Information Builders

WebFOCUS

WebFOCUS Adapter for Geographic Information Systems Getting Started

Release 8.2 Version 02

December 13, 2017

Contents

Preface

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

How This Manual Is Organized

This manual includes the following chapters:

	Chapter/Appendix	Contents
1	Introducing the WebFOCUS Adapter for Geographic Information Systems	Provides a brief introduction to the WebFOCUS Adapter for Geographic Information Systems. In addition, an overview of the Geographic Business Intelligence Solution (GBIS) components that are associated with this solution is included.
2	Requirements and Prerequisites	Provides a summary of the requirements and prerequisites for the WebFOCUS Adapter for Geographic Information Systems.
3	Building a Sample Application	Provides a detailed tutorial for the WebFOCUS Adapter for Geographic Information Systems that walks the user through the steps that are required to build a geographic retail application.
4	Tips and Usage Considerations	Provides a selection of tips and usage considerations for the WebFOCUS Adapter for Geographic Information Systems.
5	Additional Resources	Provides additional resources for the WebFOCUS Adapter for Geographic Information Systems.

Documentation Conventions

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

Convention	Description

`THIS TYPEFACE`
or
`this typeface`
	Denotes syntax that you must enter exactly as shown.

this typeface	Represents a placeholder (or variable), a cross-reference, or an important term.
underscore	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 (...).
. . .	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?

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Thank you, in advance, for your comments.

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Chapter 1

Introducing the WebFOCUS Adapter for Geographic Information Systems

This section provides a brief introduction to the WebFOCUS Adapter for Geographic Information Systems. In addition, an overview of the Geographic Business Intelligence Solution (GBIS) components that are associated with this solution is included.

In this chapter:

Understanding Key Features and Benefits

WebFOCUS Adapter for Geographic Information Systems provides a Geographic Business Intelligence Solution (GBIS) that combines the real-time enterprise business intelligence and reporting capabilities of WebFOCUS with ESRI ArcGIS Server. This 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.

Key features of this adapter include:

- Support for native integration with more than 85 data sources.
- Integration with map services hosted by 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.
- ESRI Configuration Utility, a graphical interface to configure and edit XML definition files. The adapter parses these XML files and uses the information provided to generate JavaScript objects and methods that are returned to the web browser.
- WebFOCUS GIS Viewer for Flex, a mapping interface that provides a bi-directional display of information. It integrates the mapping capabilities of ESRI ArcGIS Server with WebFOCUS. 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.

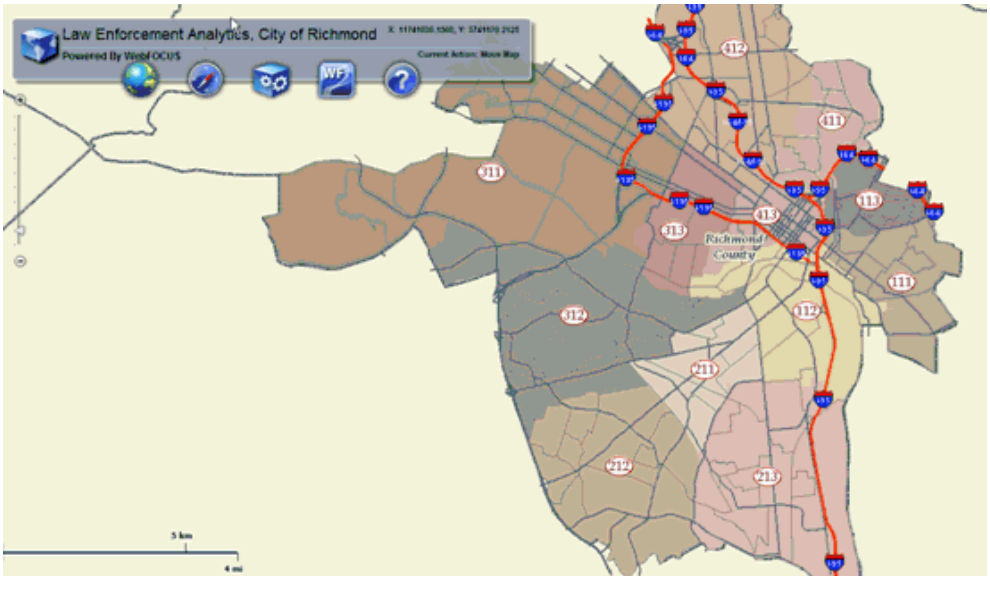
Several industries where WebFOCUS Adapter for Geographic Information Systems can be used to develop a GBIS include:

- **Retail.** Determining the ideal location for a new store, product launch, or marketing campaign.
- **Insurance.** Analyzing environmental damage by county or municipality.
- **Law Enforcement.** Viewing similar crimes in a city to detect key patterns.

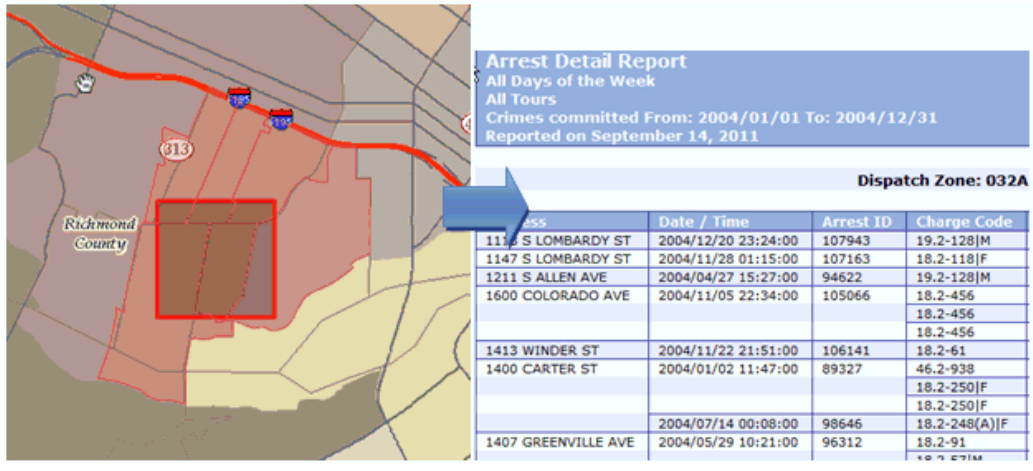
Functional Overview

The Geographic Business Intelligence Solution (GBIS) that is enabled by the integration between WebFOCUS and ESRI ArcGIS Server allows three types of reports to be generated by using the mapping interface:

- Report
- Map
- Identify

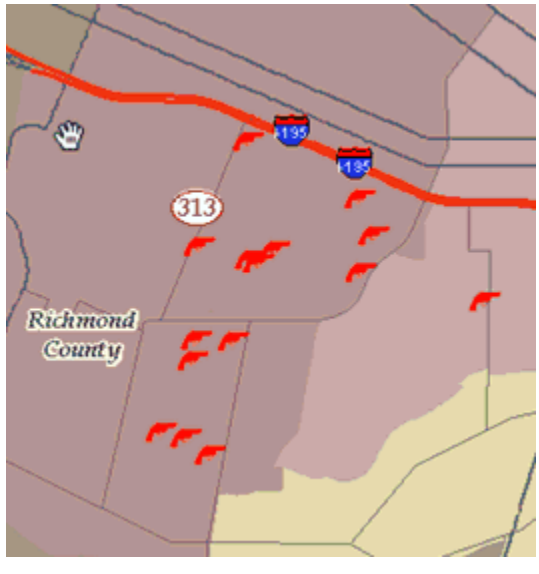


Using a mapping interface, users can create a WHERE clause using a specific location to drill-down to a WebFOCUS report, as shown in the following image.



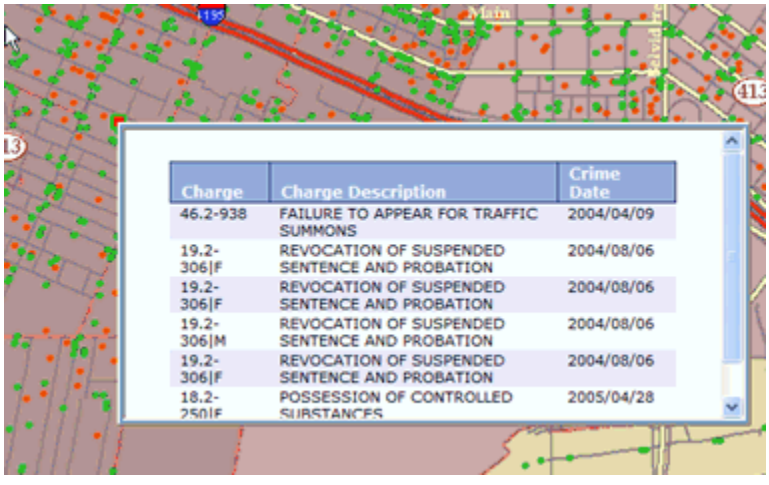
ess	Date / Time	Arrest ID	Charge Code
11[illegible] S LOMBARDY ST	2004/12/20 23:24:00	107943	19.2-128|M
1147 S LOMBARDY ST	2004/11/28 01:15:00	107163	18.2-118|F
1211 S ALLEN AVE	2004/04/27 15:27:00	94622	19.2-128|M
1600 COLORADO AVE	2004/11/05 22:34:00	105066	18.2-456
			18.2-456
			18.2-456
1413 WINDER ST	2004/11/22 21:51:00	106141	18.2-61
1400 CARTER ST	2004/01/02 11:47:00	89327	46.2-938
			18.2-250|F
			18.2-250|F
	2004/07/14 00:08:00	98646	18.2-248(A)|F
1407 GREENVILLE AVE	2004/05/29 10:21:00	96312	18.2-91

Map reports are generated by drilling down from a map, as shown in the following image.



This allows users to visualize results from a WebFOCUS report on a map by using color, size, picture, and shape to define the data represented on the map.

The identify reports are single location based queries, as shown in the following image.



Once the user clicks on a specific location, the map receives information from the WebFOCUS Reporting Server to display the information in a contextual window on the map. This functionality can include callouts, rollovers, and so on.

Architecture of a Geographic Business Intelligence Solution

This section outlines the key components that are combined to form the architecture of a Geographic Business Intelligence Solution (GBIS). These key components include:

- Adobe Flex (Client)
- WebFOCUS Adapter for Geographic Information Systems (Middle Tier)
- ArcGIS Server
- WebFOCUS Reporting Server

Adobe Flex (Client)

For this Geographic Business Intelligence Solution (GBIS), Adobe Flex is used as the client. Adobe Flex is an open source framework used to develop rich Internet applications. When a user issues a request using a web browser, this request is passed to Adobe Flex to create a selection request for the ArcGIS Server. Adobe Flex is also used to process responses from the ArcGIS Server to pass to the middle tier. All symbol generating and map rendering processes occur in this framework.

WebFOCUS Adapter for Geographic Information Systems (Middle Tier)

WebFOCUS Adapter for Geographic Information Systems is the middle tier (gateway) to issue requests to the WebFOCUS Reporting Server and receive responses from the Reporting Server. All responses from the WebFOCUS Reporting Server are processed to the web or to the client.

ArcGIS Server

ArcGIS Server is a Geographic Information System (GIS) software package developed by ESRI that is used to deploy web-oriented spatial data services. It allows users to publish maps on to the web. ArcGIS Server processes any user selections that are made on the map. The map consists of various data layers for the corresponding perspectives that are being used (for example, streets, neighborhoods, arrests, and so on). Based on the location of these layers, ArcGIS Server performs spatial filtering and returns a response to the Client. The response is formatted as JSON formatted text. As a result, the Client uses this JSON formatted text to make further requests.

For more information on ArcGIS Server, visit the following website:

http://resources.arcgis.com/en/help/getting-started/articles/026n00000007000000.htm

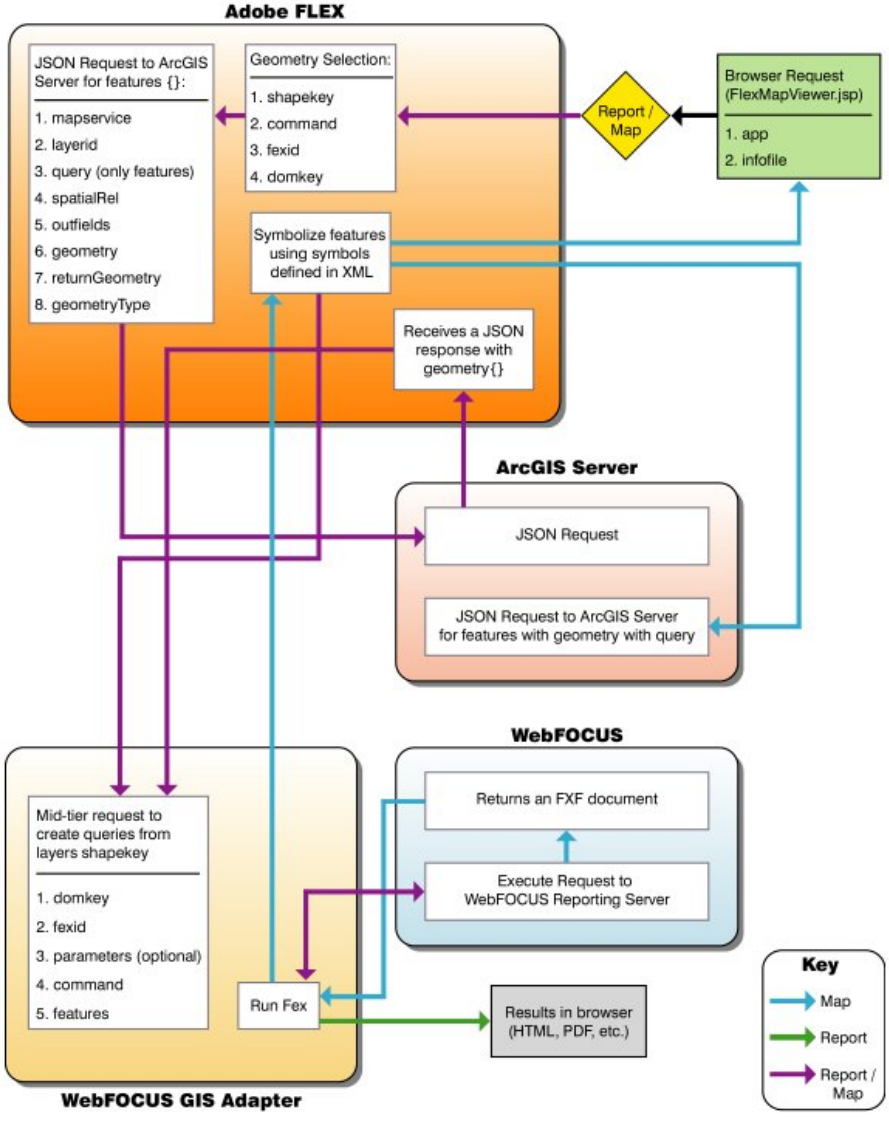
WebFOCUS Reporting Server

The WebFOCUS Reporting Server is the Reporting Server used by WebFOCUS. WebFOCUS reports are triggered using a location-based query, which is passed to the WebFOCUS Reporting Server and then served as stylized reports.

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.

Architecture Diagram

The diagram in this section illustrates the workflow between the key components that are combined to form the architecture of a Geographic Business Intelligence Solution (GBIS). The line connectors between the components can be uni-directional or bi-directional. In addition, the function calls for the middle tier are clearly stated.



Chapter 2

Requirements and Prerequisites

This section provides a summary of the requirements and prerequisites for the WebFOCUS Adapter for Geographic Information Systems.

In this chapter:

Compatibility Matrix

The following table specifies WebFOCUS and ArcGIS Server compatibility information.

WebFOCUS Releases	Configurations
Release 8.2 Version 02	
ArcGIS Server 10.1	
ArcGIS Server 10.2	
ArcGIS Server 10.3	
ArcGIS Server 10.4	
Release 8.2 Version 01M	
ArcGIS Server 10.1	
ArcGIS Server 10.2	
Release 8.0 Version 04	
ArcIMS 9.3 with JavaScript Viewer	
ArcGIS Server 9.3.1 with JavaScript Viewer	Non-pooled map services only

WebFOCUS Releases	Configurations
ArcGIS Server 9.3.1 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.0 with JavaScript Viewer	Non-pooled map services only
ArcGIS Server 10.0 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.1 with Flex Map Viewer **Note:** Does not work with multiple coordinate systems.	Pooled map services only
Release 8.0 Version 01	
ArcIMS 9.3 with JavaScript Viewer	
ArcGIS Server 9.3.1 with JavaScript Viewer	Non-pooled map services only
ArcGIS Server 9.3.1 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.0 with JavaScript Viewer	Non-pooled map services only
ArcGIS Server 10.0 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.1 with Flex Map Viewer **Note:** Does not work with multiple coordinate systems.	Pooled map services only
WebFOCUS 8M	
ArcIMS 9.3 with JavaScript Viewer	
ArcGIS Server 9.3.1 with JavaScript Viewer	Non-pooled map services only
ArcGIS Server 9.3.1 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.0 with Flex Map Viewer	Pooled map services only
Release 7.7 Version 03	
ArcIMS 9.3 with JavaScript Viewer	
ArcGIS Server 9.3.1 with JavaScript Viewer	Non-pooled map services only

WebFOCUS Releases	Configurations
ArcGIS Server 9.3.1 with Flex Map Viewer	Pooled map services only
ArcGIS Server 10.0 with Flex Map Viewer	Pooled map services only
Release 7.7 Version 02	
ArcIMS 9.3 with JavaScript Viewer	
ArcGIS Server 9.3.1 with JavaScript Viewer	Non-pooled map services only
ArcGIS Server 9.3.1 with Flex Map Viewer	Pooled map services only
Release 7.6 Version 11	
ArcIMS 9.3 with JavaScript Viewer	
Release 7.6 Version 10 (HotFix)	
ArcGIS Server 10.0 with JavaScript Viewer	Non-pooled map services only

Hardware Requirements

Hardware requirements for the WebFOCUS Adapter for Geographic Information Systems are the same as required by WebFOCUS.

For more information, see the *WebFOCUS Installation and Configuration* documentation related to this topic for your platform.

