 - esriAMSPlain)	Arrow marker style.
setWidth	Double (width (in))	Arrow marker width.
setXOffset	Double (xOffset (in))	Symbol X-axis offset from point location.
setYOffset	Double (yOffset (in))	Symbol Y-axis offset from point location.

## Barchartsymbol

### Class:

`Barchartsymbol`

### Package:

`com.esri.arcgis.display`

Methods	Type Values	Description
setAngle	Double (angle (in))	Marker symbol angle.
setColor	IColor (Reference to a <code>com.esri.arcgis.display.IColor</code> (in))	Marker symbol color.
setDisplay3D	Boolean (flag (in))	Indicates if the chart symbol is 3D.
setMaxValue	Double (value (in))	The maximum value.

Methods	Type Values	Description
setROP2	Int <code>com.esri.arcgis.display.esriRasterOpCode</code> <code>constant (in)</code>	Raster operation code for pixel drawing.
setShowAxes	Boolean (flag (in))	Indicates if the axis are shown.
setSize	Double (size (in))	Marker symbol size.
setSpacing	Double (points (in))	The spacing between bars in points.
setThickness	Double (points (in))	3D thickness of the chart symbol.
setTilt	Int (angle (in))	Tilt of 3D Display (0-90 degrees).
setVerticalBars	Boolean (flag (in))	Indicates if the bars are oriented vertically.
setWidth	Double (points (in))	Arrow marker width.
setXOffset	Double (xOffset (in))	Symbol X-axis offset from point location.
setYOffset	Double (yOffset (in))	Symbol Y-axis offset from point location.

## CartographicLineSymbol

**Class:**`CartographicLineSymbol`**Package:**

`com.esri.arcgis.display`

Methods	Type	Description
Values		
setCap	Int	Line end cap style.
setColor	IColor	Line symbol color.
setDecorationOnTop	Boolean	Indicates if the decoration is drawn on top.
setFlip	Boolean	Indicates if the line symbol is flipped.
setJoin	Int (0 - esriLCSMitre (default), 1 - esriLJSRound, 2 - esriLJSBeve)	Line join style.
setLineStartOffset	Double	The line start offset.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setMiterLimit	Double	Size threshold for showing mitered line joins.
setOffset	Double	The line offset value.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setWidth	Double	Line symbol width.

## Available With ArcGIS Server

### SimpleMarkerSymbol

#### Class:

`SimpleMarkerSymbol`

**Package:**`com.esri.arcgis.display`

Methods	Values	Description
setAngle	Double	Marker symbol angle.
setColor	IColor	Marker symbol color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setOutline	Boolean	Indicates if the symbol outline will draw.
setOutlineColor	IColor	Outline color.
setOutlineSize	Double	Outline diameter.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setRotateWithTransform	Boolean	Indicates if the symbol rotates with the display.
setSize	Double	Marker symbol size.
setStyle	Int (0 - esriSMSCircle (default), 1 - esriSMSSquare, 2 - esriSMSCross, 3 - esriSMSX, 4 - esriMSMDiamond)	Marker style.
setXOffset	Double	Symbol X-axis offset from point location.
setYOffset	Double	Symbol Y-axis offset from point location.

## SimpleLineSymbol

**Class:**

`SimpleLineSymbol`

**Package:**

`com.esri.arcgis.display`

Methods	Values	Description
<code>setColor</code>	<code>IColor</code>	Line symbol color.
<code>setMapLevel</code>	<code>Int</code>	Current map level for drawing multi-level symbols.
<code>setROP2</code>	<code>Int (drawmode)</code>	Raster operation code for pixel drawing.
<code>setStyle</code>	<code>Int (0 - esriSLSSolid, 1 - esriSLSDash, 2 - esriSLSDot, 3 - esriSLSDashDot, 4 - esriSLSDashDotDot, 5 - esriSLSNull, 6 - esriSLSInsideFrame)</code>	Marker style.
<code>setWidth</code>	<code>Double</code>	Line symbol width.

## SimpleFillSymbol

**Class:**

`SimpleFillSymbol`

**Package:**

`com.esri.arcgis.display`

Methods	Values	Description
<code>setColor</code>	<code>IColor</code>	Fill color.

Methods	Values	Description
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setStyle	Int (0 - esriSFSSolid, 1 - esriSMSSquare, esriSFSNull, 2 - esriSFSHollow, 3 - esriSFSHorizontal, 4 - esriSFSVertical, 5 - esriSFSForwardDiagonal, 6 - esriSFSBackwardDiagonal, 7 - esriSFSCross, 8 - esriSFSDiagonalCross)	Fill style.

## PieChartSymbol

### Class:

[PieChartSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double	Marker symbol angle.
setClockwise	Boolean	Indicates if the slices are drawn in a clockwise direction.
setColor	IColor	Marker symbol color.
setDisplay3D	Boolean	Indicates if the chart symbol is 3D.
setMaxValue	Double	The maximum value.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.



Methods	Values	Description
setSize	Double	Marker symbol size.
setThickness	Double	3D thickness of the chart symbol.
setTilt	Int	Tilt of 3D Display (0-90 degrees).
setUseOutline	Boolean	Indicates if the outline symbol is drawn.
setXOffset	Double	Symbol X-axis offset from point location.
setYOffset	Double	Symbol Y-axis offset from point location.

## PictureMarkerSymbol

### Class:

[PictureMarkerSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double	Marker symbol angle.
setBackgroundColor	IColor	Background color of the picture for 1-bit images.
setBitmapTransparencyColor	IColor	Color within bitmap indicating transparency.
setColor	IColor	Marker symbol color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.

Methods	Values	Description
setRotateWithTransform	Boolean	Indicates if the symbol rotates with the display.
setSize	Double	Marker symbol size.
setSwapForegroundBackgroundColor	Boolean	Indicates if the foreground and background colors are swapped on 1-bit images only.
setXOffset	Double	Symbol X-axis offset from point location.
setXScale	Double	Symbol scale along X-axis.
setXOffset	Double	Symbol X-axis offset from point location.
setYOffset	Double	Symbol Y-axis offset from point location.

## PictureLineSymbol

### Class:

[PictureLineSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setBackgroundColor	IColor	Line background color.
setBitmapTransparencyColor	IColor	Color within bitmap, indicating transparency.
setColor	IColor	Line symbol color.

Methods	Values	Description
setMapLevel	Int	Current map level for drawing multi-level symbols.
setOffset	Double	Picture offset from center of line.
setROP2	Int (drawmode)	Picture offset from center of line.
setRotate	Boolean	Indicates if the picture is rotated to follow the line.
setSwapForegroundBackGroundColor	Boolean	Indicates if the foreground and background colors are swapped on 1-bit images only.
setWidth	Double	Line symbol width.
setXScale	Double	Scale of picture along X-axis.
setYScale	Double	Scale of picture along Y-axis.

## PictureFillSymbol

### Class:

`PictureFillSymbol`

### Package:

`com.esri.arcgis.display`

Methods	Values	Description
setAngle	Double	Angle of picture fill.
setBackgroundColor	IColor	Fill background color.
setBitmapTransparencyColor	IColor	Color within bitmap indicating transparency.

Methods	Values	Description
setColor	IColor	Fill color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setSwapForegroundBackGroundColor	Boolean	Indicates if the foreground and background colors are swapped on 1-bit images only.
setXOffset	Double	Fill offset along X-axis.
setXScale	Double	Scale of picture fill along X-axis.
setXSeparation	Double	Fill element separation along X-axis.
setYOffset	Double	Fill offset along Y-axis.
setYScale	Double	Scale of picture fill along Y-axis.
setYSeparation	Double	Fill element separation along Y-axis.

## MultiLayerLineSymbol

### Class:

[MultiLayerLineSymbol](#)

**Package:**

Class `com.esri.arcgis.display`

Methods	Values	Description
<code>setAllColorLocked</code>	Boolean	Indicates if the color is locked for all layers.
<code>setAllVisible</code>	Boolean	Indicates if all the layers are visible or invisible.
<code>setColor</code>	IColor	Fill color.
<code>setMapLevel</code>	Int	Current map level for drawing multi-level symbols.
<code>setROP2</code>	Int (drawmode)	Raster operation code for pixel drawing.
<code>setWidth</code>	Double	Line symbol width.

**MultiLayerFillSymbol****Class:**

`MultiLayerFillSymbol`

**Package:**

`com.esri.arcgis.display`

Methods	Values	Description
<code>setAllColorLocked</code>	Boolean	Indicates if the color is locked for all layers.
<code>setAllVisible</code>	Boolean	Indicates if all the layers are visible or invisible.
<code>setColor</code>	IColor	Fill color.

Methods	Values	Description
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.

## MultiLayerMarkerSymbol

### Class:

[MultiLayerMarkerSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAllColorLocked	Boolean	Indicates if the color is locked for all layers.
setAllVisible	Boolean	Indicates if all the layers are visible or invisible.
setColor	IColor	Fill color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (rawmode)	Raster operation code for pixel drawing.
setMaskSize	Double	The mask size.
setMaskStyle	Int (esriMaskStyle)	The mask style.
setRotateWithTransform	Boolean	Indicates if the symbol rotates with the display.
setSize	Double	Marker symbol size.

Methods	Values	Description
setXOffset	Double	Symbol X-axis offset from point location.
setYOffset	Double	Symbol Y-axis offset from point location.