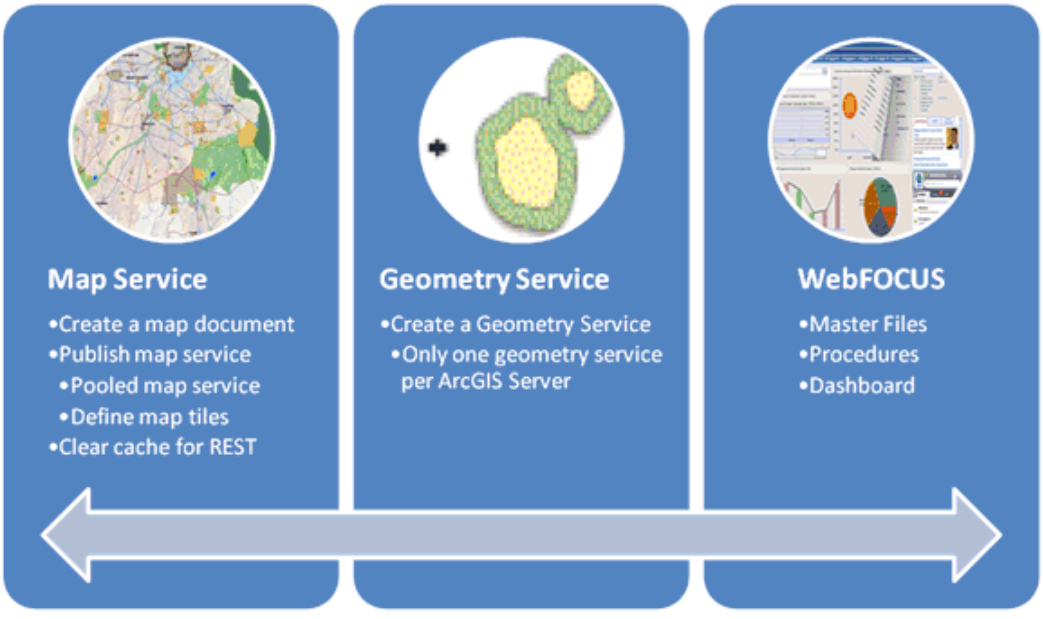
Software Requirements

Ensure that the following components are installed and available before using the WebFOCUS Adapter for Geographic Information Systems:

- ArcGIS Server Version 9.3 or higher.
- WebFOCUS Client
- WebFOCUS Reporting Server

Prerequisites for WebFOCUS GIS Viewer for Flex

This section provides the prerequisites for WebFOCUS GIS Viewer for Flex.



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 needs 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.

Map Service Requirements

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.

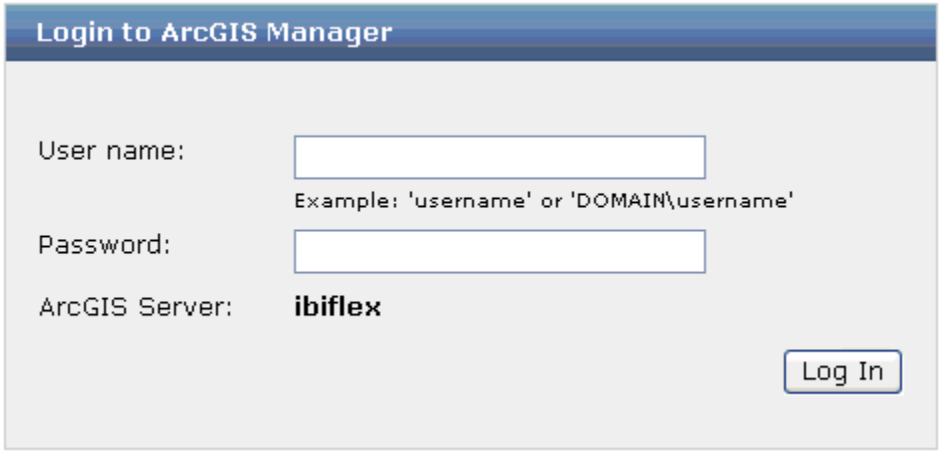
To grant permissions, add your logon for the system where ArcCatalog is installed as a user to the agsadmin group in the ArcGIS Server system.

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.



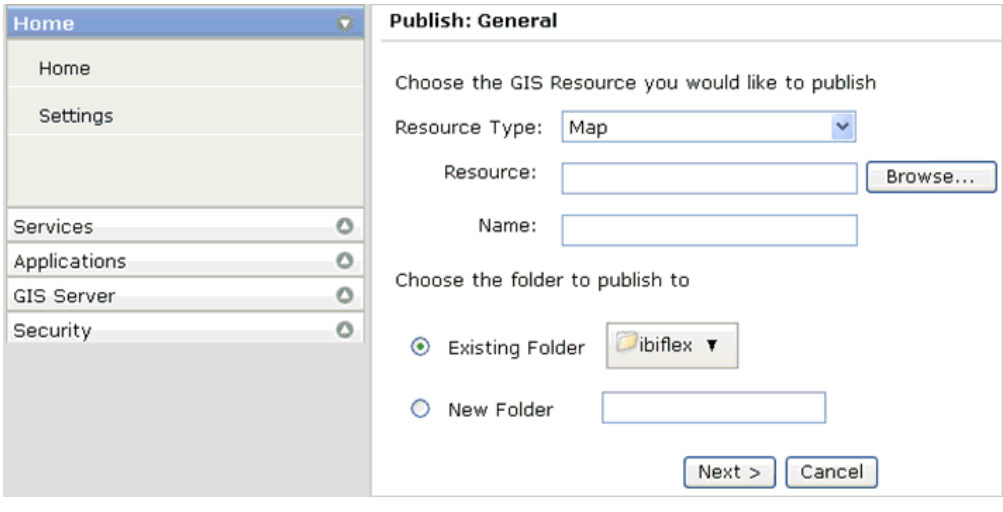
2. Log in to the ArcGIS Server Manager Console using the account that you configured after installation.

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*.

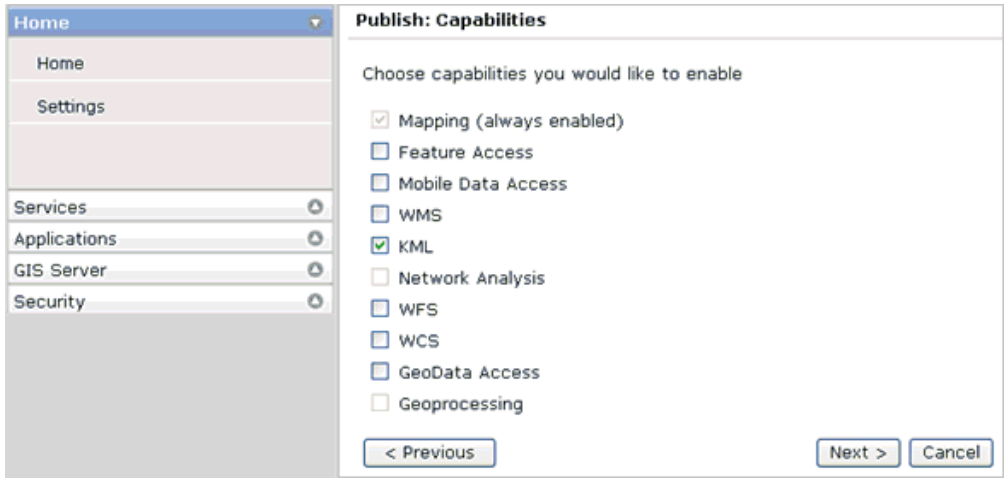
   The Publish: General page opens.



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.

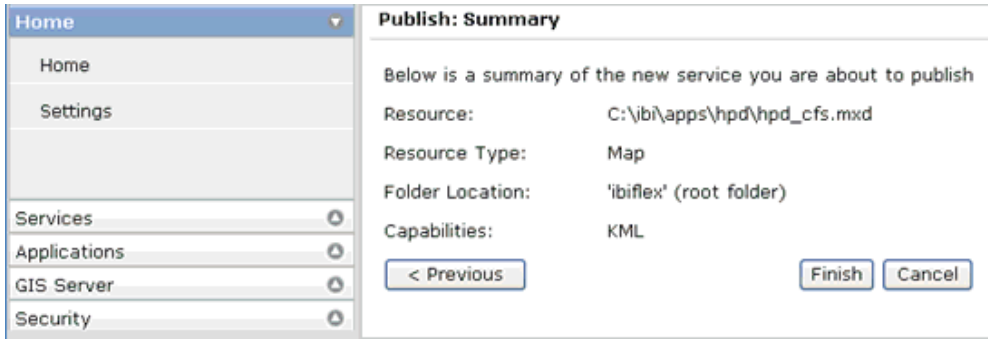
7. In the *Choose the folder to publish to* section, select an existing folder or specify a new folder name in the New Folder field.
8. Click *Next*.

   The Publish: Capabilities page opens.



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

   The Publish: Summary page opens.



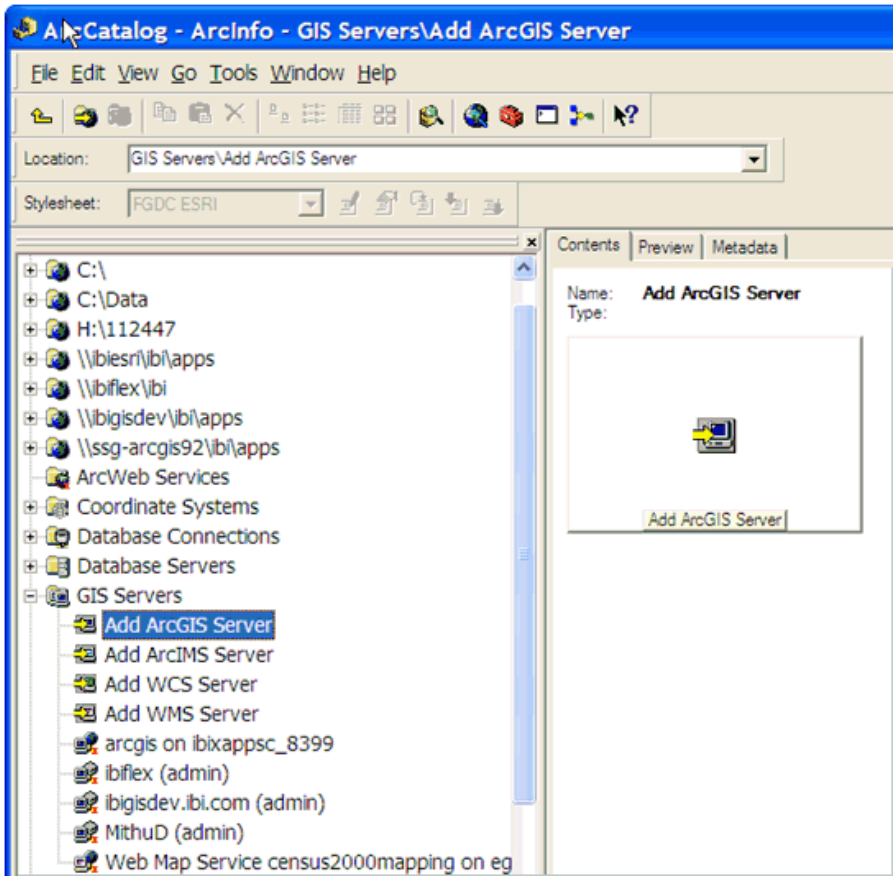
10. Click *Finish*.

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*.

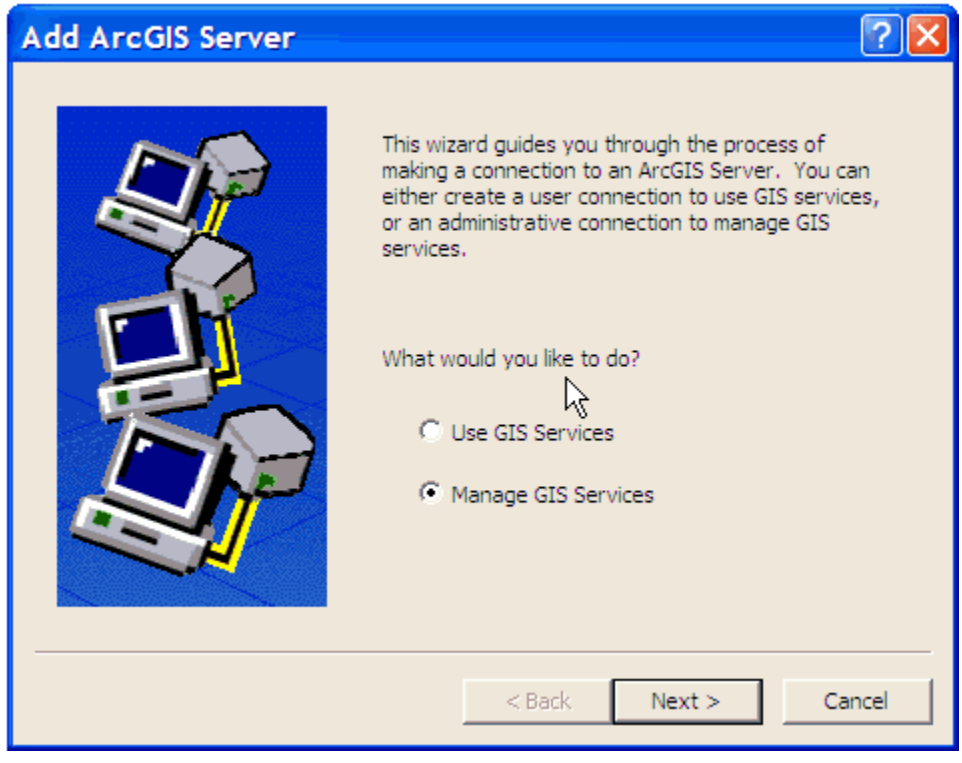
The ArcCatalog opens, as shown in the following image.



You must first create a connection to the ArcGIS Server.

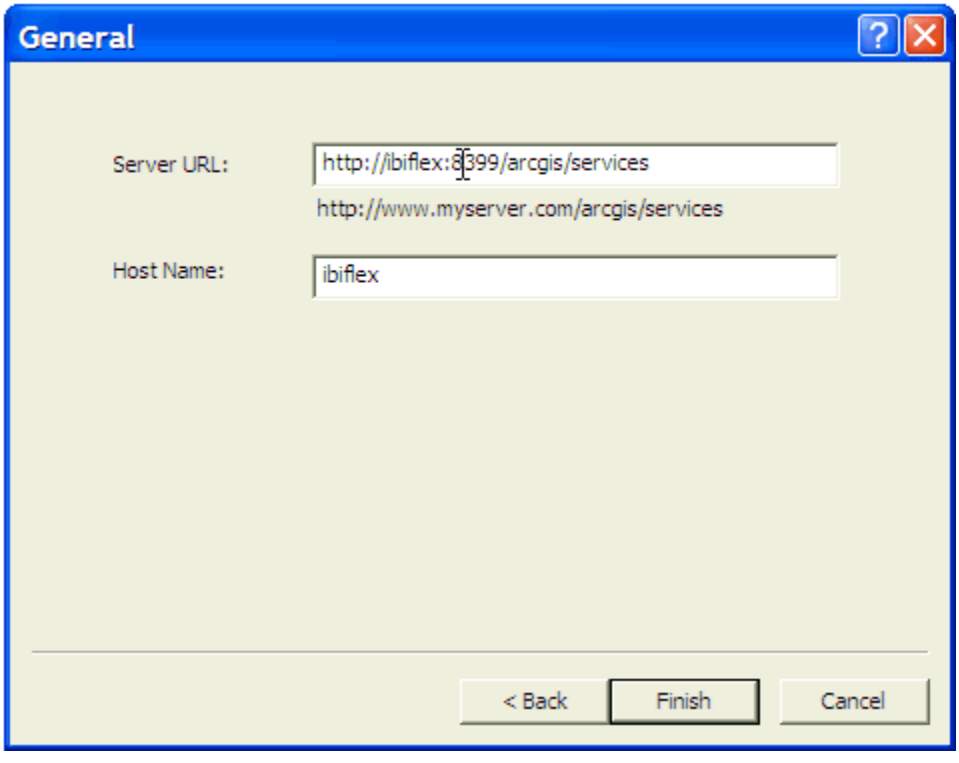
2. Expand the *GIS Servers* node and double-click *Add ArcGIS Server*.

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.



4. Enter the server URL using the following format:

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

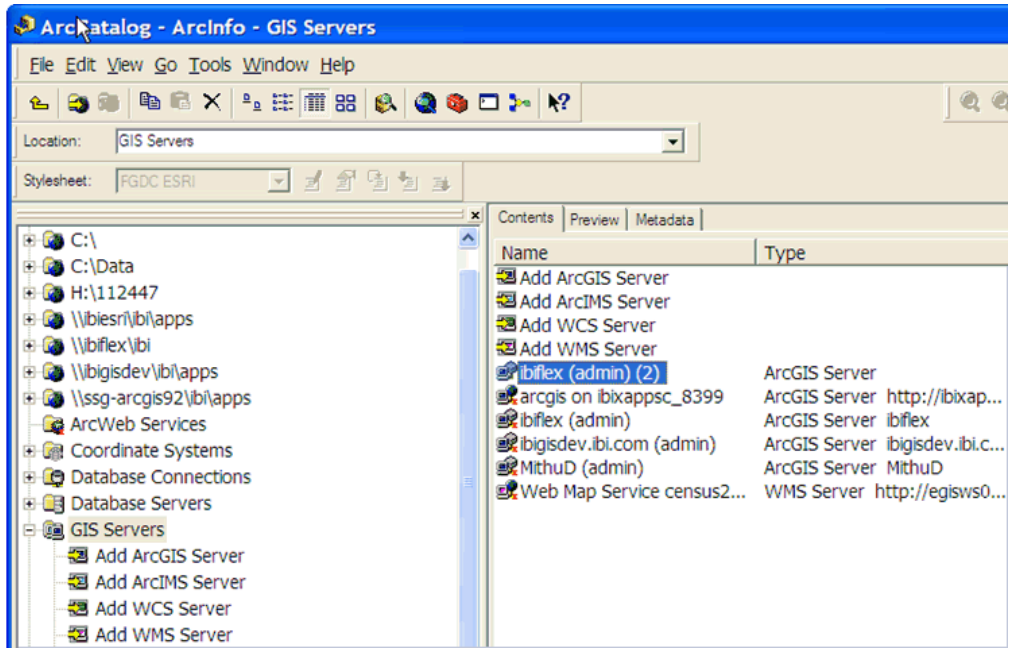
   This is the URL on which the map services are displayed. By default, ArcGIS Server listens on port 8399.

5. Enter the host name.

   Typically, this is the ArcGIS Server host name.