## CharacterMarkerSymbol

### Class:

[CharacterMarkerSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Value	Description
setAngle	Double	Marker symbol angle.
setCharacterIndex	Int	Character index within font.
setColor	IColor	Marker symbol color.
setFontBold	Boolean	
setFontCharset	Short	
setFontItalic	Boolean	
setFontName	String	
setFontSize	Long	
setFontStrikethrough	Boolean	
setFontUnderline	Boolean	
setFontWeight	Short	

Methods	Value	Description
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setRotateWithTransform	Boolean	Indicates if the symbol rotates with the display.
setSize	Double	Marker symbol size.
setXOffset	Double	Symbol X-axis offset from point location.
setXScale	Double	Symbol scale along X-axis.
setYOffset	Double	Symbol Y-axis offset from point location.
setYScale	Double	Symbol scale along Y-axis.

## DotDensityFillSymbol

### Class:

[DotDensityFillSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setBackgroundColor	IColor	The background color.
setColor	IColor	Fill color.
setDotSize	Double	The size of dots used to fill.
setDotSpacing	Double	The distance between dot centers, expressed as a percentage of dot size.



Methods	Values	Description
setExcludeMask	Boolean	Indicates if the dots are to be excluded from the mask area.
setFixedPlacement	Boolean	Indicates if the dots are always placed at the same location (the alternative is random placement).
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setUseMasking	Boolean	Indicates if masking is used.

## GradientFillSymbol

### Class:

[GradientFillSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setColor	IColor	Fill color.
setGradientAngle	Double	Direction of fill gradient.
setGradientPercentage	Double	Gradient percentage controls the bleeding effect of the fill.
setIntervalCount	Int	Interval count controls the number of colors in the color ramp.
setMapLevel	Int	Current map level for drawing multi-level symbols.

Methods	Values	Description
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setStyle	Int (esriGradientFillStyle)	Gradient fill style.

## HashLineSymbol

### Class:

[HashLineSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double	Hash line angle.
setCap	Int	Line end cap style.
setColor	IColor	Line symbol color.
setDecorationOnTop	Boolean	Indicates if the decoration is drawn on top.
setFlip	Boolean	Indicates if the line symbol is flipped.
setJoin	Int (esriLineJoinStyle)	Line join style.
setLineStartOffset	Double	The line start offset.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setMiterLimit	Double	Size threshold for showing mitered line joins.
setOffset	Double	The line offset value.

Methods	Values	Description
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setWidth	Double	Line symbol width.

## LineFillSymbol

### Class:

[LineFillSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double	Line symbol angle within fill.
setColor	IColor	Fill color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setOffset	Double	The line offset value.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setSeparation	Double	Line symbol separation within fill.

## MarkerFillSymbol

### Class:

[MarkerFillSymbol](#)

**Package:**`com.esri.arcgis.display`

Methods	Values	Description
setColor	IColor	Fill color.
setGridAngle	Double	Angle of marker position grid.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setStyle	Int (esriMarkerFillStyle)	Fill style.
setXOffset	Double	Fill offset along X-axis.
setXSeparation	Double	Fill element separation along X-axis.
setYOffset	Double	Fill offset along Y-axis.
setYSeparation	Double	Fill element separation along Y-axis.

**MarkerLineSymbol****Class:**`MarkerLineSymbol`**Package:**`com.esri.arcgis.display`

Methods	Values	Description
setCap	Int (esriLineCapStyle)	Line end cap style.
setColor	IColor	Line symbol color.

Methods	Values	Description
setDecorationOnTop	Boolean	Indicates if the decoration is drawn on top.
setFlip	Boolean	Indicates if the line symbol is flipped.
setJoin	Int (esriLineJoinStyle)	Sets the line join style.
setLineStartOffset	Double	The line start offset.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setMiterLimit	Double	Size threshold for showing mitered line joins.
setOffset	Double	The line offset value.
setROP2	Int	Raster operation code for pixel drawing.
setWidth	Double	Line symbol width.

## TextSymbol

### Class:

[TextSymbol](#)

### Package:

[com.esri.arcgis.display](#)

Methods	Values	Description
setAngle	Double	Text baseline angle.
setBreakCharacter	Int (CharIndex)	Character to be interpreted as text line end.
setCJKCharactersRotation	Boolean	Indicates if CJK characters are rotated.

Methods	Values	Description
setCase	Int (esriTextCase)	The text case.
setCharacterSpacing	Double	The character spacing.
setCharacterWidth	Double	The character width.
setClip	Boolean	Indicates if the text will be clipped per geometry.
setColor	IColor	Text color.
setDirection	Int (esriTextDirection)	The text direction.
setFlipAngle	Double	The flip angle.
setFontBold	Boolean	
setFontCharset	Short	
setFontItalic	Boolean	
setFontName	String	
setFontSize	Long	
setFontStrikethrough	Boolean	
setFontUnderline	Boolean	
setFontWeight	Short	
setHorizontalAlignment	Int (esriHorizontalAlignment)	Horizontal alignment style.
setKerning	Boolean	Indicates if kerning is on.
setLeading	Double	The leading character.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setMargin	Double	Value for the margin.

Methods	Values	Description
setMaskSize	Double	The mask size.
setMaskStyle	Int (esriMaskStyle)	The mask style.
setPosition	Int (esriTextPosition)	The text position.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setRightToLeft	Boolean	Indicates if the text is drawn from right to left.
setRotateWithTransform	Boolean	Indicates if the symbol rotates with the display.
setShadowColor	IColor	The shadow color.
setShadowXOffset	Double	The shadow X offset.
setShadowYOffset	Double	The shadow Y offset.
setSize	Double	Text size.
setText	String	Text to draw.
setTypeSetting	Boolean	Indicates if typesetting is used.
setVerticalAlignment	Int (esriTextVerticalAlignme nt)	Vertical alignment style.
setWordSpacing	Double	The word spacing.
setXOffset	Double	Text offset along X-axis.
setYOffset	Double	Text offset along Y-axis.

## StackedChartSymbol

### Class:

[StackedChartSymbol](#)

**Package:**`com.esri.arcgis.display`

Methods	Values	Description
setAngle	Double	Marker symbol angle.
setColor	IColor	Marker symbol color.
setDisplay3D	Boolean	Indicates if the chart symbol is 3D.
setFixed	Boolean	Indicates if the bars are of a fixed length (the alternative is graduated length bars).
setMaxValue	Double	The maximum value.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.
setSize	Double	Marker symbol size.
setThickness	Double	3D thickness of the chart symbol.
setTilt	Int	Tilt of 3D Display (0-90 degrees).
setUseOutline	Boolean	Indicates if the outline symbol is drawn.
setVerticalBar	Boolean	Indicates if the bar is oriented vertically.
setWidth	Double	The width of the bar in points.
setXOffset	Double	Symbol X-axis offset from point location.
setYOffset	Double	Symbol Y-axis offset from point location.



## CartoRampSymbol

### Class:

[CartoRampSymbol](#)

### Package:

[com.esri.arcgis.carto](#)

Methods	Values	Description
setColor	IColor	Fill color.
setInvert	Boolean	Indicates whether to invert.
setLegendClassIndex	Int	Ordinal number of the legend class for the symbol (0, 1, 2).
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.

## ColorSymbol

### Class:

[ColorSymbol](#)

### Package:

[com.esri.arcgis.carto](#)

Methods	Values	Description
setColor	IColor	Fill color.
setMapLevel	Int	Current map level for drawing multi-level symbols.
setROP2	Int (drawmode)	Raster operation code for pixel drawing.

Available With ArcGIS Server and ArcIMS

CalloutMarkerSymbol

Class:

CalloutMarkerSymbol

Package:

com.esri.aims.mtier.model.map.layer.renderer.symbol

Methods	Values	Description
setAntialiasing	Boolean	Sets the antialiasing value for the CalloutMarkerSymbol.
setBackColor	String	Sets the CalloutMarkerSymbol background color with given a value.
setBoundaryColor	String	Sets the CalloutMarkerSymbol boundary color.
setFont	String	Sets the given font name for this CalloutMarkerSymbol.
setFontColor	String	Sets the font color for this CalloutMarkerSymbol.
setFontSize	Long	Sets the given value as font size for this CalloutMarkerSymbol.
setFontStyle	String	Sets the CalloutMarkerSymbol font style.
setGlowing	String	Sets the given value as glowing color for this CalloutMarkerSymbol.
setInterval	Long	Sets the distance between the point and callout box.
setOutline	String	Sets the outline font color for this CalloutMarkerSymbol.
setShadow	String	Sets the CalloutMarkerSymbol shadow color using a given value.

Methods	Values	Description
setTransparency	Double	Sets the percentage of transparency for this CalloutMarkerSymbol.

## ChartSymbol

### Class:

[ChartSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the antialiasing property as active.
setMaxSize	Long	Sets the maximum size of chart, if size or sizefield is not used.
setMaxValue	Long	Sets the maximum value that corresponds to the minimum chartsize in minsize.
setMinSize	Long	Sets the minimum size of chart, if size or sizefield is not used.
setMinValue	Long	Sets the minimum value that corresponds to the minimum chartsize in minsize.
setMode	String	Sets the mode of the ChartSymbol as Pie or Chart.
setOutline	String	Sets the ChartSymbol outline color value.
setShadow	String	Sets the ChartSymbol shadow color value.
setSize	Long	Sets the size of charts with a given value.

Methods	Values	Description
setSizeField	String	Sets the value of ChartSymbol size field, which corresponds to the field in the database containing the size of the chart.
setTransparency	Double	Sets the ChartSymbol percentage of transparency value.