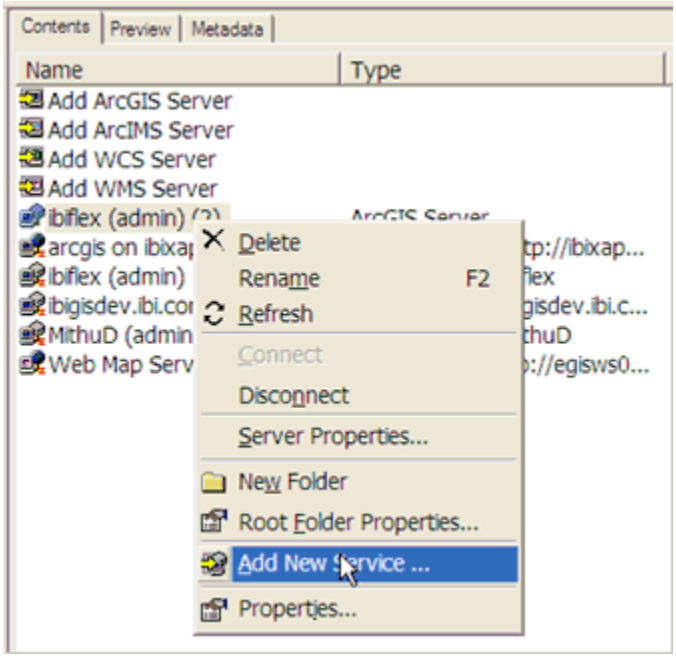
6. Click *Finish*.

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

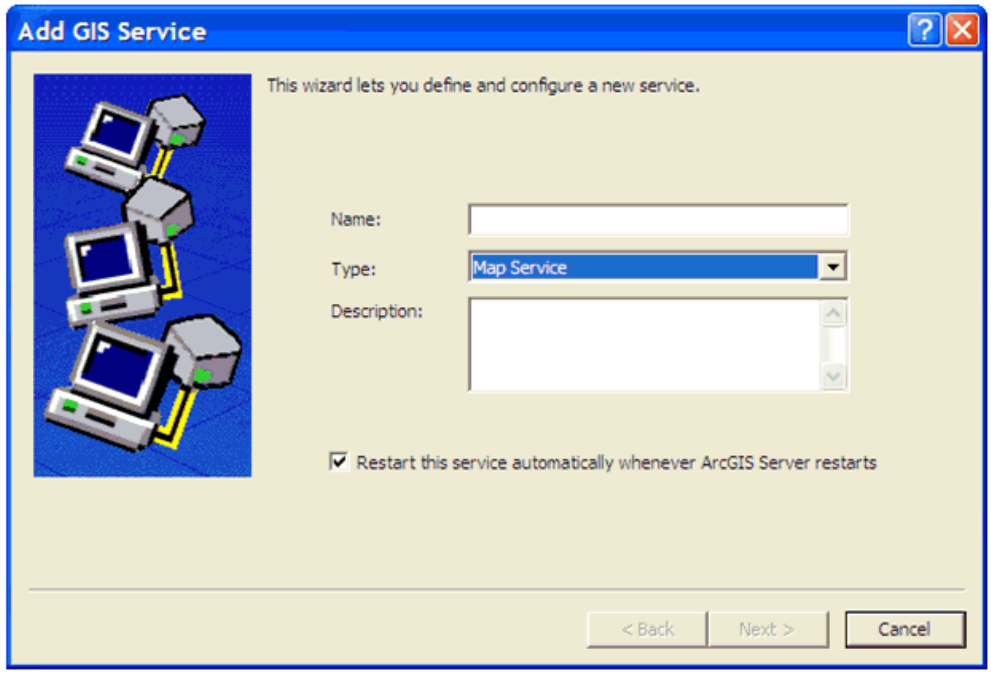


You are now ready to create a map service.

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.

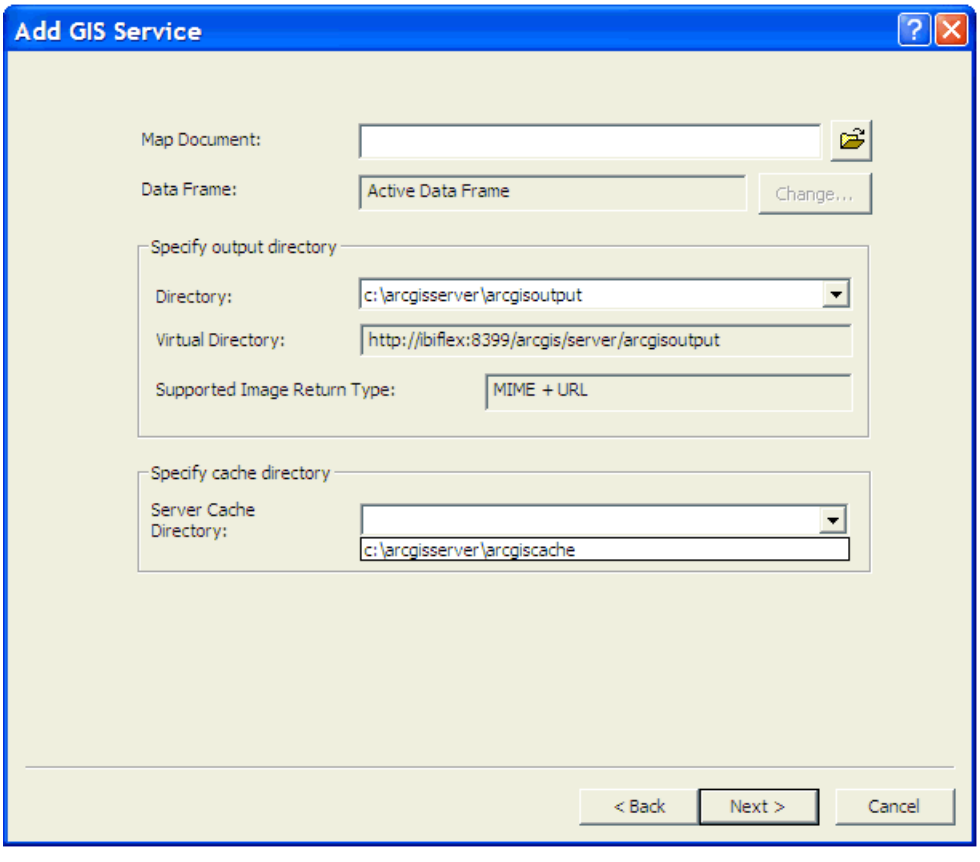


The Add GIS Service wizard opens, as shown in the following image.



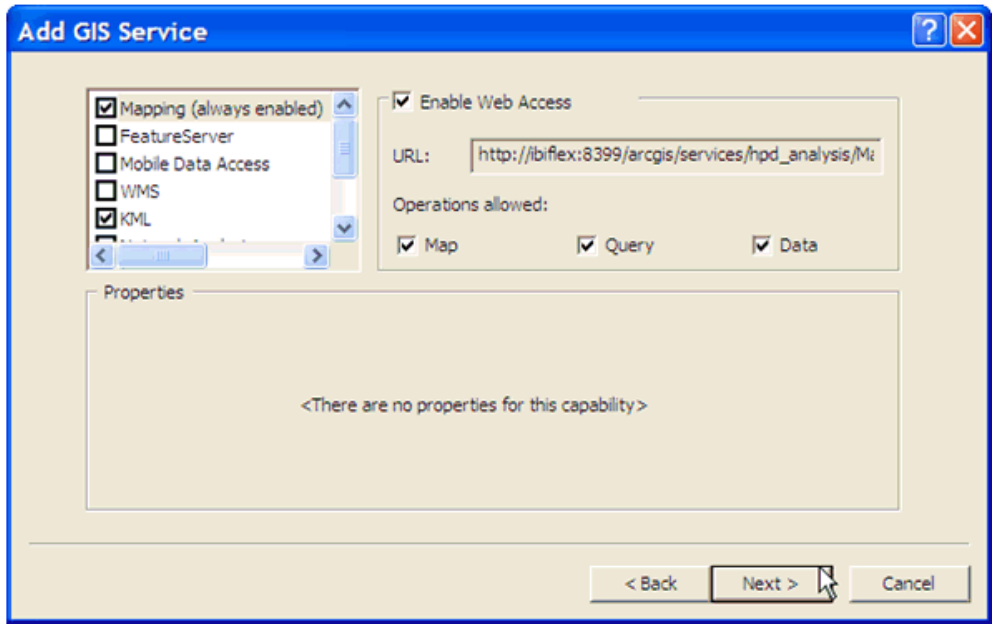
8. Enter a name for the new map service in the Name field.
9. From the Type drop-down list, select *Map Service*.
10. Click *Next*.

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



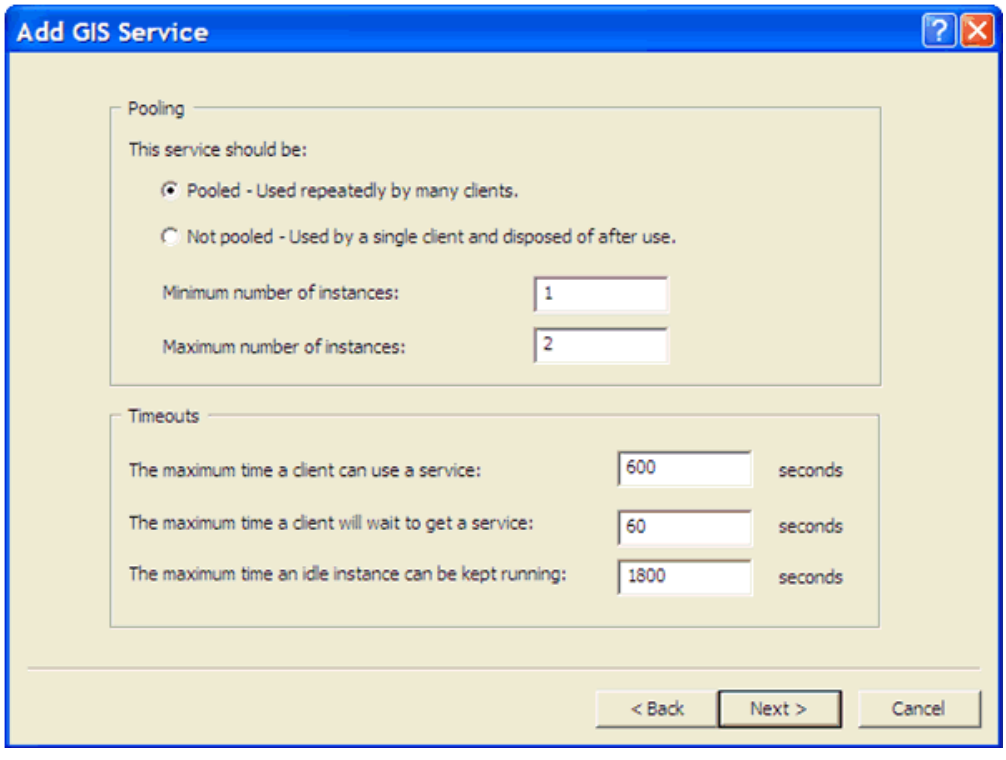
11. Specify the path to the map document (.mxd) in the Map Document field, or click the *Browse* button to navigate to the location on your file system.
12. Accept the default values in the Specify output directory section, or specify your own custom values.
13. Select an available cache directory from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

The following pane opens.



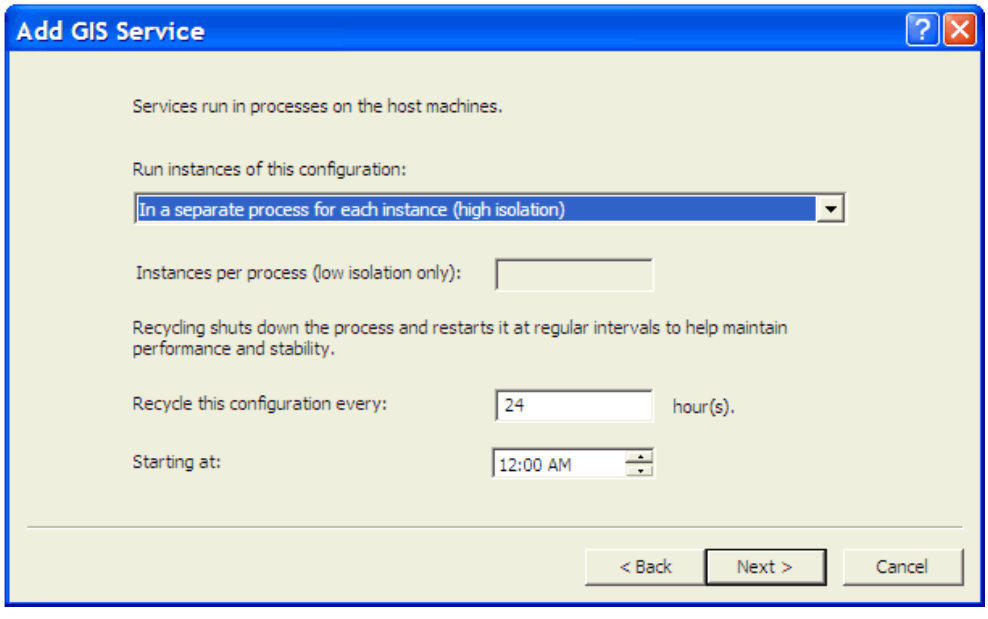
15. Accept the default values and click *Next*.

The following pane opens.



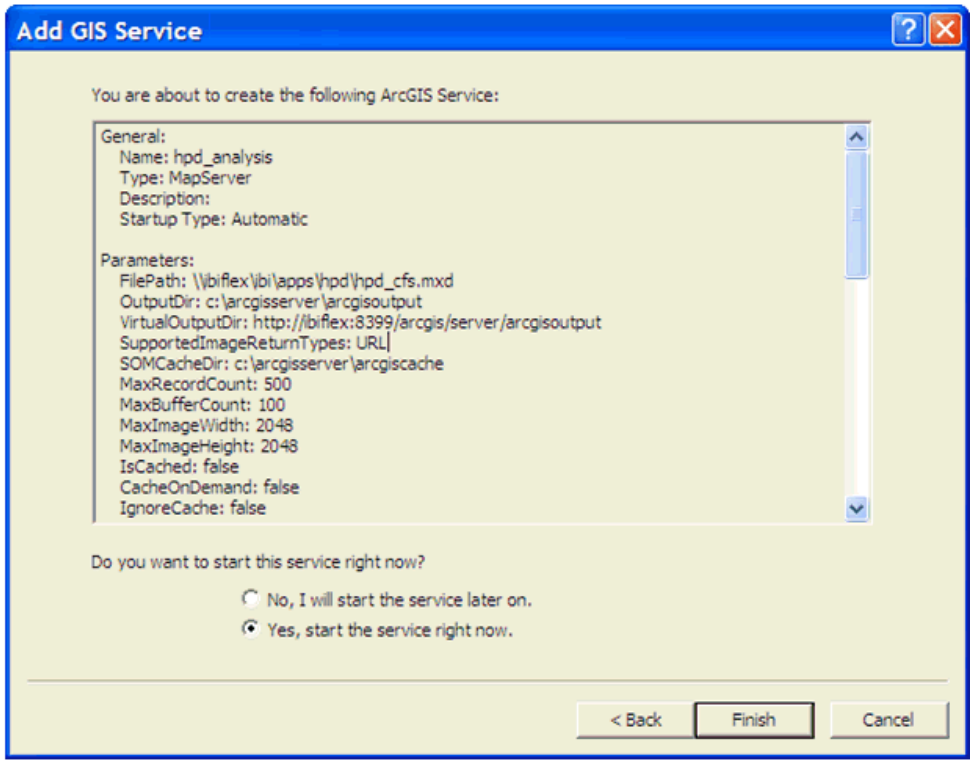
16. Accept the default values and click *Next*.

The following pane opens.



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

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



18. Click *Finish*.

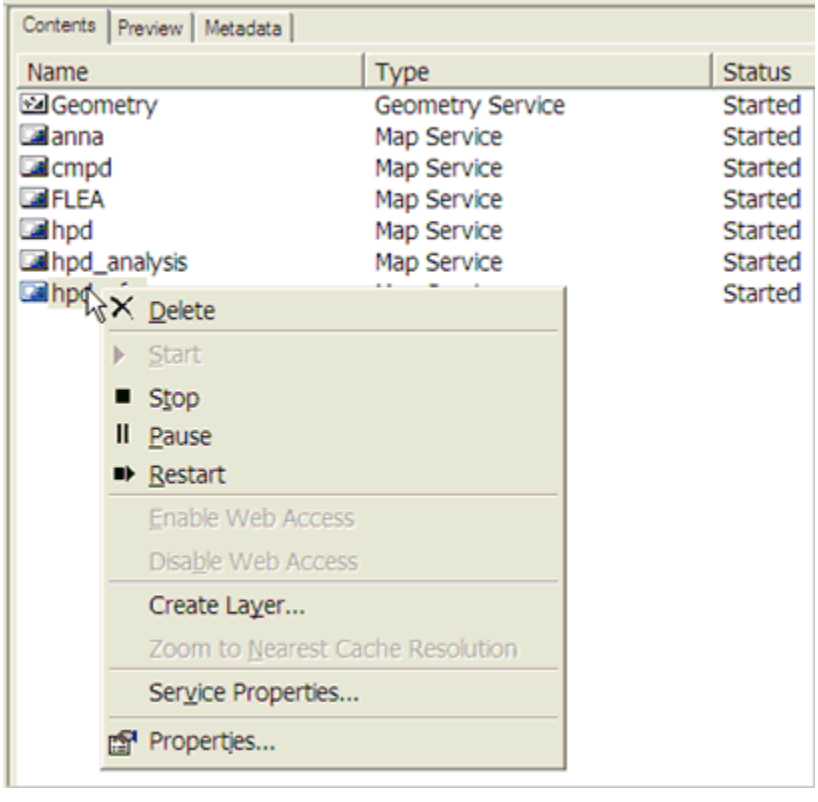
    You have successfully created a new map service using ArcCatalog.

    You are now ready to create the map cache.