## GradientFillSymbol

### Class:

[GradientFillSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the antialiasing property as active.
setFillType	String	Sets the fill type for this GradientFillSymbol object.
setFinishColor	String	Sets the GradientFillSymbol end color as a RGB value.
setOverlap	Boolean	Sets the overlap value, which determines if labels can overlap this symbol.
setStartColor	String	Sets the GradientFillSymbol start color as a RGB value.
setTransparency	Double	Sets the percentage of transparency for this GradientFillSymbol.

## HashLineSymbol

### Class:

[HashLineSymbol](#)

**Package:**

`com.esri.aims.mtier.model.map.layer.renderer.symbol`

Methods	Values	Description
setAntialiasing	Boolean	Sets the HashLineSymbol antialiasing value.
setColor	String	Sets the HashLineSymbol color value.
setHashType	String	Sets the HashLineSymbol type value.
setInterval	Long	Sets the distance between railroad crosshashes in pixels.
setLineThickness	Long	Sets the HashLineSymbol line thickness in pixels.
setOverlap	Boolean	Sets the overlap value, which determines if labels can overlap this symbol.
setTickThickness	Long	Sets the HashLineSymbol tick thickness in pixels.
setTransparency	Double	Sets the HashLineSymbol transparency value.
setWidth	Long	Sets the width of the crosshash in pixels.

**RasterFillSymbol****Class:**

`RasterFillSymbol`

**Package:**

`com.esri.aims.mtier.model.map.layer.renderer.symbol`

Methods	Values	Description
setAntialiasing	Boolean	Sets the RasterFillSymbol antialiasing value.
setImage	String	Sets the RasterFillSymbol image value.

Methods	Values	Description
setOverlap	Boolean	Sets the overlap value, which determines if labels can overlap this symbol.
setTransparency	Double	Sets the RasterFillSymbol transparency value.
setURL	String	Sets the RasterFillSymbol URL value.

## RasterMarkerSymbol

### Class:

[RasterMarkerSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the RasterMarkerSymbol antialiasing value.
setHotSpotX	Long	Sets the RasterMarkerSymbol hotspot X value.
setHotSpotY	Long	Sets the RasterMarkerSymbol hotspot Y value.
setImage	String	Sets the RasterMarkerSymbol image location.
setOverlap	Boolean	Sets the RasterMarkerSymbol image location.
setShadow	String	Sets the RasterMarkerSymbol shadow color value.
setSizeX	Long	Sets the RasterMarkerSymbol size X value.
setSizeY	Long	Sets the RasterMarkerSymbol size Y value.
setTransparency	Double	Sets the RasterMarkerSymbol transparency value.
setURL	String	Sets the RasterMarkerSymbol URL location.

Methods	Values	Description
setUseCentroid	Boolean	Sets the RasterMarkerSymbols UseCentroid value.

## RasterShieldSymbol

### Class:

[RasterShieldSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the RasterShieldSymbol antialiasing value.
setFont	String	Sets the RasterShieldSymbol font value.
setFontColor	String	Sets the RasterShieldSymbol font color value.
setFontSize	Long	Sets the RasterShieldSymbol fontsize value.
setFontStyle	String	Sets the RasterShieldSymbol font style value.
setImage	String	Sets the RasterShieldSymbol image value.
setLabelMode	String	Sets the RasterShieldSymbol label mode value.
setPrintMode	String	Sets the RasterShieldSymbol print mode value.
setShadow	String	Sets the RasterShieldSymbol shadow color value.
setTextPosition	String	Sets the RasterShieldSymbol text position value.
setTransparency	Double	Sets the RasterShieldSymbol transparency value.
setURL	String	Sets the RasterShieldSymbol URL value.

## ShieldSymbol

**Class:**`ShieldSymbol`**Package:**`com.esri.aims.mtier.model.map.layer.renderer.symbol`

Methods	Values	Description
setAntialiasing	Boolean	Sets the ShieldSymbol antialiasing value.
setFont	String	Sets the ShieldSymbol font value.
setFontColor	String	Sets the ShieldSymbol font color value.
setFontSize	Long	Sets the ShieldSymbol fontsize value.
setFontStyle	String	Sets the ShieldSymbol font style value.
setLabelMode	String	Sets the ShieldSymbol label mode value.
setMinSize	Long	Sets the ShieldSymbol minsize value.
setShadow	String	Sets the ShieldSymbol shadow color value.
setShieldType	String	Sets the ShieldSymbol shield type value.

## SimpleLineSymbol

**Class:**`SimpleLineSymbol`**Package:**`com.esri.aims.mtier.model.map.layer.renderer.symbol`

Methods	Values	Description
setAntialiasing	Boolean	Sets the antialiasing value for this SimpleLineSymbol.



Methods	Values	Description
setCapType	String (butt, round square)	Sets the line end style for this SimpleLineSymbol.
setColor	String	Sets the SimpleLineSymbol color value.
setJoinType	String (round, miter bevel)	Sets the line join type for this SimpleLineSymbol.
setLineType	String	Sets the SimpleLineSymbol line type value.
setOverlap	Boolean	Sets the SimpleLineSymbol overlap value.
setTransparency	Double	Sets the percentage of transparency for this SimpleLineSymbol.
setWidth	Long	Sets the SimpleLineSymbol width value.

## SimpleMarkerSymbol

### Class:

[SimpleMarkerSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the SimpleMarkerSymbol antialiasing value.
setColor	String	Sets the SimpleMarkerSymbol color value.
setMarkerType	String	Sets the SimpleMarkerSymbol Markertype value.
setOutline	String	Sets the SimpleMarkerSymbol outline value.

Methods	Values	Description
setOverlap	Boolean	Sets the SimpleMarkerSymbol overlap value.
setShadow	String	Sets the SimpleMarkerSymbol shadow value.
setTransparency	Double	Sets the SimpleMarkerSymbol transparency value.
setUseCentroid	Boolean	Sets the SimpleMarkerSymbol UseCentroid value.
setWidth	Long	Sets the SimpleMarkerSymbol width value.

## SimplePolygonSymbol

### Class:

[SimplePolygonSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the SimplePolygonSymbol antialiasing value.
setBoundary	Boolean	Sets the SimplePolygonSymbol boundary value.
setBoundaryCapType	String (butt, round square)	Sets the SimplePolygonSymbol boundary cap type value.
setBoundaryColor	String	Sets the SimplePolygonSymbol boundary color value.
setBoundaryJoinType	String (round, miter bevel)	Sets the SimplePolygonSymbol boundary join type value.

Methods	Values	Description
setBoundaryTransparency	Double	Sets the SimplePolygonSymbols boundary transparency value.
setBoundaryType	String (solid, dash, dot, dash_dot, dash_dot_dot)	Sets the SimplePolygonSymbol boundary type value.
setBoundaryWidth	Long	Sets the SimplePolygonSymbol boundary width value.
setFillColor	String	Sets the SimplePolygonSymbol fill color value.
setFillInterval	Long	Sets the distance between lines for hatch fills.
setFillTransparency	Double	Sets the SimplePolygonSymbol fill transparency value.
setFillType	String	Sets the SimplePolygonSymbol fill type value.
setOverlap	Boolean	Sets the SimplePolygonSymbol overlap, which determines if labels can overlap this symbol.
setTransparency	Double	Sets the percentage of transparency for this SimplePolygonSymbol.

## TextMarkerSymbol

### Class:

[TextMarkerSymbol](#)

### Package:

```
com.esri.aims.mtier.model.map.layer.renderer.symbol
```

Methods	Values	Description
setAngle	Double	Sets the angle of rotation in degrees moving counterclockwise.
setAntialiasing	Boolean	Sets the TextMarkerSymbol antialiasing value.
setBlockout	String	Sets the TextMarkerSymbol blockout color value.
setFont	String	Sets the TextMarkerSymbol font value.
setFontColor	String	Sets the TextMarkerSymbol font color value.
setFontSize	Long	Sets the TextMarkerSymbol font size value.
setFontStyle	String	Sets the TextMarkerSymbol fontstyle value.
setGlowing	String	Sets the TextMarkerSymbol glowing color value.
setHAlignment	String	Sets the horizontal alignment of the label when compared to the label point.
setInterval	Long	Sets the distance between the point and printed label.
setOutline	String	Sets the TextMarkerSymbol outline color value.
setOverlap	Boolean	Sets the TextMarkerSymbol overlap, which determines if labels can overlap this symbol.
setPrintMode	String	Sets the TextMarkerSymbol print mode.
setShadow	String	Sets the shadow color using RGB values for this symbol.
setTransparency	Double	Sets the percentage of transparency for this TextMarkerSymbol.
setVAlignment	String	Sets the vertical alignment of the label when compared to the label point.

## TextSymbol

### Class:

[TextSymbol](#)

### Package:

[com.esri.aims.mtier.model.map.layer.renderer.symbol](#)

Methods	Values	Description
setAntialiasing	Boolean	Sets the TextSymbol antialiasing value.
setBlockout	String	Sets the TextSymbol blockout color value.
setFont	String	Sets the TextSymbol font value.
setFontColor	String	Sets the TextSymbol font color value.
setFontSize	Long	Sets the TextSymbol font size value.
setFontStyle	String (regular, bold, italic, underline, outline, bolditalic)	Sets the TextSymbol fontstyle value.
setGlowing	String	Sets the TextSymbol glowing color value.
setInterval	Long	Sets the TextSymbol distance in pixels from point 0.
setOutline	String	Sets the TextSymbol outline color value.
setPrintMode	String (alllower, allupper, none (default), titlecaps)	Sets the TextSymbol print mode, which determines how labels are printed.
setShadow	String	Sets the TextSymbol shadow color value.
setTransparency	Double	Sets the percentage of transparency of this TextSymbol.