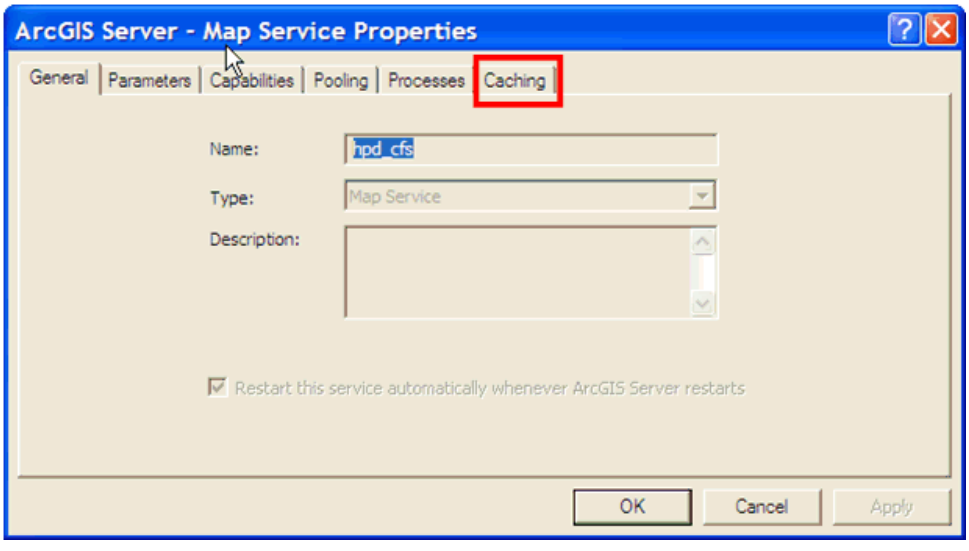
Procedure: How to Create the Map Cache

To create the map cache:

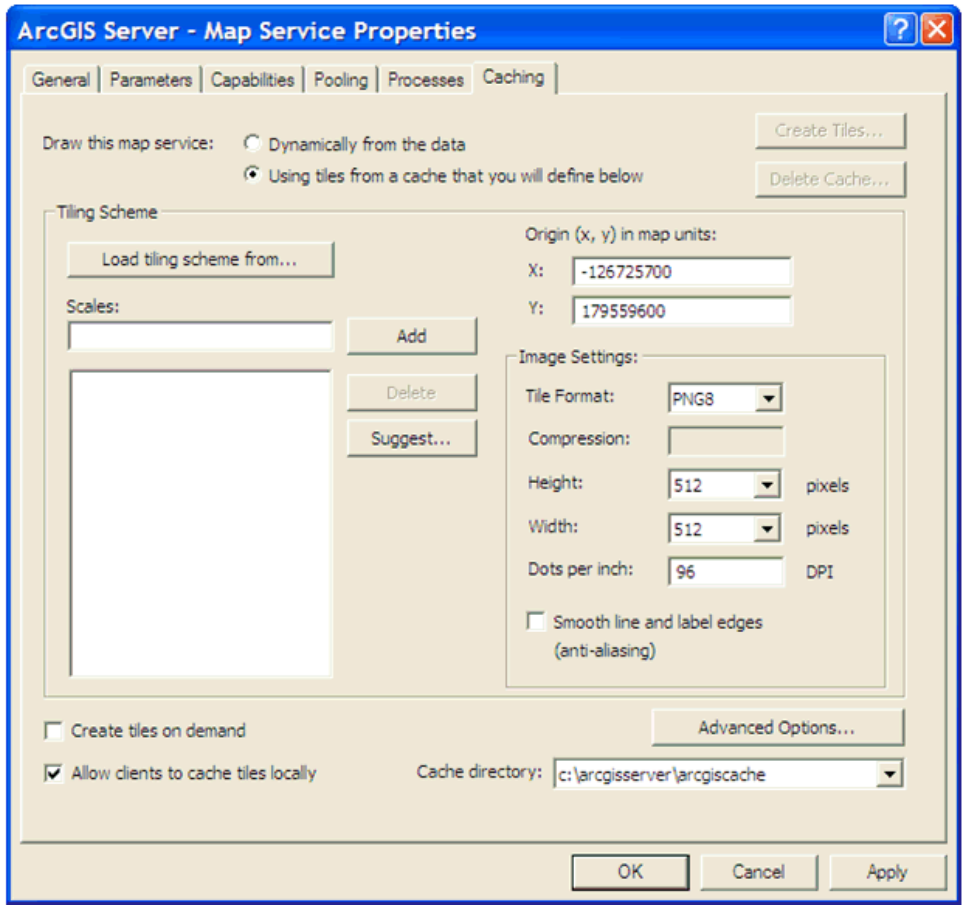
1. Right-click the newly created map service and select *Service Properties* from the context menu, as shown in the following image.



The Map Service Properties dialog opens.

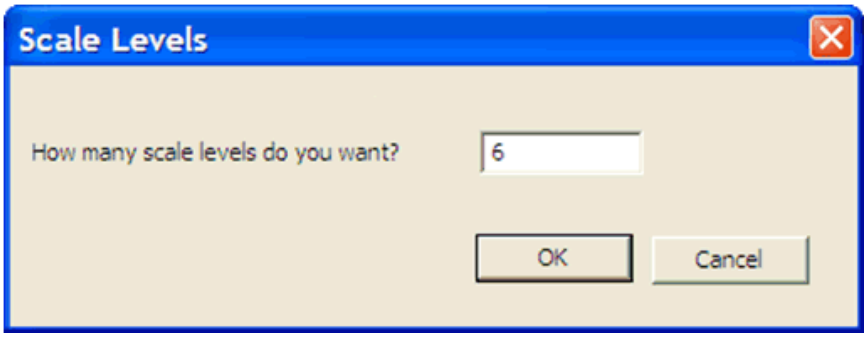


2. Click the *Caching* tab.



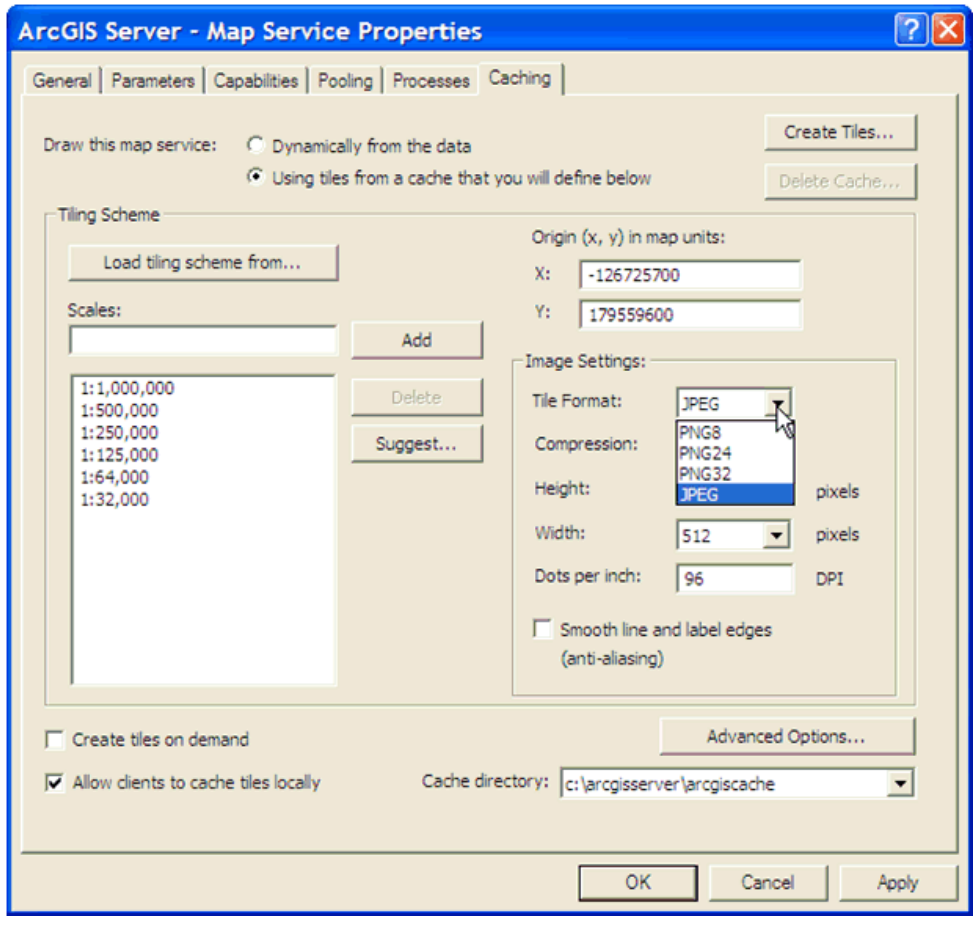
3. In the *Draw this map service* section, select the *Using tiles from a cache that you will define below* option.
4. Click *Suggest* in the Scales section if you are unsure of how to create the tile.

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.



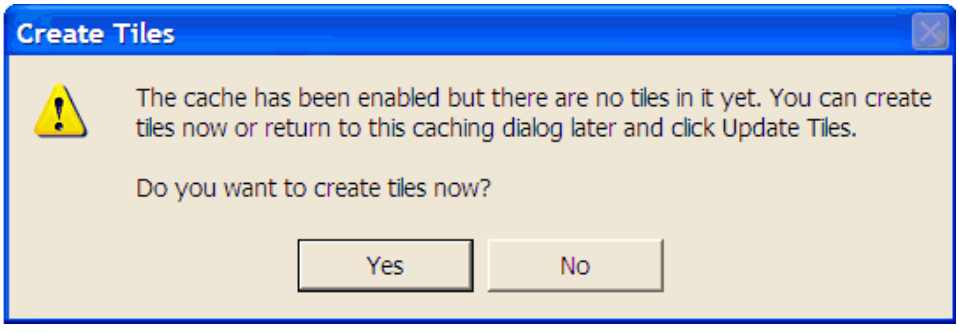
7. In the Image Settings section, select JPEG from the Tile Format drop-down list.

   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.

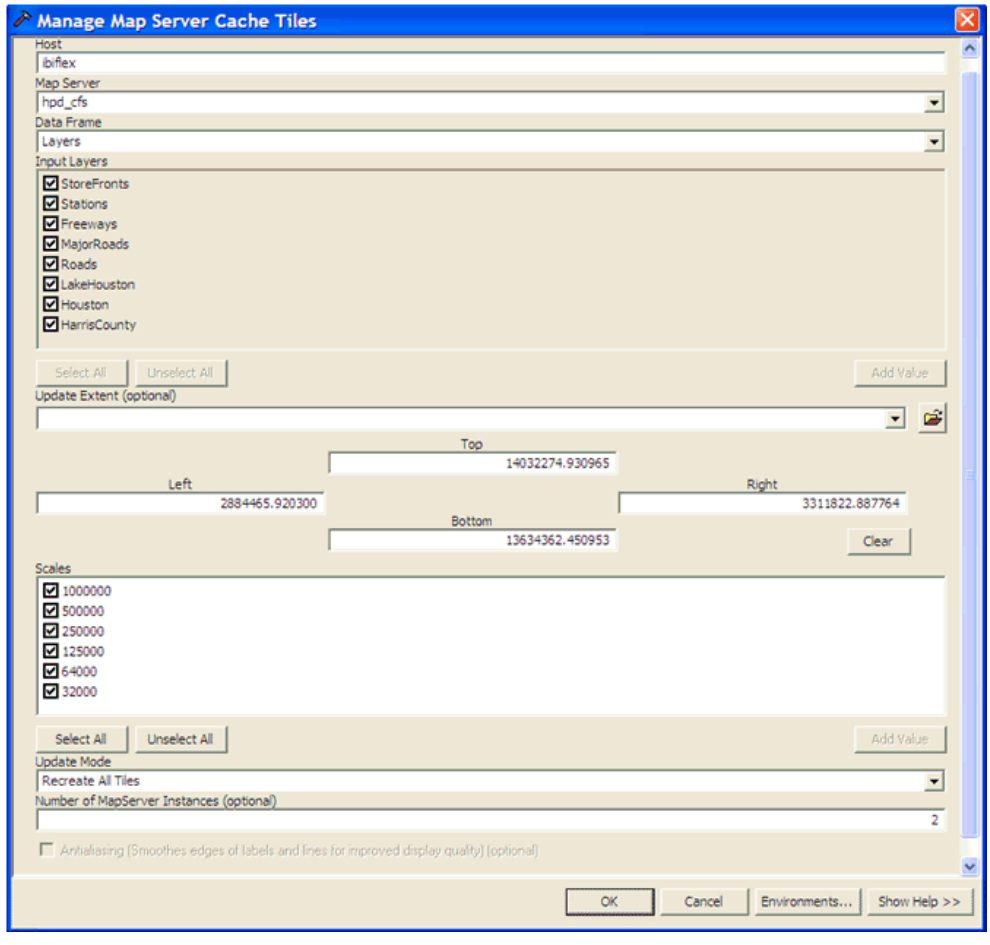
8. Click *OK*.

The Create Tiles dialog opens.



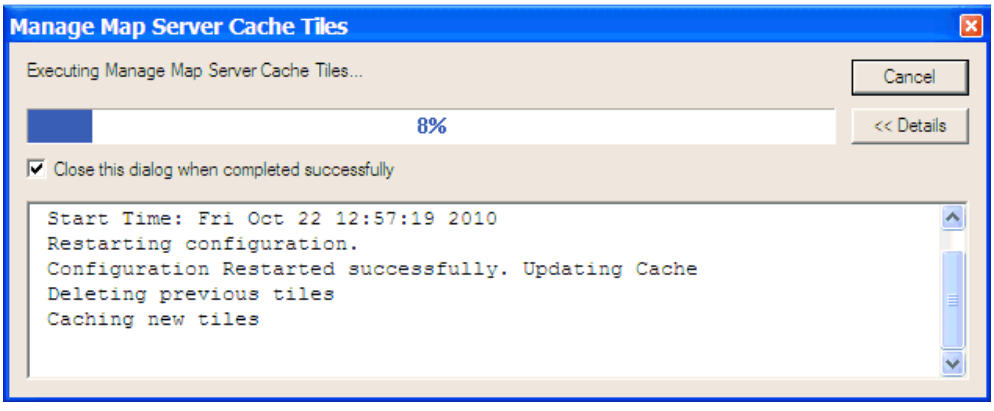
9. Click *Yes*.

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



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.

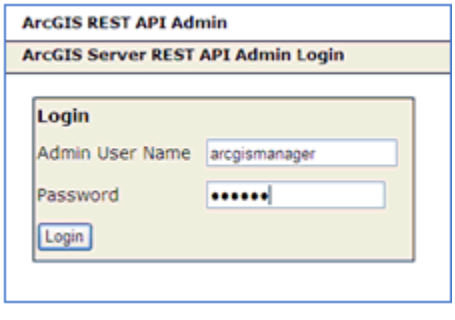
Procedure: How to Clear the REST Cache

To clear the REST cache:

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

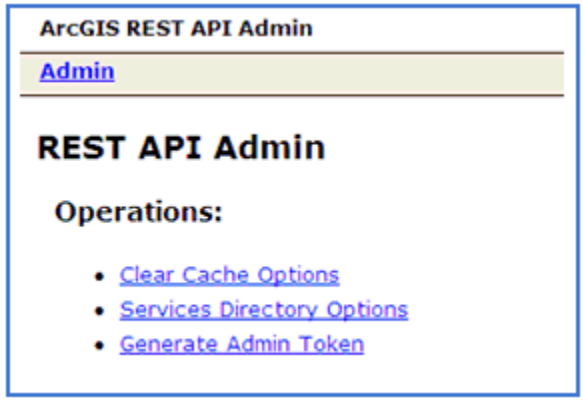
   `http://<ArcGISServer>:8399/arcgis/rest/admin/`

   The following login page opens.



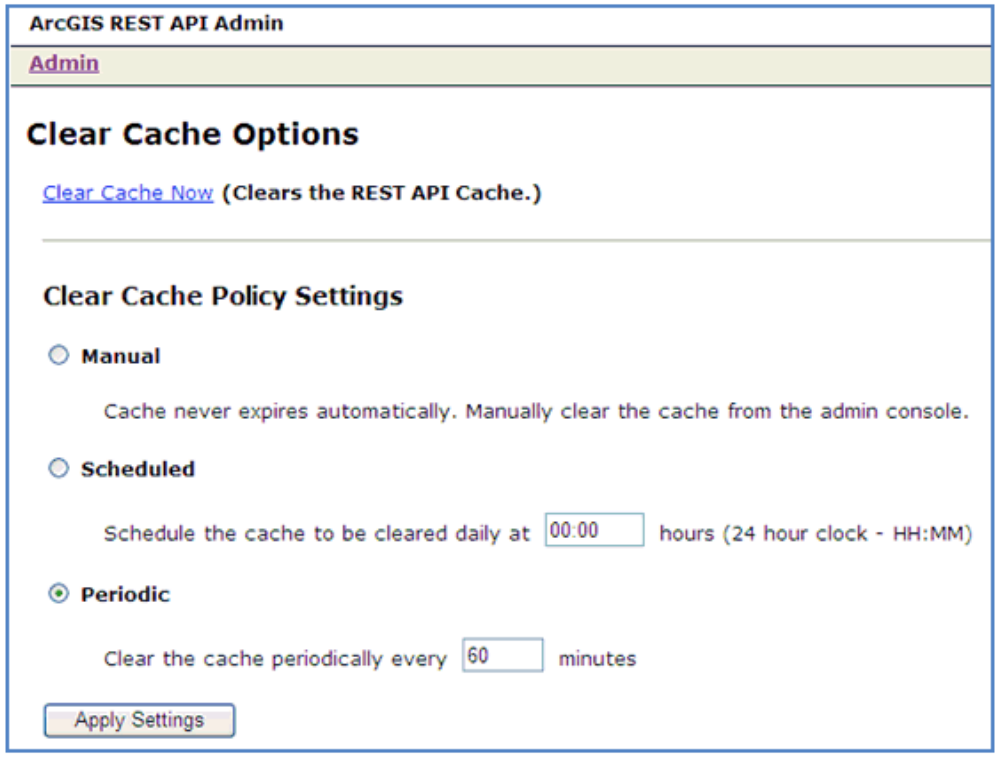
2. Enter a valid admin user name and password, and then click *Login*.

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.

Crossdomain.xml File Requirements

Before you deploy 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/

Chapter 3

Building a Sample Application

This section provides a detailed tutorial for the WebFOCUS Adapter for Geographic Information Systems that walks the user through the steps that are required to build a geographic retail application.

In this chapter:

Sample Application Overview

The sample application called *Retail Predictives* is packaged in the *orlando.zip* archive. This application is designed to determine predicted sales across specific geographic areas (census blocks) in Orlando, FL, which are identified by Federal Information Processing Standard (FIPS) codes. Each FIPS code identifies:

- Population difference (per square mile) between 2000 and 2010
- Median age
- Store count

The following business types are being represented in this sample application:

- Convenience Store
- Department Store

- Electronics Store
- Gas Station
- Grocery Store
- Men's Clothing Store
- Shoe Store
- Sporting Goods Store
- Women's Clothing Store

This section describes how to access and begin exploring the functionality of the Retail Predictives sample application.