# TrueTypeMarkerSymbol

**Class:**

TrueTypeMarkerSymbol

**Package:**

com.esri.aims.mtier.model.map.layer.renderer.symbol

Methods	Values	Description
setAngle	Double	Sets the TrueTypeMarkerSymbol angle value.
setAngleField	String	Sets the field in the database that contains the angle of rotation for a TrueTypeMarkerSymbol.
setAntialiasing	Boolean	Sets the TrueTypeMarkerSymbol antialiasing value.
setCharacter	Long	Sets the TrueTypeMarkerSymbol character value.
setFont	String	Sets the TrueTypeMarkerSymbol font value.
setFontColor	String	Sets the TrueTypeMarkerSymbol font color value.
setFontSize	Long	Sets the TrueTypeMarkerSymbol font size value.
setFontStyle	String (regular, bold, italic, underline, outline, bolditalic)	Sets the TrueTypeMarkerSymbol fontstyle value.
setGlowing	String	Sets the TrueTypeMarkerSymbol glowing color value.
setOutline	String	Sets the TrueTypeMarkerSymbol outline color value.
setOverlap	Boolean	

Methods	Values	Description
setRotateMethod	String (alllower, allupper, none (default), titlecaps)	Sets the TrueTypeMarkerSymbol print mode, which determines how labels are printed.
setShadow	String	Sets the TrueTypeMarkerSymbol shadow color value.
setUseCentroid	Boolean	
setTransparency	Double	Sets the percentage of transparency of this TrueTypeMarkerSymbol.

Available With ArcGIS API for Flex 1.3

## SimpleMarkerSymbol

### Class:

[SimpleMarkerSymbol](#)

### Package:

[com.esri.ags.symbol](#)

Methods	Values	Description
setColor	unit	Marker symbol color.
setAlpha	Number	Marker symbol alpha (transparency).
setOutline	SimpleLineSymbol	Marker symbol outline.
setSize	Number	Marker symbol size.
setStyle	cross, diamond, square, triangle, x	Marker style.

## SimpleLineSymbol

### Class:

`SimpleLineSymbol`**Package:**`com.esri.ags.symbol`

Methods	Values	Description
setColor	unit	Line symbol color.
setAlpha	Number	Line symbol alpha (transparency).
setWidth	Number	Line symbol width in pixels.
setStyle	String (dash, dashdot, dashdotdot, dot, null, solid)	The line style.

**SimpleFillSymbol****Class:**`SimpleFillSymbol`**Package:**`com.esri.ags.symbol`

Methods	Values	Description
setColor	unit	Fill symbol color.
setAlpha	Number	Fill symbol alpha (transparency).
setOutline	SimpleLineSymbol	The fill outline.
setStyle	backwarddiagonal, cross, diagonalcross, forwarddiagonal, horizontal, null, solid, vertical	Fill symbol style.



## PictureMarkerSymbol

### Class:

`PictureMarkerSymbol`

### Package:

`com.esri.ags.symbol`

Methods	Values	Description
<code>setWidth</code>	Number	Image width.
<code>setHeight</code>	Number	Image height.
<code>setAngle</code>	Number	The angle of the marker.
<code>setSource</code>	String	Source of the image.
<code>setXoffset</code>	Number	The offset on the X-axis in pixels.
<code>setYoffset</code>	Number	The offset on the Y-axis in pixels.

## PictureFillSymbol

### Class:

`PictureFillSymbol`

### Package:

`com.esri.ags.symbol`

Methods	Values	Description
<code>setWidth</code>	Number	Image width.
<code>setOutline</code>	<code>SimpleLineSymbol</code>	The fill outline.
<code>setHeight</code>	Number	Image height.
<code>setSource</code>	String	Source of the image.

Methods	Values	Description
setXoffset	Number	The offset on the X-axis in pixels.
setXscale	Number	Scale in X direction.
setYoffset	Number	The offset on the Y-axis in pixels.
setYscale	Number	Scale in Y direction.

## CompositeSymbol

### Class:

[CompositeSymbol](#)

### Package:

[com.esri.ags.symbol](#)

Used to draw multiple symbols on a single graphic. The symbols can be a combination of point, line, and fill symbols. For example, on polyline and polygon features, a SimpleMarkerSymbol can be used for each node. Uses the ArrayCollection of the symbol objects to draw the respective symbols. Combination of any of the symbols drawn with com.esri.ags.symbol classes.

## TextSymbol

### Class:

[TextSymbol](#)

### Package:

[com.esri.ags.symbol](#)

Methods	Values	Description
setAlpha	Number (0 - 1)	The text alpha (transparency).
setAngle	Number	The angle of the TextSymbol.
setBackground	Boolean	Specifies whether the text field has a background fill.

Methods	Values	Description
setBorder	Boolean	Specifies whether the text field has a border.
setBorderColor	unit	The color of the text field border.
setColor	unit	The text color.
setHtmlText	String	Contains the HTML representation of the text field contents.
setText	String	The text string to display.
setTextAttribute	String	The string representing the attribute of the graphic that should populate the text content.
setXoffset	Number	The X offset value in pixels.
setYoffset	Number	The Y offset value in pixels.
setFont	String	The name of the font for text in this text format, as a string.
setFontSize	Number	The size of text in pixels. The default value is null, which means that a size of 12 is used.
setFontStyle	String (regular, italic, bold, underline, bold italic)	The style of the font.
setFontColor	Unit	The color of the font.

## Constants

This section lists and describes the constants that are used to configure the WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcIMS.

## drawmode

Constant	Value	Description
esriROPBlack	1	Pixel is always 0.
esriROPNotMergePen	2	Pixel is the inverse of the esriROPMergePen color.
esriROPMaskNotPen	3	Pixel is a combination of the colors common to both the screen and the inverse of the pen.
esriROPNotCopyPen	4	Pixel is the inverse of the pen color.
esriROPMaskPenNot	5	Pixel is a combination of the colors common to both the pen and the inverse of the screen.
esriROPNot	6	Pixel is the inverse of the screen color.
esriROPXOrPen	7	Pixel is a combination of the colors in the pen and in the screen, but not in both.
esriROPNotMaskPen	8	Pixel is the inverse of the esriROPMaskPen color.
esriROPMaskPen	9	Pixel is a combination of the colors common to both the pen and the screen.
esriROPNotXOrPen	10	Pixel is the inverse of the esriROPXOrPen color.
esriROPNOP	11	Pixel remains unchanged.
esriROPMergeNotPen	12	Pixel is a combination of the screen color and the inverse of the pen color.
esriROPCopyPen	13	Pixel is the pen color.
esriROPMergePenNot	14	Pixel is a combination of the pen color and the inverse of the screen color.
esriROPMergePen	15	Pixel is a combination of the pen color and the screen color.
esriROPWhite	16	Pixel is always 1.

**esriMaskStyle**

Constant	Value	Description
esriMSNone	0 (default)	No mask.
esriMSHalo	1	The text mask style is halo.

**esriGradientFillStyle**

Constant	Value	Description
esriGFSLinear	0	Linear Gradient Fill Style.
esriGFSSRectangular	1	Rectangular Gradient Fill Style.
esriGFSCircular	2	Circular Gradient Fill Style.
esriGFSBuffered	3	Buffered Gradient Fill Style.

**esriLineJoinStyle**

Constant	Value	Description
esriLJSMitre	0	Line joins are mitred.
esriLJSRound	1	Line joins are round.
esriLJSBevel	2	Line joins are beveled.

**esriMarkerFillStyle**

Constant	Value	Description
esriMFSGrid	0 (default)	Fill symbol markers are placed in a grid.

Constant	Value	Description
esriMFSRandom	1	Fill symbol markers are placed randomly.

## esriLineCapStyle

Constant	Value	Description
esriLCSEButt	0 (default)	Line ends do not extend past the end points.
esriLCSERound	1	Line ends are rounded at the end points.
esriLCSESquare	2	Line ends are squared off at the end points.

## esriTextVerticalAlignment

Constant	Value	Description
esriTVATop	0	The text is aligned at the top.
esriTVACenter	1	The text is aligned at the center.
esriTVABaseline	2	The text is aligned at the baseline.
esriTVABottom	3	The text is aligned at the bottom.

## esriTextHorizontalAlignment

Constant	Value	Description
esriTHALeft	0 (default)	The text is left justified.
esriTHACenter	1	The text is center justified.

Constant	Value	Description
esriTHARight	2	The text is right justified.
esriTHAFull	3	The text is fully justified.

### esriTextDirection

Constant	Value	Description
esriTDHorizontal	0	The text draws horizontally.
esriTDAngle	1	The text draws along an angle.
esriTDVertical	2	The text draws vertically.

### esriTextCase

Constant	Value	Description
esriTCNormal	0	The text draws normally.
esriTCLowercase	1	The text draws as all lowercase.
esriTCAIICaps	2	The text draws as all capitals.
esriTCSmallCaps	3	The text draws as small capitals.

### esriTextPosition

Constant	Value	Description
esriTPNormal	0	The text draws normally.
esriTPSuperscript	1	The text draws as superscript text.
esriTPSubscript	2	The text draws as subscript text.





## Symbol Class Settings and Parameters

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The following section provides definitions of symbol settings and includes the parameters that can be specified.

**In this appendix:**

- ☐ [SimpleLineSymbol](#)
  - ☐ [SimplePolygonSymbol](#)
  - ☐ [SimpleMarkerSymbol](#)
  - ☐ [RasterMarkerSymbol](#)
  - ☐ [TrueTypeMarkerSymbol](#)
  - ☐ [CallOutMarkerSymbol](#)
  - ☐ [TextMarkerSymbol](#)
- 

### SimpleLineSymbol

The *SimpleLineSymbol* setting is used to define line features on a map. Default parameter values are indicated in brackets [ ].

#### setAntialiasing

Use *setAntialiasing* to make the edges of a line smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

#### setCapType

Use *setCapType* to specify the end style for a line.

Parameters:

```
setCapType="butt|round|square" [butt]
```

## setColor

Use `setColor` to specify the color of a line using RGB values.

Parameters:

```
setColor="0,0,0-255,255,255" [0,0,0]
```

## setJoinType

Use `setJoinType` to specify the join style for a line.

Parameters:

```
setJoinType="round|miter|bevel" [round]
```

## setOverlap

Use `setOverlap` to determine if a label can overlap a line. When set to *true*, labels can overlap a line. When set to *false*, labels will not overlap a line.

Parameters:

```
setOverlap="true|false" [true]
```

## setTransparency

Use `setTransparency` to set the percentage of transparency for a line.

Parameters:

```
setTransparency="0.0-1.0" [1.0]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

## setLineType

Use `setLineType` to select a line style.

Parameters:

```
setLineType="solid|dash|dot|dash_dot|dash_dot_dot" [solid]
```

## setWidth

Use `setWidth` to set the width of a line in pixels.

Parameters:

```
setWidth="0-NNN" [0]
```

## SimplePolygonSymbol

The *SimplePolygonSymbol* setting is used to define polygon features on a map. Default parameter values are indicated in brackets [ ].

Take note of the following guidelines when using the *SimplePolygonSymbol* in your map:

- ❑ For more complex boundary symbols, *SimpleLineSymbol* can be used on polygon layers.
- ❑ Transparency takes precedence over *setFillTransparency* and *setBoundaryTransparency*.
- ❑ To make the fill and boundary of a polygon transparent, perform the following:

```
setFillTransparency="0.0"
```

and

```
setBoundaryTransparency="0.0"
```

Do not use *setTransparency*.

## setAntialiasing

Use *setAntialiasing* to make the edges of a polygon smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

## setBoundary

Use *setBoundary* to enable or disable a boundary for a polygon.

Parameters:

```
setBoundary="true|false" [true]
```

## setBoundaryCapType

Use *SetBoundaryCapType* to specify the boundary cap type value for a polygon.

Parameters:

```
setBoundaryCapType="butt|round|square" [butt]
```

## setBoundaryColor

Use *setBoundaryColor* to specify the boundary color of a polygon using RGB values.

Parameters:

```
setBoundaryColor="0,0,0-255,255,255" [0,0,0]
```

## setBoundaryJoinType

Use *setBoundaryJoinType* to specify the boundary join type for a polygon.

Parameters:

```
setBoundaryJoinType="round|miter|bevel" [round]
```

## setBoundaryTransparency

Use *setBoundaryTransparency* to specify the percentage of transparency for the polygon boundaries.

Parameters:

```
setBoundaryTransparency="0.0-1.0" [1.0]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

## setBoundaryType

Use *setBoundaryType* to specify the boundary type of a polygon.

Parameters:

```
setBoundaryType="solid|dash|dot|dash_dot|dash_dot_dot" [solid]
```

## setBoundaryWidth

Use *setBoundaryWidth* to specify the boundary width of a polygon in pixels.

Parameters:

```
setBoundaryWidth="1-NNN" [1]
```

## setFillColor

Use *setFillColor* to specify the fill color value of a polygon.

Parameters:

```
setFillColor="0,0,0-255,255,255" [0,200,0]
```

## setFillInterval

Use *setFillInterval* to specify the distance between lines for hatch fills.

Parameters:

```
setFillInterval="2-NNN" [6]
```

## setFillTransparency

Use *setFillTransparency* to specify the fill transparency value of a polygon.

Parameters:

```
setFillTransparency="0.0-1.0" [0]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

## setFillType

Use *setFillType* to specify the fill type of a polygon.

Parameters:

```
setFillType="solid|bdiagonal|fdiagonal|cross|diagcross|horizontal|  
vertical|gray|lightgray|darkgray" [solid]
```

## setOverlap

Use *setOverlap* to determine if labels can overlap a polygon. When set to *true*, labels can overlap a polygon. When set to *false*, labels will not overlap a polygon.

Parameters:

```
setOverlap="true|false" [true]
```

## setTransparency

Use *setTransparency* to specify the percentage of transparency for a polygon.

Parameters:

```
setTransparency="0.0-1.0" [no default]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

## SimpleMarkerSymbol

The *SimpleMarkerSymbol* setting is used to define point features on a map.

The following table lists the symbols that are supported by ArcGIS Server (ArcIMS).

Shape	ArcIMS	ArcGIS Server
Circle	✓	✓
Cross	✓	✓
Diamond		✓
Square	✓	✓
Star	✓	✓
Triangle	✓	✓
X		✓

**Note:** In the following sections, default parameter values are indicated in brackets [ ].

### setAntialiasing

Use *setAntialiasing* to make the edges of a marker smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

`setAntialiasing="true|false" [false]`

### setColor

Use *setColor* to specify the color value of a point feature.

Parameters:

`setColor="0,0,0-255,255,255" [0,0,0]`

### setMarkerType

Use *setMarkerType* to specify the type value of a point feature.

Parameters:

```
setMarkerType="circle|triangle|square|cross|star" [circle]
```

## setOutline

Use *setOutline* to specify the color value of the outline in a point feature.

Parameters:

```
setOutline="0,0,0-255,255,255" [no default]
```

## setOverlap

Use *setOverlap* to determine if labels can overlap a point feature. When set to *true*, labels can overlap a point feature. When set to *false*, labels will not overlap a point feature.

Parameters:

```
setOverlap="true|false" [true]
```

## setShadow

Use *setShadow* to specify the color value of the shadow in a point feature.

Parameters:

```
setShadow="0,0,0-255,255,255" [no default]
```

## setTransparency

Use *setTransparency* to specify the transparency value of a point feature.

Parameters:

```
setTransparency="0.0-1.0" [1.0]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

## setUseCentroid

Use *setUseCentroid* to specify the UseCentroid value in a point feature. By default, a point feature used on polygon layers draws markers at all polygon vertices. If *setUseCentroid* is set to *true*, a point feature is placed in the centroid of the polygon. If multiple polygon parts exist, the point feature falls on the part with the biggest area.

Parameters:

```
setUseCentroid="true|false" [true]
```

## setWidth

Use *setWidth* to specify the width of a point feature in pixels.

Parameters:

```
setWidth="1 - NNN" [3]
```

## RasterMarkerSymbol

The *RasterMarkerSymbol* setting is used to symbolize point features on a map using a specified raster image. Default parameter values are indicated in brackets [ ].

In the legend of ArcGIS Server (ArcIMS) Java Viewers and ArcExplorer 4, the swatch showing a symbol is limited in size. Images greater than approximately 16x16 pixels in size are truncated to fill the swatch. The full image displays on the map.

Acceptable image formats include JPG and GIF.

## setAntialiasing

Use *setAntialiasing* to make the edges of a raster image smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

## setHotSpot

Use *setHotSpot* to specify the hotspot value of a raster image that serves as a marker symbol. Determines where marker symbol is placed in relation to actual x,y location of the point the marker symbol represents. A hotspot of 0,0 places the point at the top left corner of the marker symbol. X,y coordinates are positive and measured in pixels. The default hotspot centers the marker symbol over the point based on its actual size. For example, if a marker symbol is 16x16 pixels, the default location is 8,8. If the size attribute is set to 32x32, the default hotspot center is still 8,8.

Parameters:

```
setHotSpot="0,0-N,N" [centered]
```



## setImage

Use *setImage* to specify the location of the raster image. The ArcGIS (ArcIMS) Spatial Server uses this path name to find the image and add it to the map. UNC path names can also be used (for example, `\\myComputer\arcims\output`).

Parameters:

```
setImage="C:/ArcIMS/symbols/marker.jpg"
```

## setOverlap

Use *setOverlap* to specify the overlap value of the raster image, which determines if labels can overlap this symbol. When set to *true*, labels can overlap. When set to *false*, labels will not overlap a raster image.

Parameters:

```
setOverlap="true|false" [true]
```

## setShadow

Use *setShadow* to specify the shadow color value of a raster image.

Parameters:

```
setShadow="0,0,0-255,255,255" [no default]
```

## setSize

Use *setSize* to resize the raster image using pixel dimensions. The default size is the actual width and height of the marker symbol. If `size="0,0"` is specified, the ImageServer writes a warning message to the log file and uses the default size settings.

Parameters:

```
setSize="1,1-N,N" [no default]
```

## setTransparency

Use *setTransparency* to specify the transparency value for a raster image.

Parameters:

```
setTransparency="0.0-1.0" [1.0]
```

**Note:** 1.0 is 0 percent transparent and 0.0 is 100 percent transparent.

### setURL

Use *setURL* to specify the URL location of a raster image.

Parameters:

```
setURL="http://www.mapper.com/symbols/marker.jpg"
```

### setUseCentroid

Use *setUseCentroid* to specify the UseCentroid value of a raster image. By default, a marker symbol used on polygon layers draws markers at all polygon vertices. If usecentroid is set to *true*, the marker is placed in the centroid of the polygon. If multiple polygon parts exist, the marker falls on the part with the biggest area.

Parameters:

```
setUseCentroid="true|false" [true]
```

## TrueTypeMarkerSymbol

The *TrueTypeMarkerSymbol* is used to display features on a map using TrueType font characters. Default parameter values are indicated in brackets [ ].

### setAngle

Angle of rotation in degrees.

Parameters:

```
setAngle="0.0 - 360.0" [0]
```

### setAngleField

The field in the database that contains the angle of rotation for a TRUETYPEMARKERSYMBOL. The field can be in the layer table or in a joined table. Performance is generally better if the field name is all uppercase. When joined tables or fully qualified ArcSDE names are used for the field name in a map definition file, this file cannot be read locally in ArcGIS Server (ArcIMS) Author or ArcExplorer 9.

- ☐ For shapefiles with no joined tables, the field can be referenced using the short format.