Procedure: How to Access the Retail Predictives Sample Application

1. Unzip the orlando.zip archive to a location on your file system.
2. Copy the folder called *orlando* to the following directory of your WebFOCUS installation

   drive:\ibi\apps

   where:

   drive

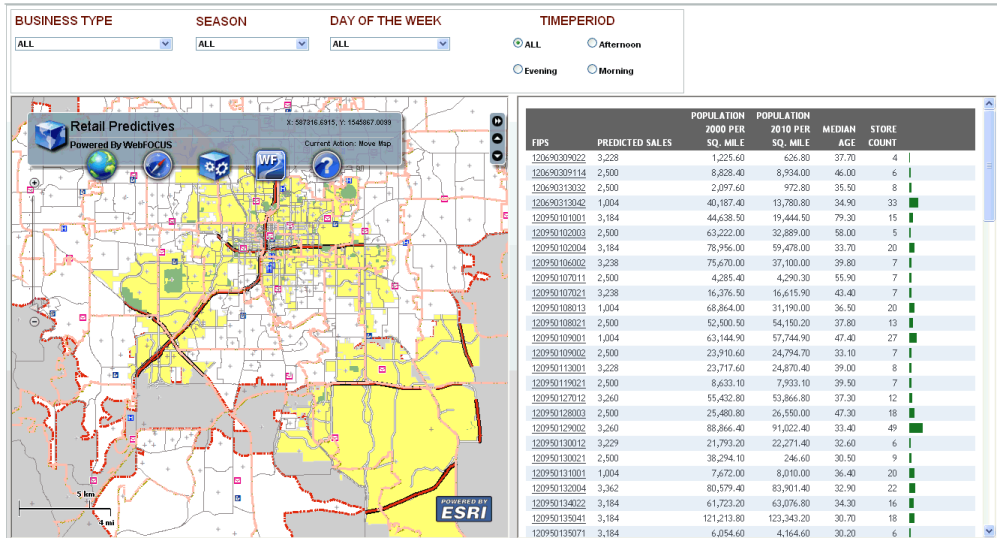
   Is the location where WebFOCUS is installed.

   For example:

   drive:\ibi\apps\orlando
3. Ensure the WebFOCUS Reporting Server is started.
4. Enter the following URL in a web browser:

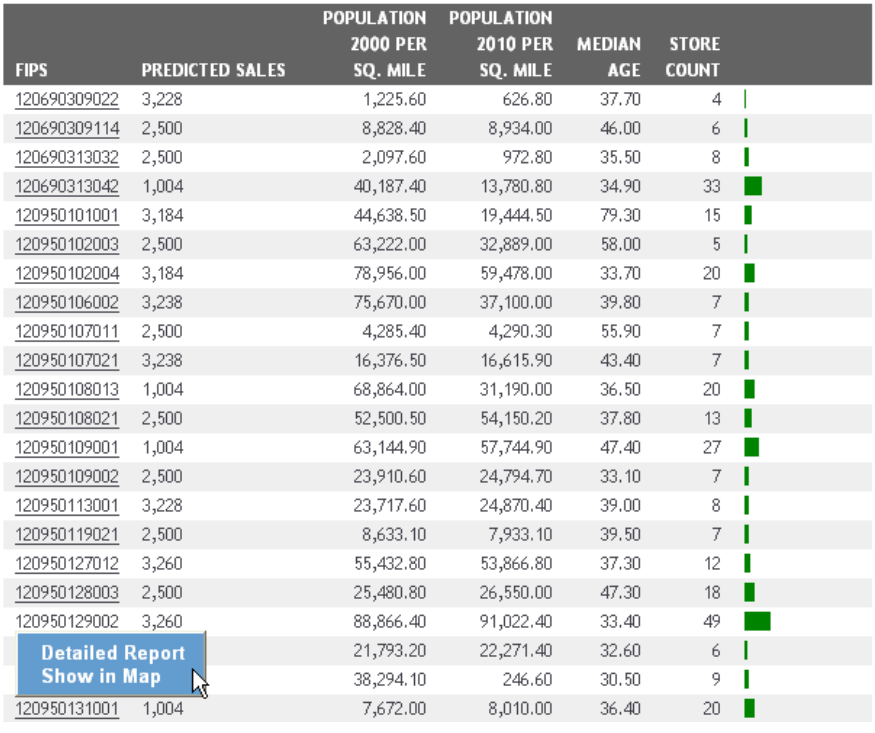
   http://localhost:8080/approot/orlando/retail_sales_v5.htm

The WebFOCUS GIS Viewer for Flex opens and displays the Retail Predictives application, as shown in the following image.



Procedure: How to Use the Available Drill-Down Options for a FIPS Code

1. Click a FIPS code in the right pane, as shown in the following image.



FIPS	PREDICTED SALES	POPULATION 2000 PER SQ. MILE	POPULATION 2010 PER SQ. MILE	MEDIAN AGE	STORE COUNT
120690309022	3,228	1,225.60	626.80	37.70	4
120690309114	2,500	8,828.40	8,934.00	46.00	6
120690313032	2,500	2,097.60	972.80	35.50	8
120690313042	1,004	40,187.40	13,780.80	34.90	33
120950101001	3,184	44,638.50	19,444.50	79.30	15
120950102003	2,500	63,222.00	32,889.00	58.00	5
120950102004	3,184	78,956.00	59,478.00	33.70	20
120950106002	3,238	75,670.00	37,100.00	39.80	7
120950107011	2,500	4,285.40	4,290.30	55.90	7
120950107021	3,238	16,376.50	16,615.90	43.40	7
120950108013	1,004	68,864.00	31,190.00	36.50	20
120950108021	2,500	52,500.50	54,150.20	37.80	13
120950109001	1,004	63,144.90	57,744.90	47.40	27
120950109002	2,500	23,910.60	24,794.70	33.10	7
120950113001	3,228	23,717.60	24,870.40	39.00	8
120950119021	2,500	8,633.10	7,933.10	39.50	7
120950127012	3,260	55,432.80	53,866.80	37.30	12
120950128003	2,500	25,480.80	26,550.00	47.30	18
120950129002	3,260	88,866.40	91,022.40	33.40	49
		21,793.20	22,271.40	32.60	6
		38,294.10	246.60	30.50	9
120950131001	1,004	7,672.00	8,010.00	36.40	20

Select one of the following drill-down options from the context menu that is displayed:

- **Detailed Report**
- **Show in Map**

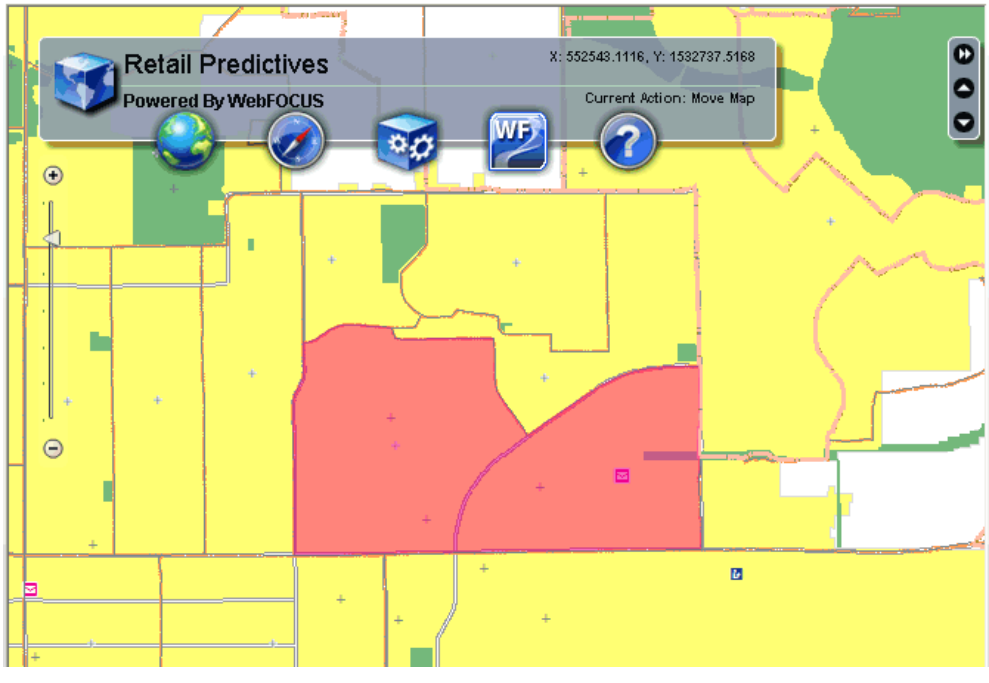
2. Click *Detailed Report*.

In the right pane, the predicted values for the selected FIPS code are displayed, as shown in the following image.

FIPS	PREDICTED_SALES	MAX SALES	FST SEASON	BUSINESS TYPE	TIME PERIOD
120950129002	3,260	3,362	Summer	Grocery Store	Evening

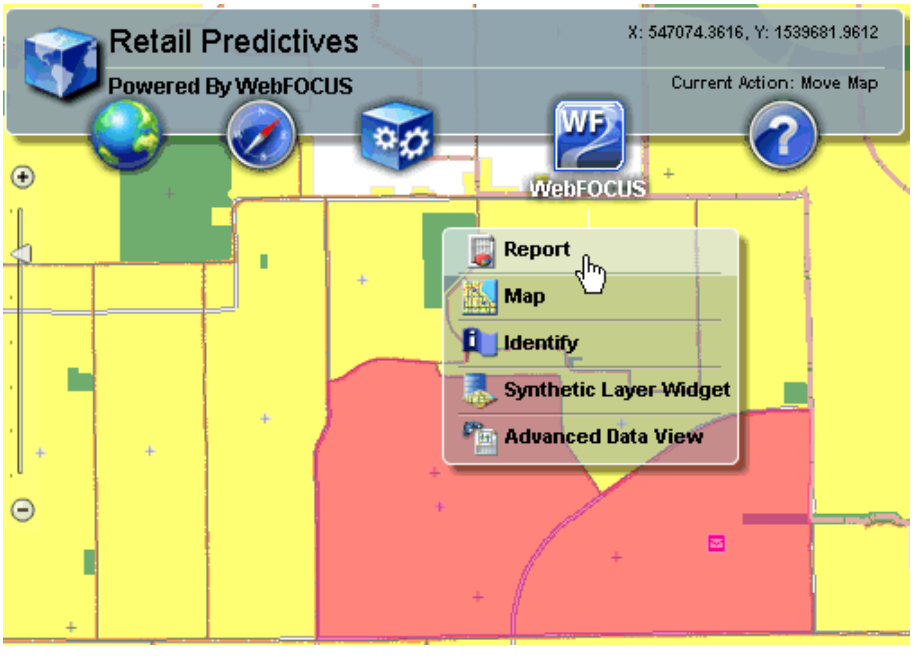
3. Click *Show in Map*.

   In the left pane, the region that is represented by the selected FIPS code is highlighted in the map, as shown in the following image.

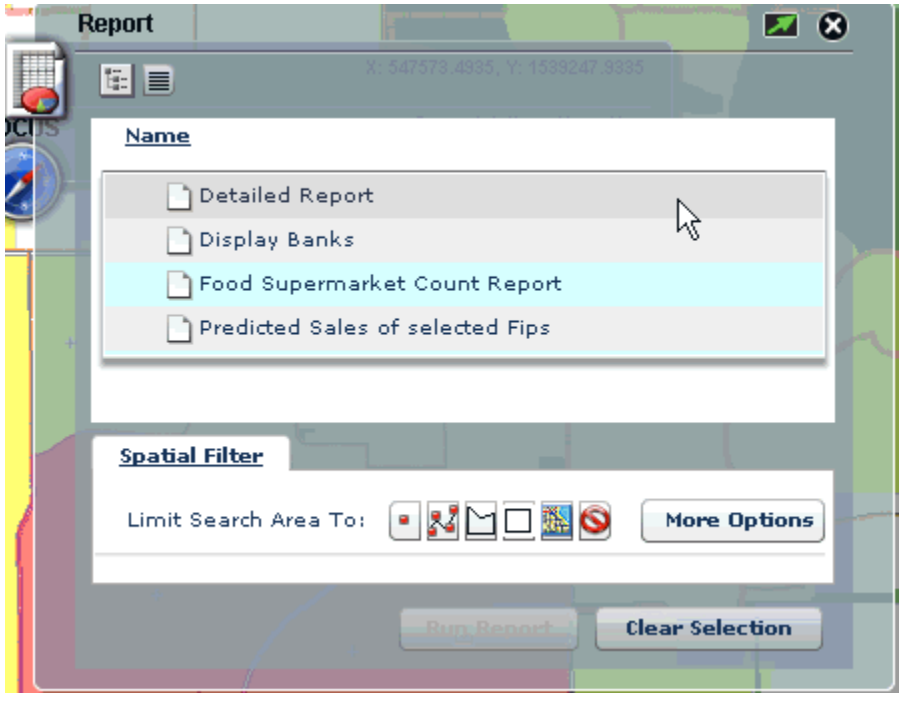


Procedure: How to Generate Reports Using the WebFOCUS Report Widget

1. Click the *WebFOCUS* icon in the left pane, and select *Report* from the context menu, as shown in the following image.



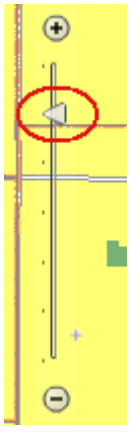
The Report widget opens, as shown in the following image.



The following reports can be generated based on the selection that is made:

- **Detailed Report.** Generates a report that provides predicted values for the selected FIPS code.
- **Display Banks.** Geocodes (address matches bank locations from a WebFOCUS Report and stores the latitude and longitude values in a WebFOCUS table).
- **Food Supermarket Count Report.** Generates a report that provides a count of supermarkets for the selected FIPS code.
- **Predicted Sales of selected Fips.** Generates a report that provides predicted values for a selected FIPS code based on a value selected from the BUSINESS TYPE drop-down list.

Note: This report is available only when zooming in to the scale of 1:100,000. This is represented as the second mark from the top of the Navigation bar, as shown in the following image.



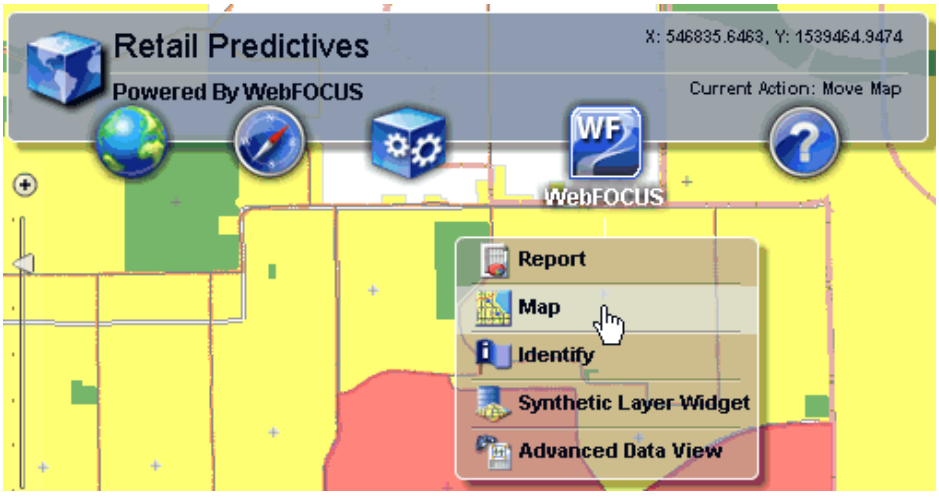
2. Select the type of report you want to generate and select a Spatial Filter (for example, Rectangle).
3. Minimize the Report widget.
4. Make a map selection using the selected Spatial Filter and return to the Report widget.
5. Click *Run Report*.

For example, the following report provides predicted sales for the Electronics business type category in a selected region.

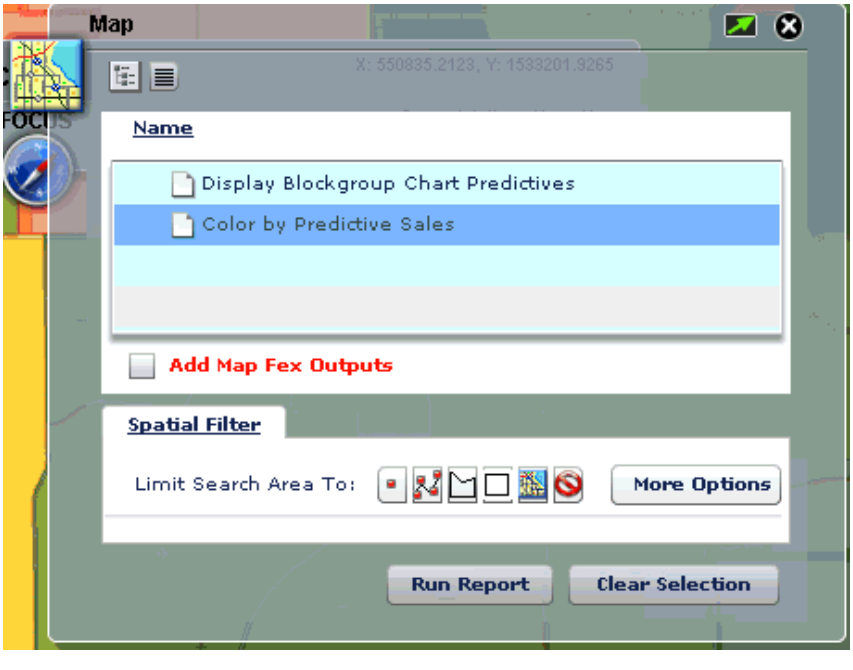
FIPS	BUSTYPE	PREDICTED_SALES	MAX SALES	PERCENT OF TOTAL SALES	SQFT	PEAK SEASON	TIME PERIOD
120950102001	Electronics	6,430.00	3,229.00	50.22%	40,000.00	Fall	Afternoon
120950102004	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Fall	Morning
120950102005	Electronics	6,412.00	3,228.00	50.34%	40,000.00	Spring	Morning
120950108021	Electronics	3,075.00	3,075.00	100.00%	20,000.00	Fall	Morning
120950108022	Electronics	6,412.00	3,228.00	50.34%	40,000.00	Winter	Evening
120950109001	Electronics	6,368.00	3,184.00	50.00%	40,000.00	Fall	Evening
120950110001	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Spring	Morning
120950110002	Electronics	3,228.00	3,228.00	100.00%	20,000.00	Winter	Morning
120950111001	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Spring	Afternoon
120950112001	Electronics	3,201.00	3,201.00	100.00%	20,000.00	Spring	Afternoon
120950128001	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Fall	Evening
120950128002	Electronics	3,075.00	3,075.00	100.00%	20,000.00	Fall	Morning
120950128003	Electronics	3,228.00	3,228.00	100.00%	20,000.00	Winter	Morning
120950128004	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Fall	Afternoon
120950129001	Electronics	6,790.00	3,395.00	50.00%	40,000.00	Spring	Morning
120950130012	Electronics	3,228.00	3,228.00	100.00%	20,000.00	Winter	Evening
120950132003	Electronics	3,184.00	3,184.00	100.00%	20,000.00	Fall	Evening
120950162001	Electronics	9,657.00	3,228.00	33.43%	60,000.00	Winter	Morning

Procedure: How to Use the WebFOCUS Map Widget

1. Click the *WebFOCUS* icon in the left pane, and select *Map* from the context menu, as shown in the following image.

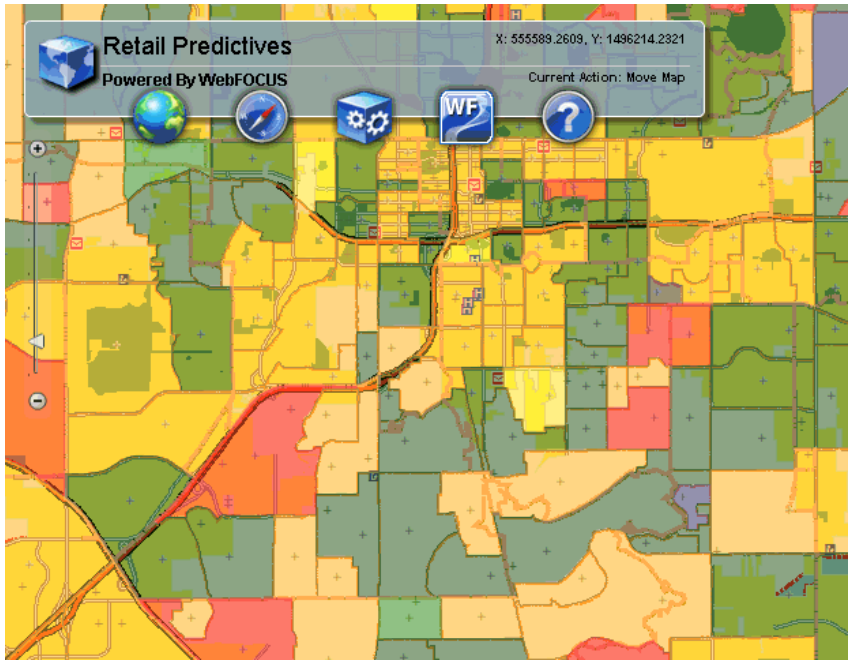


The Map widget opens, as shown in the following image.