```
anglefield="AREA"
```

- ☐ For shapefiles with joined tables, the name of the joined table must be included along with the field.

```
anglefield="JOINEDTABLE.AREA"
```

- ❑ For ArcSDE layers without joined tables, the field can be referenced using the short format.

```
anglefield="AREA"
```

```
anglefield="ARCSDENAME.TABLE.AREA"
```

- ❑ For ArcSDE layers with joined tables, joined fields must be referenced using the fully qualified format.

```
anglefield="ARCSDENAME.TABLE.AREA"
```

If both *angle* and *anglefield* are used, the attribute *angle* takes precedence.

Parameters:

```
setAngleField="string"
```

## setAntialiasing

Use *setAntialiasing* to make the edges of a line smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

## setCharacter

Text character ASCII value. The character must be a value between 32 and 65535 in a character map for fonts. Characters 0-31 are nonprintable and cannot be used.

Parameters:

```
setCharacter="32-65535" [ ]
```

## setFont

Font name. The name is case-sensitive. If font name uses an ampersand (&), use &amp; instead. For example, ESRI Transportation & Civic should be written as ESRI Transportation && Civic. For Feature Services, the font must reside on the client machine or else the system default font is used.

Parameters:

```
setFont= "Any system font" [Arial]
```

### setFontColor

Font color using RGB values.

Parameters:

```
setFontcolor="0,0,0 - 255,255,255" [0,0,0]
```

### setFontSize

Font size.

Parameters:

```
setFontSize="1 - NNN" [12]
```

### setFontStyle

Font style.

Parameters:

```
setFontstyle="regular | bold | italic | underline | outline | bolditalic"  
[regular]
```

### setGlowing

Glow color around symbol using RGB values.

Parameters:

```
setGlowing="0,0,0 - 255,255,255"
```

### setOutline

Outline color using RGB values.

Parameters:

```
setOutline="0,0,0 - 255,255,255"
```

### setOverlap

Determines if labels can overlap this symbol. When set to *true*, labels can overlap. When set to *false*, labels will not overlap the symbol. If labels are not drawing as expected, check if overlap is set to *false* for this symbol or any other symbol in the ArcGIS Server (ArcIMS) service.

Parameters:

```
setOverlap="true | false" [true]
```

## setRotateMethod

The following methods of calculating angles are available and apply to both angle and anglefield:

- ☐ **geographic.** An angle of 0 is north, and angles are calculated clockwise from north.
- ☐ **arithmetic.** An angle of 0 is east, and angles are calculated counterclockwise from east.
- ☐ **mod\_arithmetic.** An angle of 0 is north, and angles are calculated counterclockwise from north.

Parameters:

```
setRotateMethod="geographic | arithmetic | mod_arithmetic"
[mod_arithmetic]
```

## setShadow

Shadow color using RGB values.

Parameters:

```
setShadow="0,0,0 - 255,255,255"
```

## setTransparency

Value to set percentage of transparency. A value of 1.0 is 0 percent transparent and a value of 0.0 is 100 percent transparent.

Parameters:

```
setTransparency="0.0 - 1.0" [1.0]
```

## setUseCentroid

By default, a marker symbol used on polygon layers draws markers at all polygon vertices. If usecentroid is set to *true*, the marker is placed in the centroid of the polygon. If multiple polygon parts exist, the marker falls on the part with the biggest area.

Parameters:

```
setUseCentroid ="true | false" [false]
```

## CallOutMarkerSymbol

The *SimpleLineSymbol* setting creates a callout box around each label. Default parameter values are indicated in brackets [ ].

### setAntialiasing

Use *setAntialiasing* to make the edges of a line smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

### setBoundaryColor

Use *setBoundaryColor* to specify the boundary color of a polygon using RGB values.

Parameters:

```
setBoundaryColor="0,0,0-255,255,255" [0,0,0]
```

### setFont

Font name. The name is case-sensitive. If font name uses an ampersand (&), use &amp; instead. For example, ESRI Transportation & Civic should be written as ESRI Transportation &amp; Civic. For Feature Services, the font must reside on the client machine or else the system default font is used.

Parameters:

```
setFont= "Any system font" [Arial]
```

### setFontColor

Font color using RGB values.

Parameters:

```
setFontcolor="0,0,0 - 255,255,255" [0,0,0]
```

### setFontSize

Font size.

Parameters:

```
setFontSize="1 - NNN" [12]
```

## setFontStyle

Font style.

Parameters:

```
setFontstyle="regular | bold | italic | underline | outline | bolditalic"  
[regular]
```

## setGlowing

Glow color around symbol using RGB values.

Parameters:

```
setGlowing="0,0,0 - 255,255,255"
```

## setInterval

Distance between point and callout box. The smaller number brings box closer to point.

Parameters:

```
setInterval="0 - NNN" [10]
```

## setOutline

Outline color using RGB values.

Parameters:

```
setOutline="0,0,0 - 255,255,255"
```

## setShadow

Shadow color using RGB values.

Parameters:

```
shadow="0,0,0 - 255,255,255"
```

## setTransparency

Value to set percentage of transparency. 1.0 is 0 percent transparent. 0.0 is 100 percent transparent.

Parameters:

```
transparency="0.0 - 1.0" [1.0]
```

### TextMarkerSymbol

The *TextMarkerSymbol* setting is used to define the appearance of the text within a WebFOCUS callout label. Default parameter values are indicated in brackets [ ].

**Restriction:** Outline and glowing should not be used together. Use one or the other.

#### setAngle

Angle of rotation in degrees moving counterclockwise. 0 degrees is horizontal.

Parameters:

```
setAngle="0.0 - 360.0" [0]
```

#### setAntialiasing

Use *setAntialiasing* to make the edges of a line smoother by padding pixels with intermediate colors. When set to *true*, antialiasing is active.

**Note:** When antialiasing is active, the time to generate a map increases.

Parameters:

```
setAntialiasing="true|false" [false]
```

#### setBlockout

Provides a background behind text. Select color using RGB values.

Parameters:

```
setBlockout="0,0,0 - 255,255,255"
```

#### setFont

Font name. The name is case-sensitive. If font name uses an ampersand (&), use &amp; instead. For example, ESRI Transportation & Civic should be written as ESRI Transportation &amp; Civic. For Feature Services, the font must reside on the client machine or else the system default font is used.

Parameters:

```
setFont= "Any system font" [Arial]
```



## setFontColor

Font color using RGB values.

Parameters:

```
setFontcolor="0,0,0 - 255,255,255" [0,0,0]
```

## setFontSize

Font size.

Parameters:

```
setFontSize="1 - NNN" [12]
```

## setFontStyle

Font style.

Parameters:

```
setFontstyle="regular | bold | italic | underline | outline | bolditalic"  
[regular]
```

## setGlowing

Glow color around symbol using RGB values.

Parameters:

```
setGlowing="0,0,0 - 255,255,255"
```

## setInterval

Distance between point and callout box. The smaller number brings box closer to point.

Parameters:

```
setInterval="0 - NNN" [10]
```

## setOutline

Outline color using RGB values.

Parameters:

```
setOutline="0,0,0 - 255,255,255"
```

## setOverlap

Determines if labels can overlap this symbol. When set to *true*, labels can overlap. When set to *false*, labels will not overlap the symbol. If labels are not drawing as expected, check if overlap is set to *false* for this symbol or any other symbol in the ArcGIS Server (ArcIMS) service.

Parameters:

```
setOverlap="true|false" [true]
```

## setPrintmode

Determines how labels are printed. If *none* is used, no change is made to the label: Welcome to WebFOCUS. If *alllower* is used, all letters are lowercase: welcome to webfocus. If *allupper* is used, all letters are uppercase: WELCOME TO WEBFOCUS. If *titlecaps* is used, the first letter of each word in a label is uppercase and everything else is lowercase: Welcome To Webfocus.

Parameters:

```
setPrintmode="titlecaps | allupper | alllower | none" [none]
```

## setTransparency

Value to set percentage of transparency. 1.0 is 0 percent transparent. 0.0 is 100 percent transparent.

Parameters:

```
setTransparency="0.0 - 1.0" [1.0]
```

## setVAlignment

Vertical alignment of label compared to label point.

Parameters:

```
setVAlignment="top | center | bottom" [top]
```

## HTML Color Values

The following section provides HTML color values in RGB formats that are supported by the WebFOCUS GIS Adapter.

### In this appendix:

 [Color Value Table](#)

### Color Value Table

You can use an extensive selection of colors to specify the appearance of your GIS map. You can use named colors or the actual RGB values themselves. The Hexadecimal values are provided for reference only.

Color Name	RGB Value	Hexadecimal Value
ALICEBLUE	240,248,255	#F0F8FF
ANTIQUEWHITE	250,235,215	#FAEBD7
AQUA	0,255,255	#00FFFF
AQUAMARINE	127,255,212	#7FFFD4
AZURE	240,255,255	#F0FFFF
BEIGE	245,245,220	#F5F5DC
BISQUE	255,228,196	#FFE4C4
BLACK	0,0,0	#000000
BLANCHEDALMOND	255,235,205	#FFEBCD
BLUE	0,0,255	#0000FF
BLUEVIOLET	138,43,226	#8A2BE2
BROWN	165,42,42	#A52A2A

Color Name	RGB Value	Hexadecimal Value
BURLYWOOD	222,184,135	#DEB887
CADETBBLUE	95,158,160	#5F9EA0
CHARTREUSE	127,255,0	#7FFF00
CHOCOLATE	210,105,30	#D2691E
CORAL	255,127,80	#FF7F50
CORNFLOWERBLUE	100,149,237	#6495ED
CORNSILK	255,248,220	#FFF8DC
CRIMSON	237,164,61	#DC143C
CYAN	0,255,255	#00FFFF
DARKBLUE	0,0,139	#00008B
DARKCYAN	0,139,139	#008B8B
DARKGOLDENROD	184,134,11	#B8860B
DARKGRAY	167,167,167	#A9A9A9
DARKGREEN	0,100,0	#006400
DARKKHAKI	189,183,107	#BDB76B
DARKMAGENTA	139,0,139	#8B008B
DARKOLIVEGREEN	85,107,47	#556B2F
DARKORANGE	255,140,0	#FF8C00
DARKORCHID	153,50,204	#9932CC
DARKRED	139,0,0	#8B0000
DARKSALMON	233,150,122	#E9967A
DARKSEAGREEN	143,188,143	#8FBC8F

Color Name	RGB Value	Hexadecimal Value
DARKSLATEBLUE	72,61,139	#483D8B
DARKSLATEGRAY	47,79,79	#2F4F4F
DARKTURQUOISE	0,206,209	#00CED1
DARKVIOLET	148,0,211	#9400D3
DEEPPINK	255,20,147	#FF1493
DEEPSKYBLUE	0,191,255	#00BFFF
DIMGRAY	105,105,105	#696969
DODGERBLUE	30,144,255	#1E90FF
FELDSPAR	209,146,117	#D19275
FIREBRICK	178,34,34	#B22222
FLORALWHITE	255,250,240	#FFFAF0
FORESTGREEN	34,139,34	#228B22
FUCHSIA	255,0,255	#FF00FF
GAINSBORO	220,220,220	#DCDCDC
GHOSTWHITE	248,248,255	#F8F8FF
GOLD	255,215,0	#FFD700
GOLDENROD	218,165,32	#DAA520
GRAY	190,190,190	#808080
GREEN	0,128,0	#008000
GREENYELLOW	173,255,47	#ADFF2F
HONEYDEW	240,255,240	#F0FFF0
HOTPINK	255,105,180	#FF69B4

Color Name	RGB Value	Hexadecimal Value
INDIANRED	205,92,92	#CD5C5C
INDIGO	75,0,130	#4B0082
IVORY	255,255,240	#FFFFF0
KHAKI	240,230,140	#F0E68C
LAVENDER	230,230,250	#E6E6FA
LAVENDERBLUSH	255,240,245	#FFF0F5
LAWNGREEN	124,252,0	#7CFC00
LEMONCHIFFON	255,250,205	#FFFACD
LIGHTBLUE	173,216,230	#ADD8E6
LIGHTCORAL	240,128,128	#F08080
LIGHTCYAN	224,255,255	#E0FFFF
LIGHTGOLDENRODYELLOW	250,250,210	#FAFAD2
LIGHTGREY	211,211,211	#D3D3D3
LIGHTGREEN	144,238,144	#90EE90
LIGHTPINK	255,182,193	#FFB6C1
LIGHTSALMON	255,160,122	#FFA07A
LIGHTSEAGREEN	32,178,170	#20B2AA
LIGHTSKYBLUE	135,206,250	#87CEFA
LIGHTSLATEBLUE	132,112,255	#8470FF
LIGHTSLATEGRAY	119,136,153	#778899
LIGHTSTEELBLUE	176,196,222	#B0C4DE
LIGHTYELLOW	255,255,224	#FFFFE0

Color Name	RGB Value	Hexadecimal Value
LIME	0,255,0	#00FF00
LIMEGREEN	50,205,50	#32CD32
LINEN	250,240,230	#FAF0E6
MAGENTA	255,0,255	#FF00FF
MAROON	128,0,0	#800000
MEDIUMAQUAMARINE	102,205,170	#66CDAA
MEDIUMBLUE	0,0,205	#0000CD
MEDIUMORCHID	186,85,211	#BA55D3
MEDIUMPURPLE	147,112,219	#9370D8
MEDIUMSEAGREEN	60,179,113	#3CB371
MEDIUMSLATEBLUE	123,104,238	#7B68EE
MEDIUMSPRINGGREEN	0,250,154	#00FA9A
MEDIUMTURQUOISE	72,209,204	#48D1CC
MEDIUMVIOLETRED	199,21,133	#C71585
MIDNIGHTBLUE	25,25,112	#191970
MINTCREAM	245,255,250	#F5FFFA
MISTYROSE	255,228,225	#FFE4E1
MOCCASIN	255,228,181	#FFE4B5
NAVAJOWHITE	255,222,173	#FFDEAD
NAVY	0,0,128	#000080
OLDLACE	253,245,230	#FDF5E6
OLIVE	128,128,0	#808000

Color Name	RGB Value	Hexadecimal Value
OLIVEDRAB	107,142,35	#6B8E23
ORANGE	255,165,0	#FFA500
ORANGERED	255,69,0	#FF4500
ORCHID	218,112,214	#DA70D6
PALEGOLDENROD	238,232,170	#EEE8AA
PALEGREEN	152,251,152	#98FB98
PALETURQUOISE	175,238,238	#AFEEEE
PALEVIOLETRED	219,112,147	#D87093
PAPAYAWHIP	255,239,213	#FFEFD5
PEACHPUFF	255,218,185	#FFDAB9
PERU	205,133,63	#CD853F
PINK	255,192,203	#FFC0CB
PLUM	221,160,221	#DDA0DD
POWDERBLUE	176,224,230	#B0E0E6
PURPLE	128,0,128	#800080
RED	255,0,0	#FF0000
ROSYBROWN	188,143,143	#BC8F8F
ROYALBLUE	65,105,225	#4169E1
SADDLEBROWN	139,69,19	#8B4513
SALMON	250,128,114	#FA8072
SANDYBROWN	244,164,96	#F4A460
SEAGREEN	46,139,87	#2E8B57



Color Name	RGB Value	Hexadecimal Value
SEASHELL	255,245,238	#FFF5EE
SIENNA	160,82,45	#A0522D
SILVER	192,192,192	#C0C0C0
SKYBLUE	135,206,235	#87CEEB
SLATEBLUE	106,90,205	#6A5ACD
SLATEGRAY	112,128,144	#708090
SNOW	255,250,250	#FFFAFA
SPRINGGREEN	0,255,127	#00FF7F
STEELBLUE	70,130,180	#4682B4
TAN	210,180,140	#D2B48C
TEAL	0,128,128	#008080
THISTLE	216,191,216	#D8BFD8
TOMATO	255,99,71	#FF6347
TURQUOISE	64,224,208	#40E0D0
VIOLET	238,130,238	#EE82EE
VIOLETRED	208,32,144	#D02090
WHEAT	245,222,179	#F5DEB3
WHITE	255,255,255	#FFFFFF
WHITESMOKE	245,245,245	#F5F5F5
YELLOW	255,255,0	#FFFF00
YELLOWGREEN	154,205,50	#9ACD32



# Glossary

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The following section provides definitions of commonly used words relating to the Geographic Business Intelligence Solution.

**Applet**

A program written in Java and designed to be executed from within another application, such as a web browser. Unlike an application, applets cannot be executed directly from the operating system.

**ArcGIS Server**

Server-based software developed by ESRI gives you the ability to create, manage, and distribute GIS services over the web to support desktop, mobile, and web mapping applications.

**ArcIMS**

Server-based software developed by ESRI for delivering dynamic maps and GIS data and services through the web. It provides a highly scalable framework for GIS web publishing.

**ArcSDE**

ESRI object-based spatial data access engine implemented in several commercial relational database management systems using open standards and a true client/server architecture.

ArcSDE is chosen as a means of storing an extremely large number of features in a continuous database.

**Buffer**

A zone around a map feature measured in units of distance. It is used mainly for proximity analysis. There are capabilities of creating multiple buffers using different distances and using them for generating reports.

**Client**

A computer and/or application that allows Internet users to communicate with a server.

<b>ColdFusion</b>	A product created by Allaire Corporation that includes a server and a development toolset designed to integrate databases and webpages. ColdFusion webpages include elements written in ColdFusion Markup Language that simplify integration with databases.
<b>Daemon</b>	Pronounced demon or damon, a process that continuously runs in the background and performs a specified operation at predefined times or in response to certain events. The term daemon is a UNIX term. The Windows equivalent is a System Agent or service.
<b>DHTML</b>	Dynamic HTML. See <i>HTML</i> .
<b>Domain</b>	A group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the Internet protocol (IP) address. All devices sharing a common part of the IP address are said to be in the same domain.
<b>Dynamic Map Service</b>	A service that does not use tiles from a cache to display the map. Instead, the map is drawn by the server each time it is requested. These map services are used by highly focused web applications to serve real-time data (for example, arrests, 911 calls, and so on).
<b>Feature</b>	A point, line, or polygon on a map that represents an entity on the surface of the earth. Features are stored as vector data sets.

**Feature Streaming**

Feature streaming is the process of delivering vector feature data defined for a map service that uses the Feature Server component. On the client side, feature streaming allows you to access a published map and add feature data for overlays, sharing, making EditNotes, and performing analysis. Feature streaming functionality minimizes the need for multiple server requests.

**GBIS**

Geographic Business Intelligence Solution.

**Geocoding**

The mechanism that allows you to use addresses to identify locations on a map.

**Geometry Service**

The geometry service helps applications do geometric calculations such as buffering, simplifying, calculating areas and lengths, and projecting. Additionally, the ArcGIS APIs for JavaScript, Flex, and Silverlight use the geometry service to modify features during web editing. The geometry service provides an alternative to doing these calculations using fine-grained ArcObjects or a geoprocessing service. A geometry service is not accessible to the end user. It is only a helper service.

**Geoprocessing**

A GIS operation used to manipulate GIS data. A typical geoprocessing operation takes an input dataset, performs an operation on that dataset, and returns the result of the operation as an output dataset. Common geoprocessing operations include geographic feature overlay, feature selection and analysis, topology processing, raster processing, and data conversion. Geoprocessing allows for definition, management, and analysis of information used to form decisions.

**Geoprocessing Server**

A computer in a network that is used to handle geoprocessing tasks. Geoprocessing servers may use UNIX or Windows platforms, and include a utility to schedule remote processing.