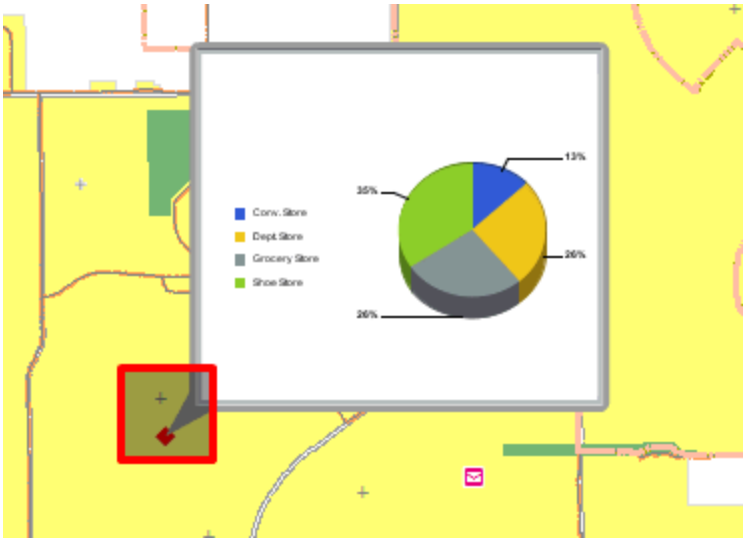
The following map options are available:

- **Display Blockgroup Chart Predictives.** Displays charts as popups on the map that are based on selected stores in a region.
- **Color by Predictive Sales.** Colors census blocks (FIPS) for predicted values using parameters on the page. Higher values are colored in red and the lowest values are colored in green. For example:



2. Select the type of report (for example, Display Blockgroup Chart Predictives) you want to generate and select a Spatial Filter (for example, Rectangle).
3. Minimize the Map widget.
4. Make a map selection using the selected Spatial Filter and return to the Map widget.
5. Click *Run Report*.

For example, the following report displays a popup chart on the map that is based on the selection made using the Rectangle Spatial Filter.

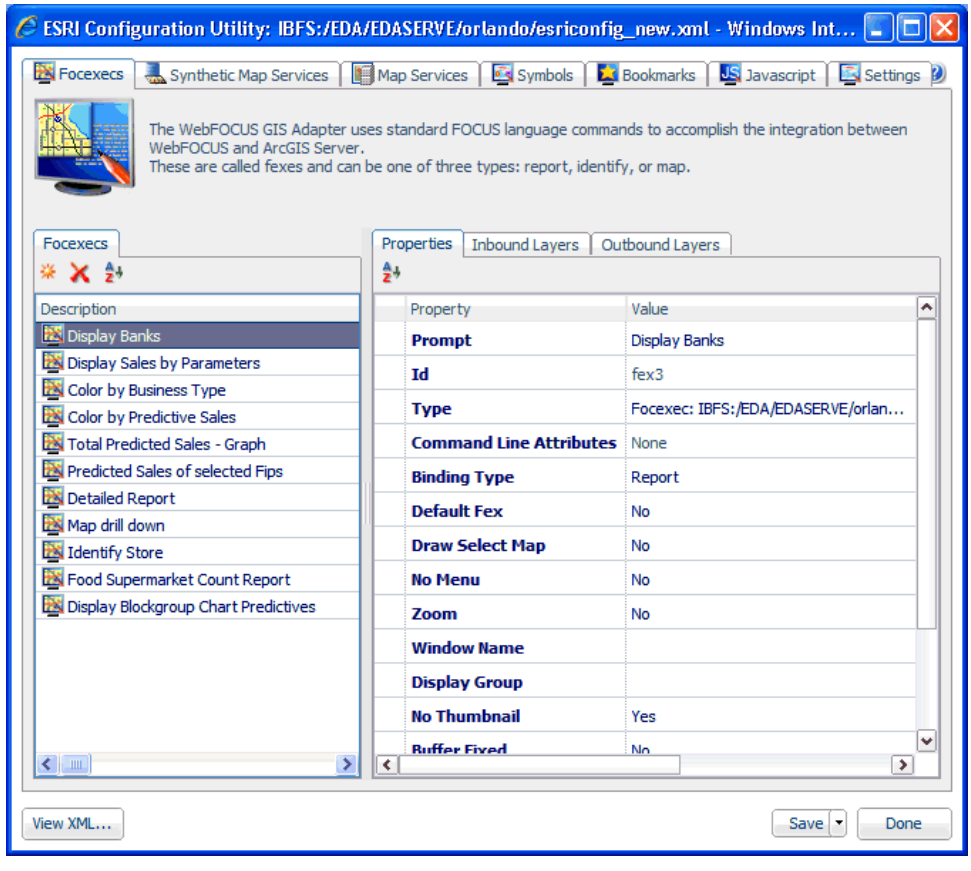


Defining WebFOCUS Reporting Procedures

WebFOCUS reporting procedures (FOCEXECs) are used to integrate between WebFOCUS and ArcGIS Server. The following types of FOCEXECs can be created for a Geographic Business Intelligence Solution (GBIS):

- **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.

The following image shows the XML definition file (esriconfig_new.xml) being edited in the ESRI Configuration Utility. The esriconfig_new.xml file is used by the Retail Predictives sample application. In this image, the Focexecs tab is selected.



The Retail Predictives sample application uses the following FOCEXECs:

Report

- Display Banks

  `/orlando/bankloc.fex`

- Display Sales by Parameters

  `/orlando/rp_sales.fex`

- Total Predicted Sales - Graph

  `/orlando/totalsales_graph.fex`

- Predicted Sales of selected Fips

  `/orlando/rp_bustype.fex`

- Detailed Report

  `/orlando/stores_count_bustype.fex`

- Food Supermarket Count Report

  `/orlando/food_supermarkets_by_county.fex`

Map

- Color by Business Type

  `/orlando/mp_highest_retailsales.fex`

- Color by Predictive Sales

  `/orlando/mp_sales.fex`

- Map drill down

  `/orlando/mp_fips.fex`

- Display Blockgroup Chart Predictives

  `/orlando/blockgroup_chart.fex`

Identify

- Identify Store

  `/orlando/identify_store.fex`

Procedure: How to Add a Report FOCEXEC

To add a Report FOCEXEC using the ESRI Configuration Utility:

1. Open the WebFOCUS Business Intelligence (BI) Portal by typing the following URL in your web browser:

   `http://server:port/ibi_apps`

   where:

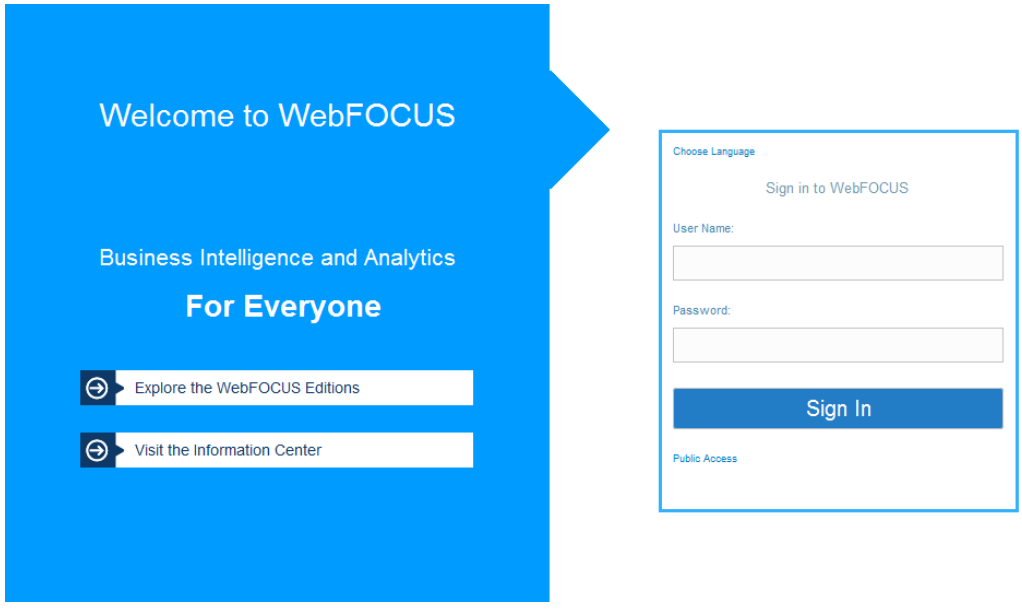
   server

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

port

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

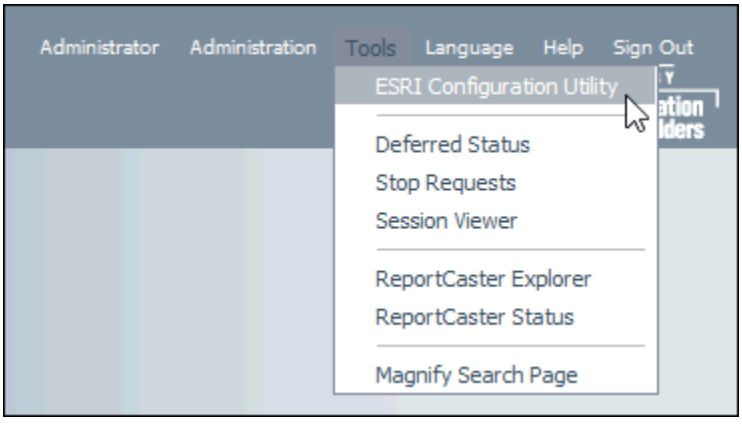
The WebFOCUS Sign In page opens, as shown in the following image.



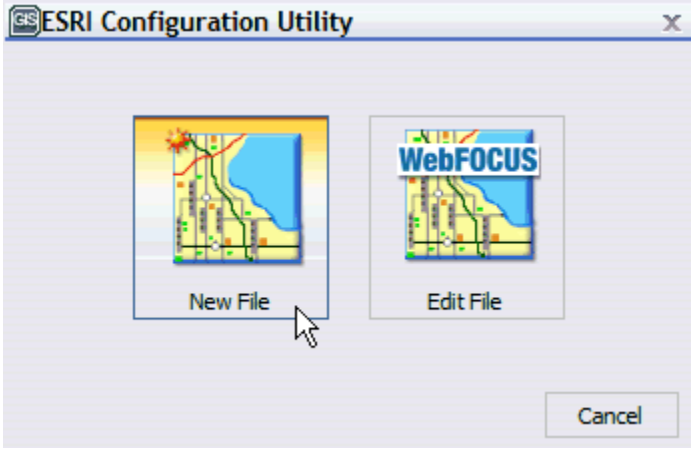
2. Enter the following default credentials:
   - User Name: *admin*
   - Password: *admin*
3. Click *Sign In*.

The WebFOCUS BI Portal page opens, as shown in the following image.

4. Click *Tools* from the top menu and select *ESRI Configuration Utility*.

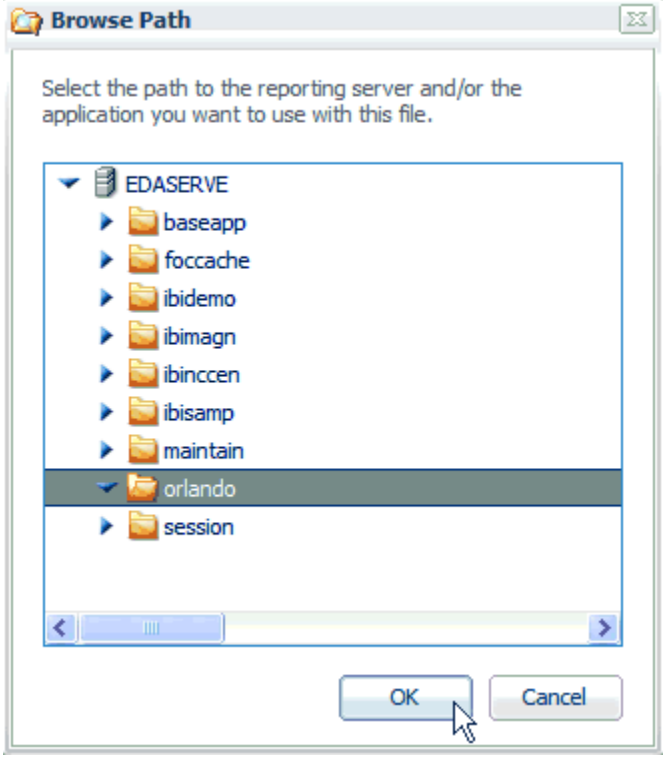


The ESRI Configuration Utility dialog opens, as shown in the following image.



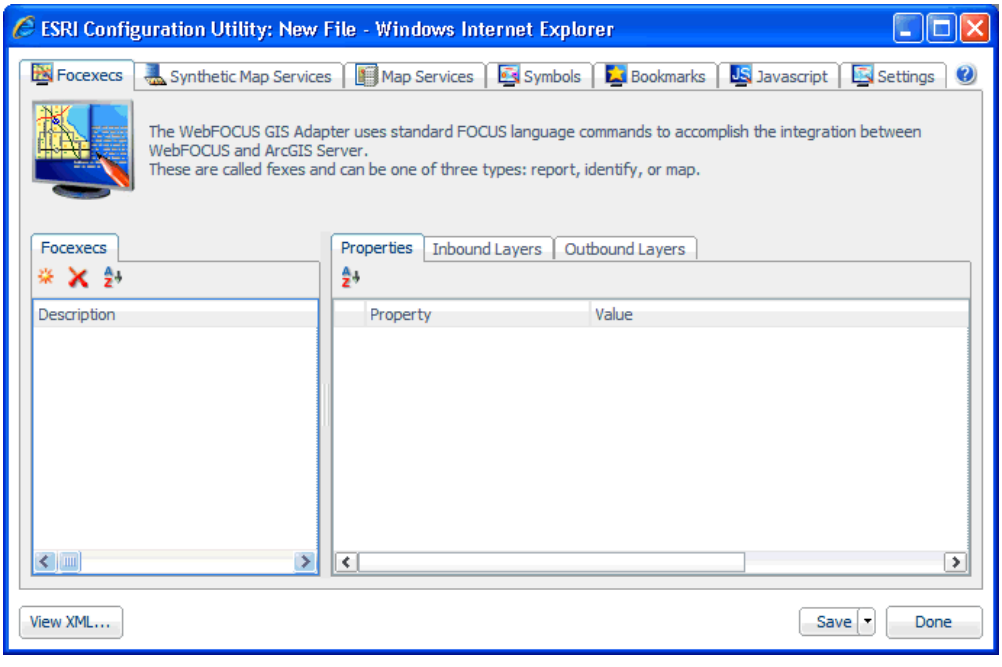
5. Click *New File*.

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



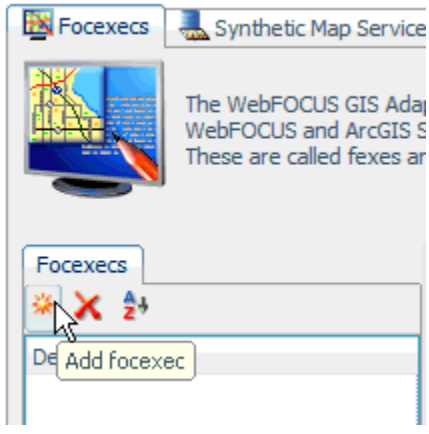
6. Select an application folder on the WebFOCUS Reporting Server where the new XML definition file will be located when it is saved (for example, orlando).
7. Click *OK*.