**Geoprocessing Service**

A geoprocessing service contains geoprocessing tasks accessible by clients. Tasks are created by publishing geoprocessing toolboxes or map documents containing tool layers. When you execute a task in a geoprocessing service, it executes on the server computer, using resources of the server computer.

**GIF**

Graphic Interchange Format. A graphics file format that is common on the web. See also *JPEG* and *PNG*.

**GIS**

Geographic information system. An organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

**Host**

1. A computer system that is accessed by a user working at a remote location. Typically, the term is used when there are two computer systems connected by modems and telephone lines. The system that contains the data is called the host, while the computer at which the user sits is called the remote terminal.

A computer that is connected to a TCP/IP network including the Internet. Each host has a unique IP address.

**HTML**

Hypertext Markup Language. The coding language used to make hypertext documents for use on the web.

**HTTP**

Hypertext Transport Protocol. The way hypertext files move across the Internet. Requires an HTTP client program on one end and an HTTP server program on the other.

<b>HTTPS</b>	Secure Hypertext Transport Protocol. See <i>HTTP</i> .
<b>Image</b>	A form of raster data.
<b>Image Service</b>	Image Services use the Spatial Server image rendering capabilities. When a request is received, a map is generated on the server, and the response is sent back as a JPEG, PNG, or GIF image. A new map image is generated each time a client requests new information.
<b>IMS</b>	Internet Map Server.
<b>Instances</b>	See <i>Threads</i> .
<b>Internet</b>	The global network of computers that communicate through a common protocol, TCP/IP.
<b>Intersect</b>	A spatial selection process of integrating selections of features that fall entirely or partly within a dataset.
<b>Intranet</b>	A network based on TCP/IP inside the firewall of an organization that is accessible only by members, employees, or others with authorization in that organization.
<b>Java</b>	An object-oriented programming language developed by Sun Microsystems. Java provides a complete foundation for building and deploying cross-platform, enterprise applications.

**JavaScript**

A scripting language to enable web authors to design interactive sites. Although it shares many of the features and structures of the full Java language, it was developed independently. JavaScript can interact with HTML source code, enabling web authors to add dynamic content to their sites.

**Java 2 SDK**

Java Software Development Kit. A software development kit for producing Java programs.

**Join**

In relational databases, a join operation matches records in two tables. The two tables must be joined by at least one common field, that is, the join field is a member of both tables.

**JPEG**

Joint Photographic Experts Group. A commonly used image format on the Internet. JPEG is best used for photographs or images that have graduated colors.

**Link**

Allows viewers to click a highlighted item on a webpage and immediately link to another page.

**Map Cache**

This is a very effective way in which an ArcGIS Server distributes maps. The map is tiled and copied at different scales to the ArcGIS Server, which allows the server to render images based on the user request. The ArcGIS Server, therefore, can handle these requests much faster than drawing them on the fly.

**Map Service**

Process of publishing maps in ArcGIS Server. It is the most common ArcGIS Service that makes maps, features, and attribute data available inside many types of client applications.



<b>Metadata</b>	Information about a data set. Metadata for geographical data may include the source of the data, its creation date and format, its projection (scale, resolution, and accuracy), and its reliability with regard to some standard.
<b>Plug-in</b>	Small software applications that extend the functionality of a web browser.
<b>PNG</b>	Portable Network Graphics. A bit-mapped graphics format similar to GIF.
<b>Publish</b>	To make data available through the Internet.
<b>Raster</b>	A cellular data structure composed of rows and columns. Groups of cells represent features. The value of each cell represents the value of the feature. Image data is stored using this structure.
<b>RDBMS</b>	Relational Database Management System. A method of structuring data as collections of tables that are logically associated to each other by shared attributes. Any data element can be found in a relation by knowing the name of the table, the attribute (column) name, and the value of the primary key.
<b>Rendering</b>	The conversion of the geometry, coloring, texturing, lighting, and other characteristics of an object into a display image.

**Scale**

The extent of reduction needed to display a representation of the earth surface on a map. A statement of a measure on the map and the equivalent measure on the earth surface, often expressed as a representative fraction of distance, such as 1:24,000 (one unit of distance on the map represents 24,000 of the same units of distance on the earth). Scale can also be expressed as a statement of device dedicated to storing files. Any user on the network with permission can store files on the server. Equivalence using different units, for example, 1 inch = 1 mile or 1 inch = 2,000 feet.

**Server (Hardware)**

A computer or device on a network that manages network resources. For example, a file server is a computer and storage. Servers are often dedicated, meaning that they perform no other tasks besides their server tasks.

**Server (Software)**

The program that manages resources on the server computer.

**Service**

A Windows process that continuously runs in the background and performs a specified operation at predefined times or in response to certain events. The equivalent UNIX term is a daemon.

**Servlet**

Servlets are modules of Java code that run in a server application (hence the name servlets, similar to applets on the client side) to answer client requests. Servlets are a Java platform technology for extending web servers that provide a component-based, platform-independent method for building web-based applications.

**Shapefile**

A shapefile is a simple, non-topological format for storing the geometric location and attribute information of geographic features.

<b>Spatial Data</b>	Information about the location, shape, and relationships among geographic features.
<b>Spatial Filter</b>	A process of selection using different geometries (for example, point, line, and polygon) in a spatial dataset.
<b>SQL</b>	Structured Query Language. SQL is a standardized query language for requesting information from a database.
<b>Symbology</b>	A graphic pattern used to represent a feature. Many characteristics define symbols including color, size, angle, and pattern.
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol. The group of protocols that defines the Internet.
<b>Threads</b>	Also known as instances. Threads are processes running on a server. The number of threads typically indicates the number of simultaneous connections to an application or process that can occur.
<b>Tiled Map Service</b>	A service that uses a set of prerendered map images stored on the server for rapid retrieval. This is the fastest way to serve maps on the web and is most commonly used to display base layers in web mapping.
<b>URL</b>	Uniform Resource Locator. The standard method to give the address to any Internet resource that is part of the web. A URL looks like this: <a href="http://www.esri.com">www.esri.com</a> .

<b>Vector</b>	A coordinate-based data structure commonly used to represent linear map features. Each linear feature is represented as x,y coordinates. Attributes are associated with the feature.
<b>Virtual Directory</b>	A mapped location on the web server to a physical path.
<b>Virtual Server</b>	A grouping of one or more Spatial Servers into a single unit for administrative purposes. All of the following are Virtual Servers: Image, ArcMap, Feature, Metadata, Route, Geocode, Query, and Extract.
<b>Web Browser</b>	Client software that is used to look at various kinds of Internet resources. The two most popular browsers are Netscape® and Internet Explorer®.
<b>Web Server</b>	Software residing on a machine on the Internet that enables a website to run. When a web browser makes a request for a file, the web server locates the file and sends it back to the browser.
<b>Web Site</b>	A site (location) on the World Wide Web.
<b>Widget</b>	An element of a graphical user interface (GUI) that displays information to a user similar to a window. It provides a single interaction point for the direct manipulation of a given kind of data.
<b>WMS Service</b>	Web Map Server allows for the use of data from different servers and is OGC compliant.
<b>XML</b>	Extensible Markup Language. A World Wide Web standard used to create ArcXML.



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# WebFOCUS



WebFOCUS Adapter for Geographic  
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Release 8.2 Version 02