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

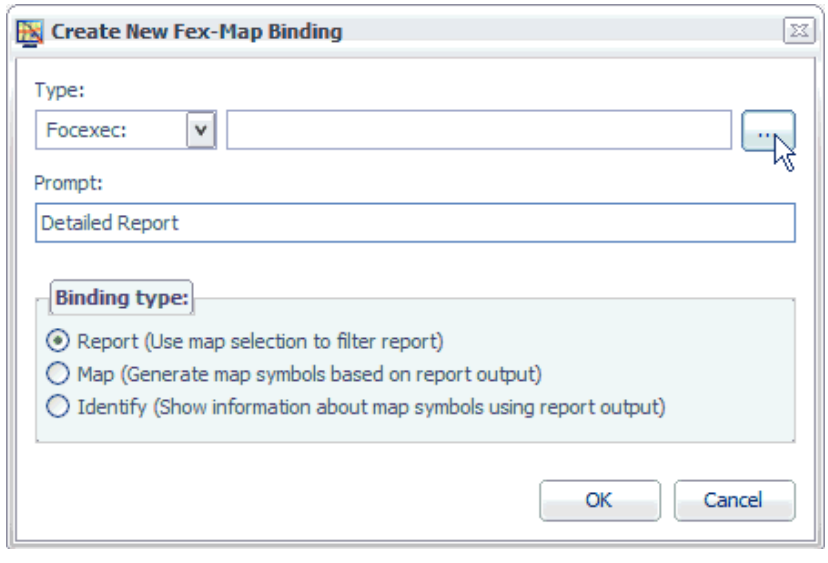


   The Focexecs tab is selected by default.

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

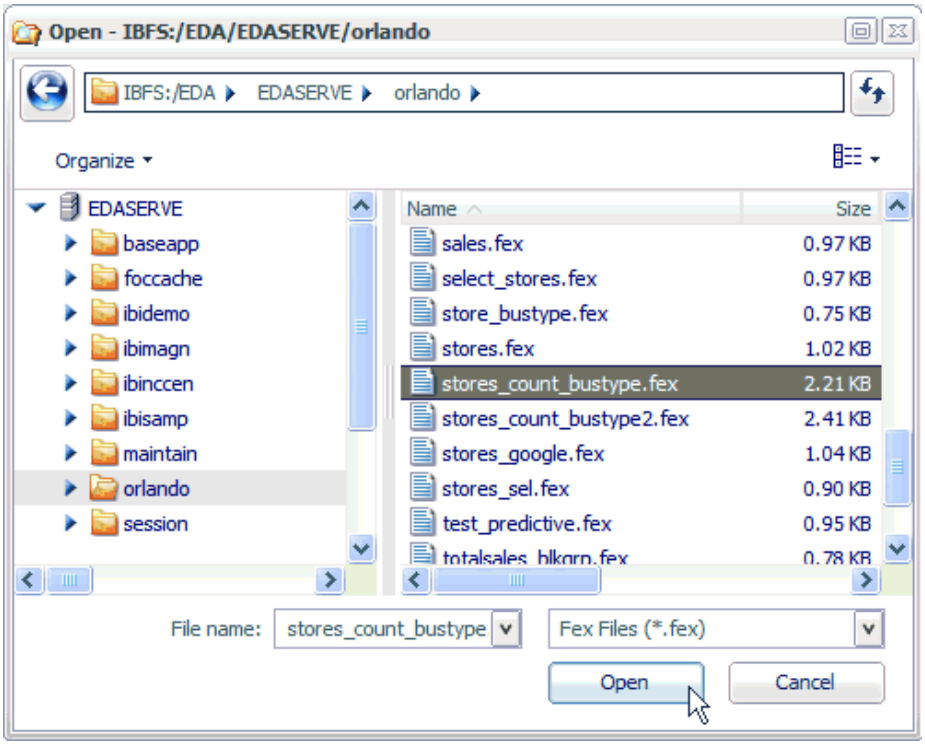


The Create New Fex-Map Binding dialog opens, as shown in the following image.



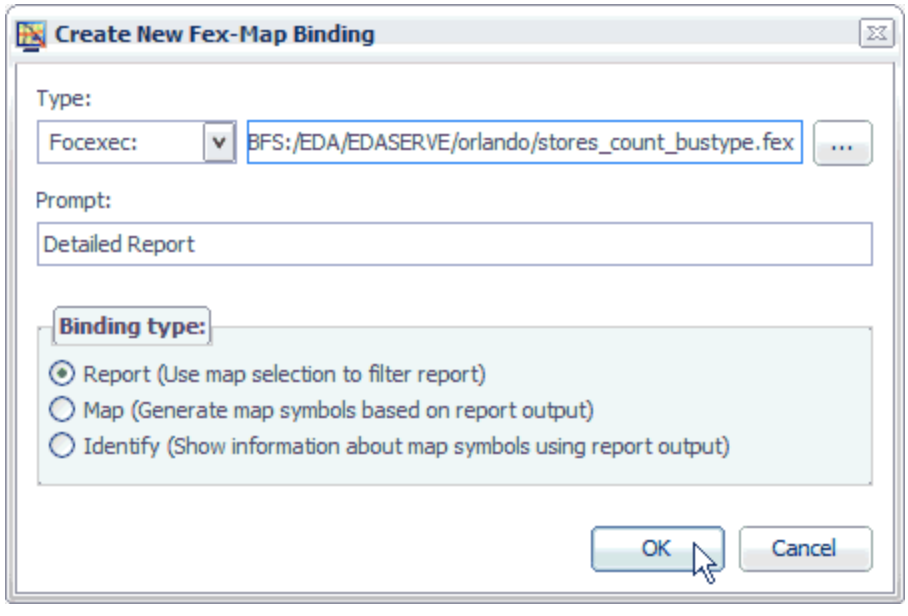
9. Perform the following steps:
   a. Ensure *Focexec* is selected from the Type drop-down list.
   b. In the Prompt field, enter a name (for example, Detailed Report) that will be used to identify this report in the application (accessed by the WebFOCUS GIS Viewer for Flex).
   c. Select *Report* from the Binding type area.
10. Click *Browse* to the right of the Fex file path field.

The Open dialog is displayed.



11. Browse to the *orlando* application directory under EDASERVE, select the *stores_count_bustype.fex* Report FOCEXEC, and click *Open*.

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

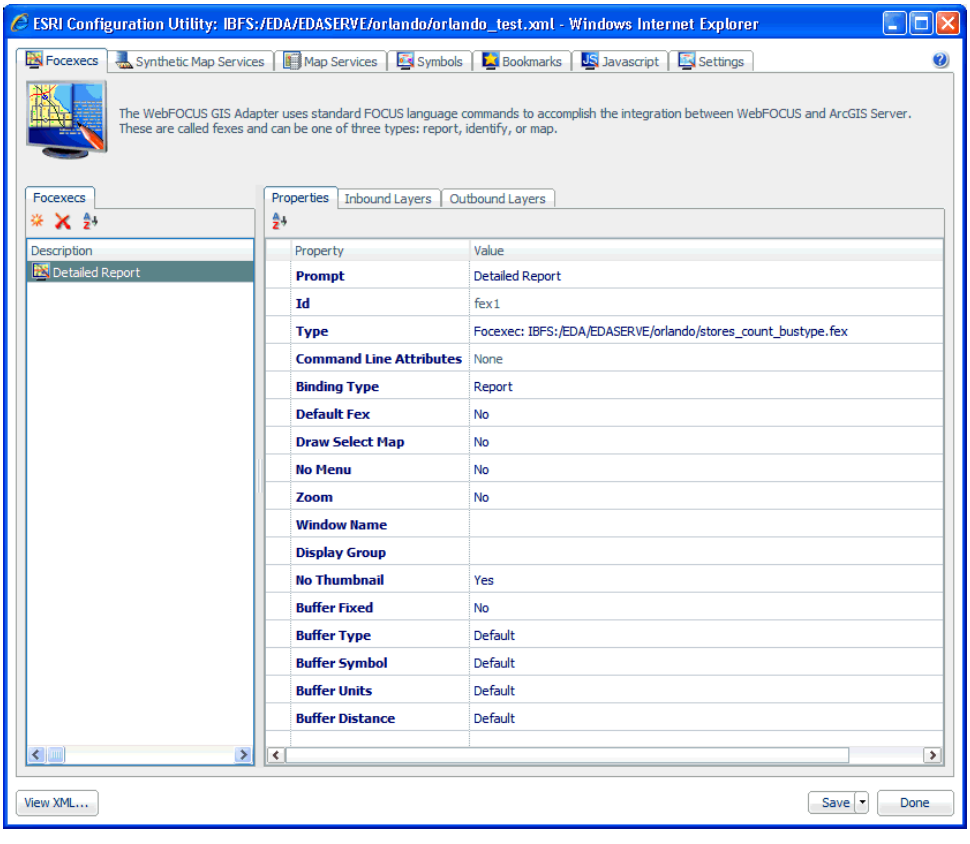


Notice that the path to the selected Report FOCEXEC (for example, stores_count_bustype.fex) is now added to the Fex file path field.

Note: To explore the syntax and structure used for this Report FOCEXEC (stores_count_bustype.fex), see *Sample Report FOCEXEC* on page 76.

12. Click *OK*.

The new Report FOCEXEC (called Detailed Report) is added to the Focexecs pane in the ESRI Configuration Utility, as shown in the following image.



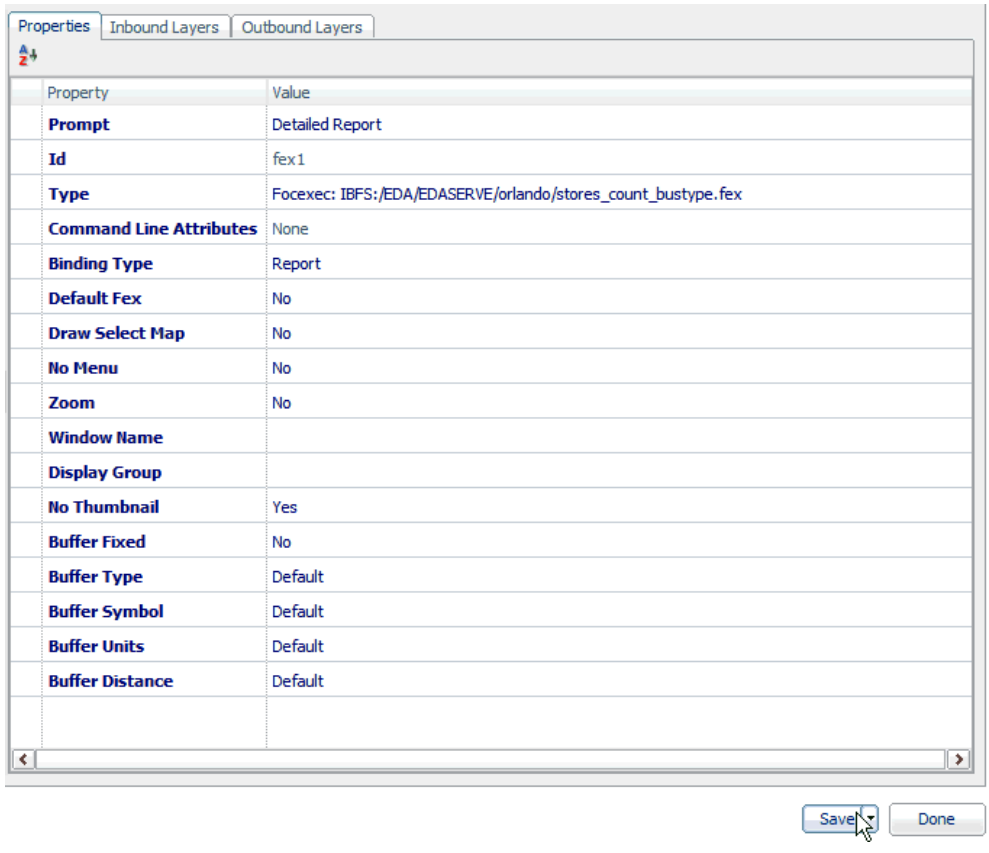
The Properties tab lists the available configuration properties for the Report FOCEXEC. Enter the configuration properties for the Detailed Report FOCEXEC, as listed in the following table.

Property	Description
Prompt	The Prompt value that you specified in the Create New Fex-Map Binding dialog. `Detailed Report`

Property	Description
Id	An ID that is automatically assigned to the FOCEXEC based on the order it is added. `fex1`
Type	The type (Focexec or Adhoc) and path to the selected Report FOCEXEC on the server. `Focexec:IBFS:/EDA/EDASERVE/orlando/stores_count_bustype.fex`
Command Line Attributes	`None`
Binding Type	The type of FOCEXEC (Report, Map, or Identify), as indicated by the selection made from the Binding type area in the Create New Fex-Map Binding dialog. `Report`
Default Fex	Designates this Report FOCEXEC to be the report that is launched when no other is specified. `Yes`
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`
No Menu	Removes this procedure from the menu of the WebFOCUS GIS Viewer for Flex. `No`
Zoom	Zooms into the area that was selected in the WebFOCUS GIS Viewer for Flex. `No`

Property	Description
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.
No Thumbnail	`Yes`
Buffer Fixed	Determines whether the buffer distances are preset or can be changed from the user interface. `No`
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. `Normal`
Buffer Symbol	Allows you to select a Buffer symbol style from the drop-down list to be used by your Report FOCEXEC. `Default`
Buffer Units	The unit of measure used for buffering. `Feet`
Buffer Distance	The distance values used for buffering. This can be a list of comma-separated values. `50,200`

For example:



13. Click *Save* and specify a path and file name (for example, esriconfig_orlando.xml) that will be used to identify the XML definition file that you are configuring for your application.

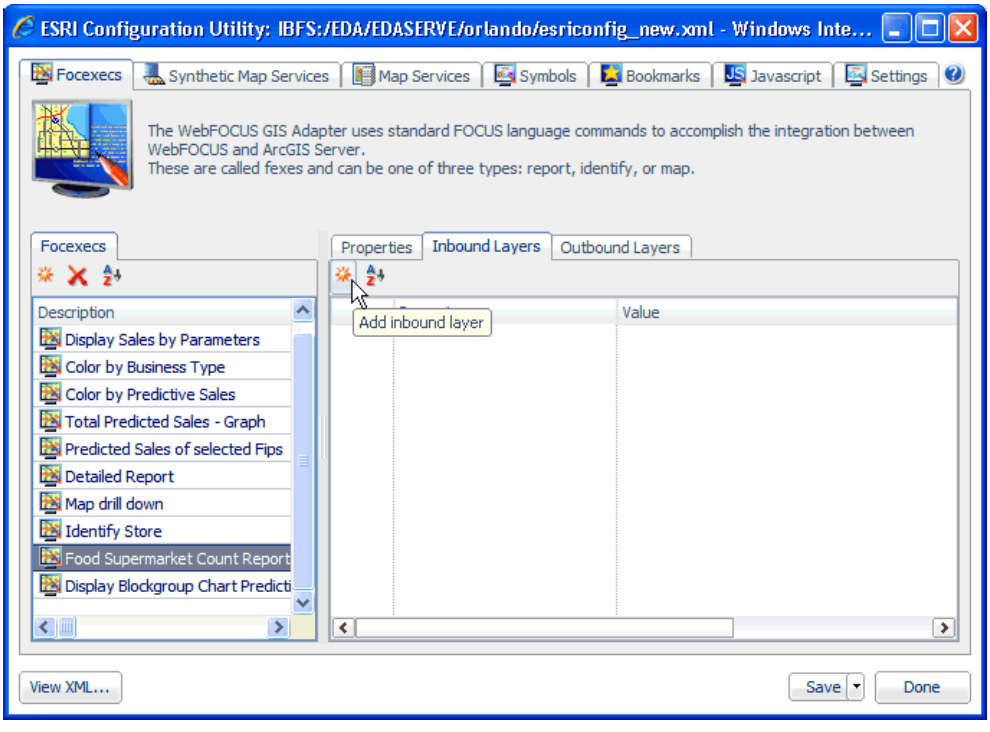
Procedure: How to Define an Inbound Layer for a Report FOCEXEC

The binding between the Report FOCEXEC and ArcGIS Server is achieved by defining an inbound layer. Inbound layers are used to identify which attribute is extracted from a map layer when a user draws a selected area on the map. Inbound layers provide information from ArcGIS Server 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.

To define an inbound layer for the Report FOCEXEC using the ESRI Configuration Utility:

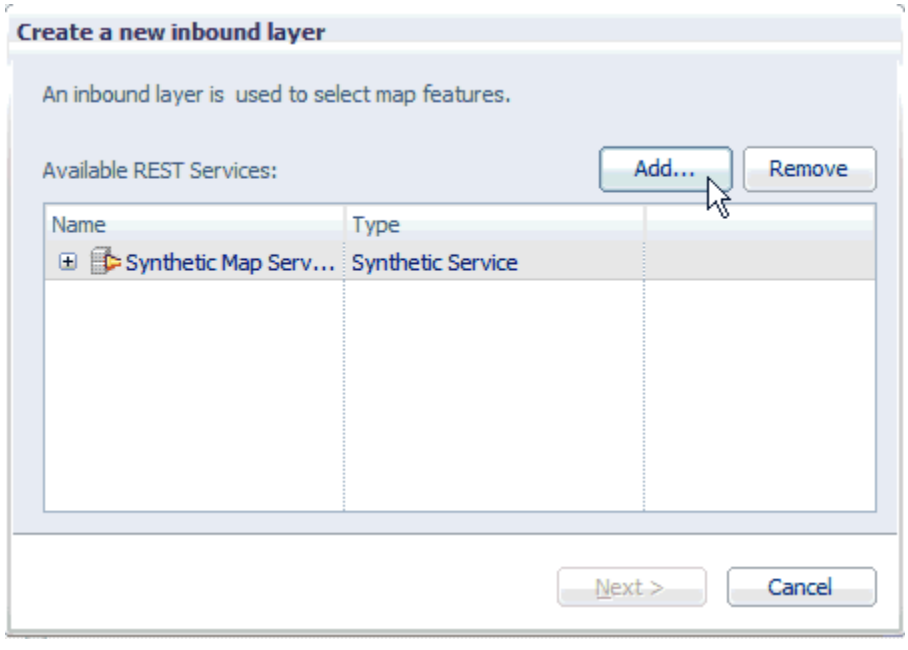
1. Select an available Report FOCEXEC for which you want to configure an inbound layer and then click the *Inbound Layers* tab located in the FOCEXECs configuration area of the ESRI Configuration Utility.

   Note: In this example, an inbound layer is defined to the Report FOCEXEC called Food Supermarket County Report (food_supermarkets_by_county.fex).



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

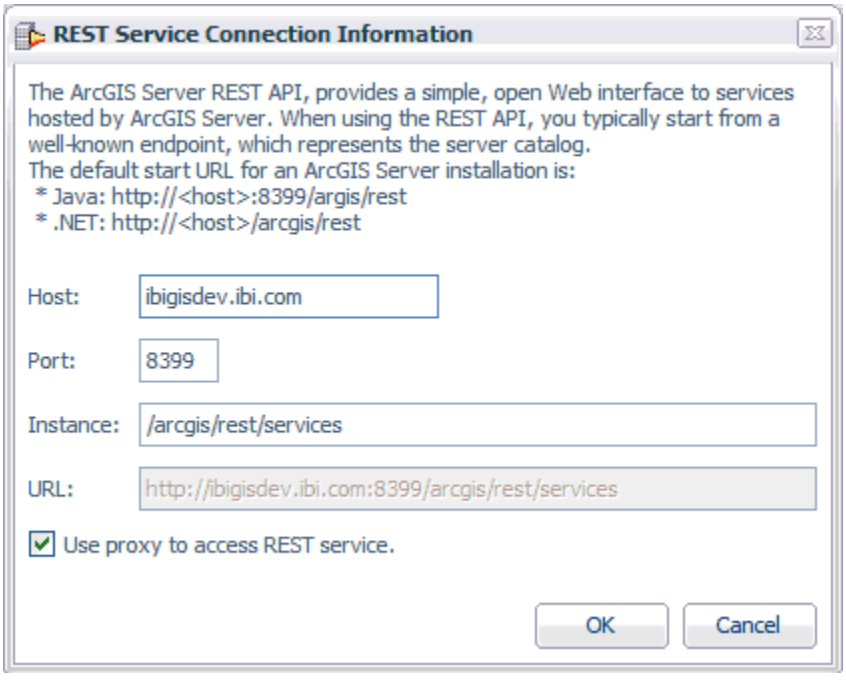
The Create a new inbound layer dialog opens, as shown in the following image.



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:

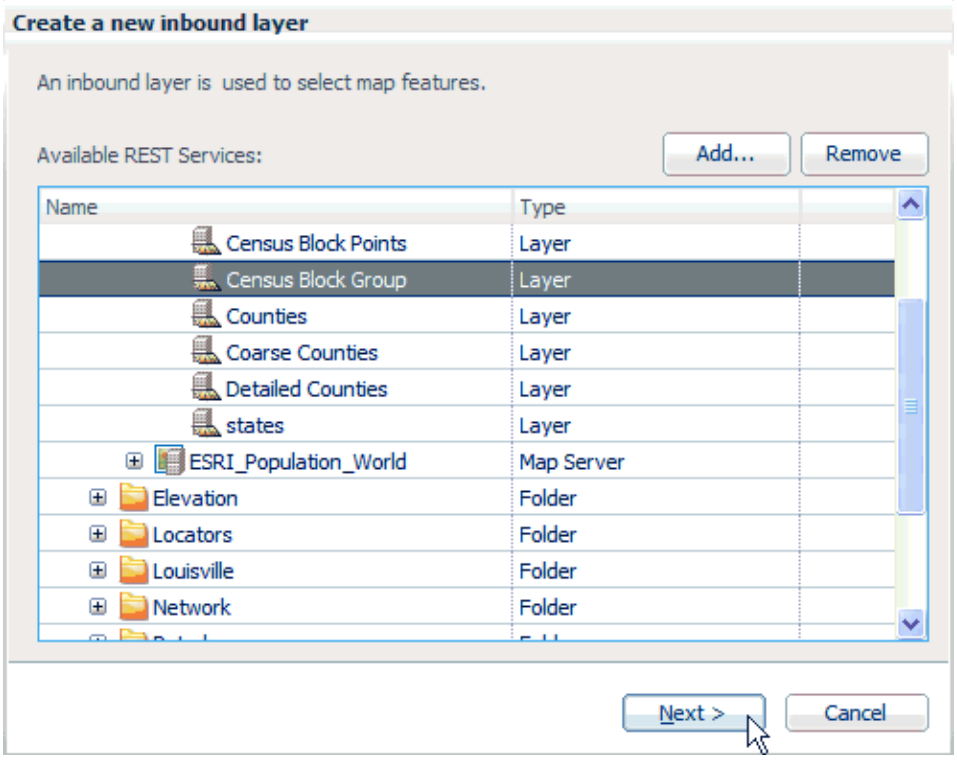
```
String[] serverUrls = {
  //"<url>[,<token>]"
  //For ex. (secured server): "http://myserver.mycompany.com/arcgis/rest/
services,ayn2C2iPvqjeqWoXwV
        6rjmr43kyo23mhIPnXz2CEiMA6rVu0xR0St8gKsd0olv8a"
  //For ex. (non-secured server): "http://sampleserver1.arcgisonline.com/arcgis/
rest/services"
  "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 Server 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*.

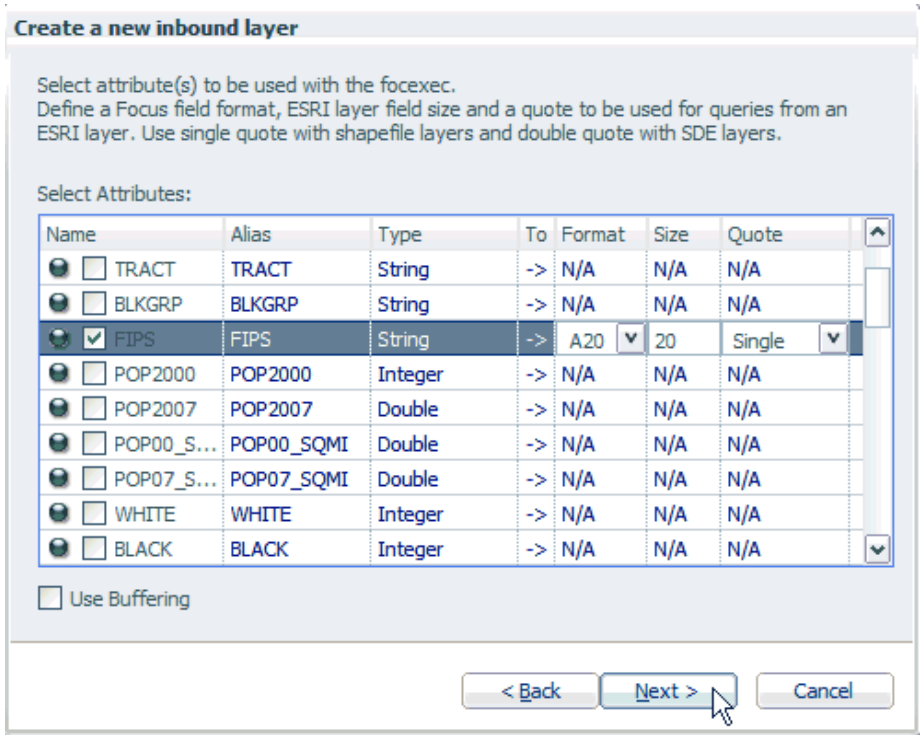
   You are returned to the Create a new inbound layer dialog.



6. Expand an available Map Server node and then select the layer (for example, Census Block Group) 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.



8. Select the attribute(s) (for example, FIPS) 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.

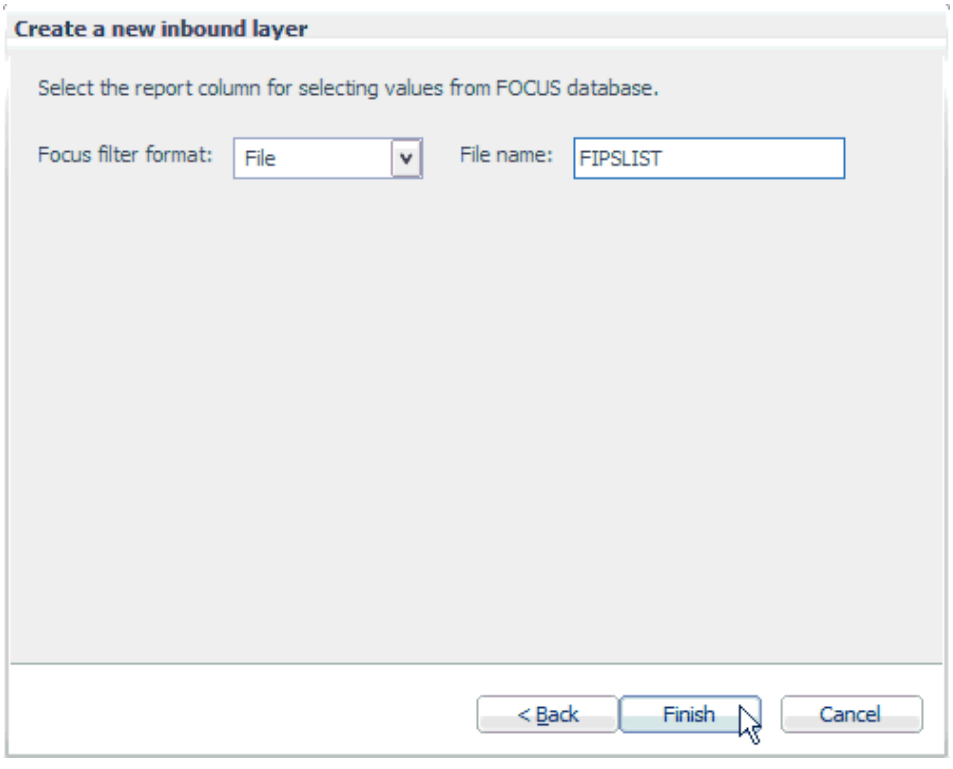
   The Format column reflects the FOCEXEC format to be used for conversion. Valid FOCUS formats are used with a length (for example, A20).

   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.



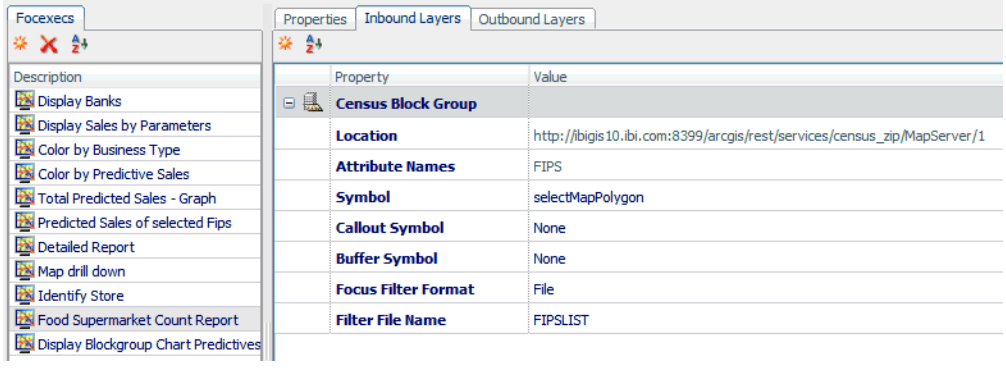
10. Choose the filter type (for example, File) from the Focus filter format drop-down list.

    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 (for example, FIPSLIST) 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. `http://ibigis10.ibi.com:8399/arcgis/rest/services/census_zip/MapServer/1`
Attribute Names	The selected attribute(s) for the inbound layer definition. `FIPS`
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. `selectMapPolygon` For more information on defining symbols, see *How to Configure a New Symbol Definition* on page 106.
Callout Symbol	Allows you to select a callout symbol style from the drop-down list to be used by your FOCEXEC. `None`

Property	Description
Buffer Symbol	Allows you to select a buffer symbol style from the drop-down list to be used by your FOCEXEC. `None`
Focus Filter Format	The current filter type that is being used by the inbound layer definition (File, String Amper, or Numeric Amper). `File`
Filter File Name	The filter variable or file for the inbound layer definition. `FIPSLIST`

Reference: Sample Report FOCEXEC

This section provides the syntax used by the Detailed Report FOCEXEC (stores_count_bustype.fex).

```
-* File stores_count_bustype.fex
JOIN
RETAIL_BLKGRPS.SEG01.FIPS IN RETAIL_BLKGRPS TO MULTIPLE
PREDICTIVESBLK.SEG01.FIPS IN PREDICTIVESBLK TAG J2 AS J2
END
TABLE FILE RETAIL_BLKGRPS
SUM
     J2.SEG01.PREDICTED_SALES AS 'PREDICTED SALES'
     RETAIL_BLKGRPS.SEG01.POP10_SQMI AS 'POPULATION 2000 PER SQ. MILE'
     RETAIL_BLKGRPS.SEG01.POP00_SQMI AS 'POPULATION 2010 PER SQ. MILE'
     MAX.RETAIL_BLKGRPS.SEG01.MED_AGE AS 'MEDIAN AGE'
     CNT.RETAIL_BLKGRPS.SEG01.STOREID AS 'STORE COUNT'
BY  LOWEST J2.SEG01.FIPS
ON TABLE SET DROPBLNKLINE ON
ON TABLE SET PAGE-NUM NOLEAD
ON TABLE SET EXPANDABLE ON
ON TABLE NOTOTAL
ON TABLE PCHOLD FORMAT HTML
ON TABLE SET HTMLCSS ON
ON TABLE SET STYLE *
     INCLUDE = endeflt,
$
     DEFMACRO=COND0001,
     MACTYPE=RULE,
     WHEN=N6 GE 100,
$
TYPE=REPORT,
$
     GRAPHTYPE=DATA,
     COLUMN=N6,
     GRAPHCOLOR='GREEN',
$
     GRAPHTYPE=DATA,
     COLUMN=N6,
     GRAPHCOLOR='RED',
     MACRO=COND0001,
$
TYPE=REPORT,
     LINES-PER-PAGE=UNLIMITED,
```

```
$
TYPE=DATA,
     COLUMN=N1,
     DRILLMENUITEM='Detailed Report',
          FOCEXEC=rp_sales( \
     FIPSLIST=N1 \
     ),
     DRILLMENUITEM='Show in Map',
          JAVASCRIPT=RunMyMapOutput( \
     'FIPS' \
     N1 \
     'fex8' \
     ),
$
TYPE=TITLE,
     COLUMN=N1,
     DRILLMENUITEM='Detailed Report for Predicted Sales',
          FOCEXEC=rp_sales( \
     FIPSLIST=N1 \
     ),
     DRILLMENUITEM='Show in the Map',
          JAVASCRIPT=RunMyMapOutput( \
     'FIPS' \
     N1 \
     'fex8' \
     ),
$
TYPE=REPORT,
     OBJECT=MENU,
     COLOR='WHITE',
     HOVER-COLOR=RGB(66 70 73),
     BACKCOLOR=RGB(102 102 102),
     HOVER-BACKCOLOR=RGB(218 225 232),
     BORDER-COLOR='WHITE',
$
TYPE=REPORT,
     OBJECT=STATUS-AREA,
     COLOR='WHITE',
     BACKCOLOR=RGB(102 102 102),
$
TYPE=REPORT,
     OBJECT=CURRENT-ROW,
     HOVER-BACKCOLOR=RGB(218 225 232),
     BACKCOLOR=RGB(200 200 200),
```

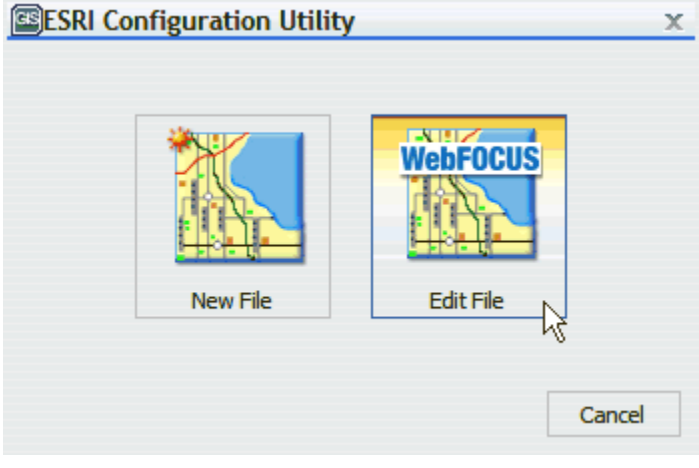
```
$
TYPE=REPORT,
     OBJECT=CALC-AREA,
     COLOR='WHITE',
     BACKCOLOR=RGB(102 102 102),
$
TYPE=REPORT,
     COLUMN=N2,
     SQUEEZE=1.138889,
$
TYPE=REPORT,
     COLUMN=N3,
     SQUEEZE=0.680556,
$
TYPE=REPORT,
     COLUMN=N4,
     SQUEEZE=0.680556,
$
ENDSTYLE
END
```

Procedure: How to Add a Map FOCEXEC

To add a Map FOCEXEC using the ESRI Configuration Utility:

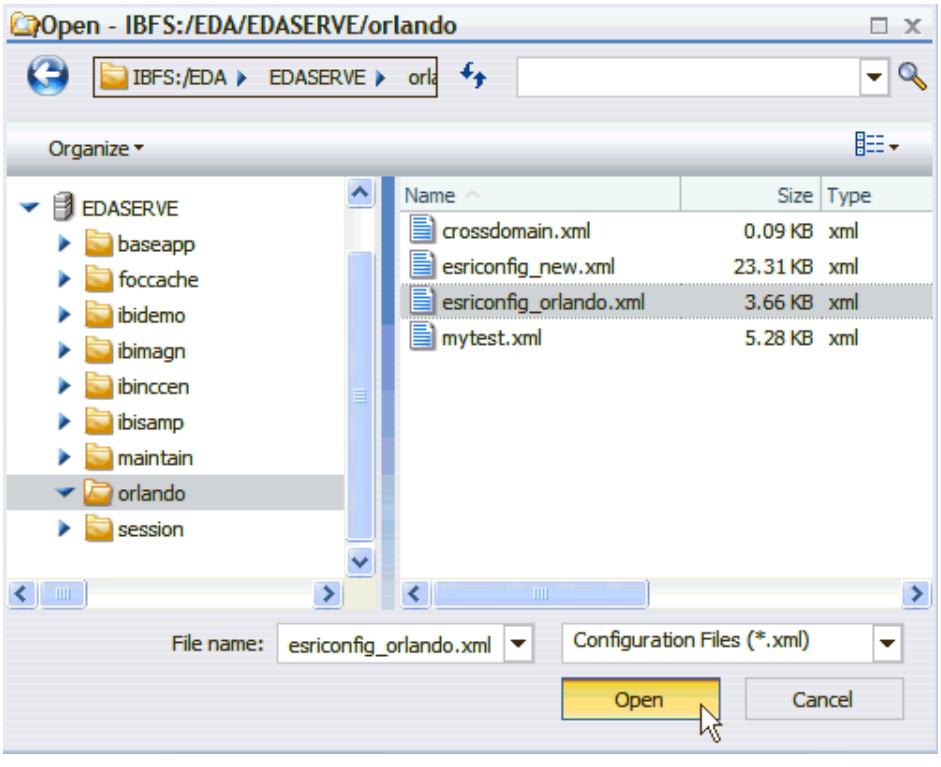
1. Access the ESRI Configuration Utility, as described in *How to Add a Report FOCEXEC* on page 56.

   The ESRI Configuration Utility dialog opens, as shown in the following image.



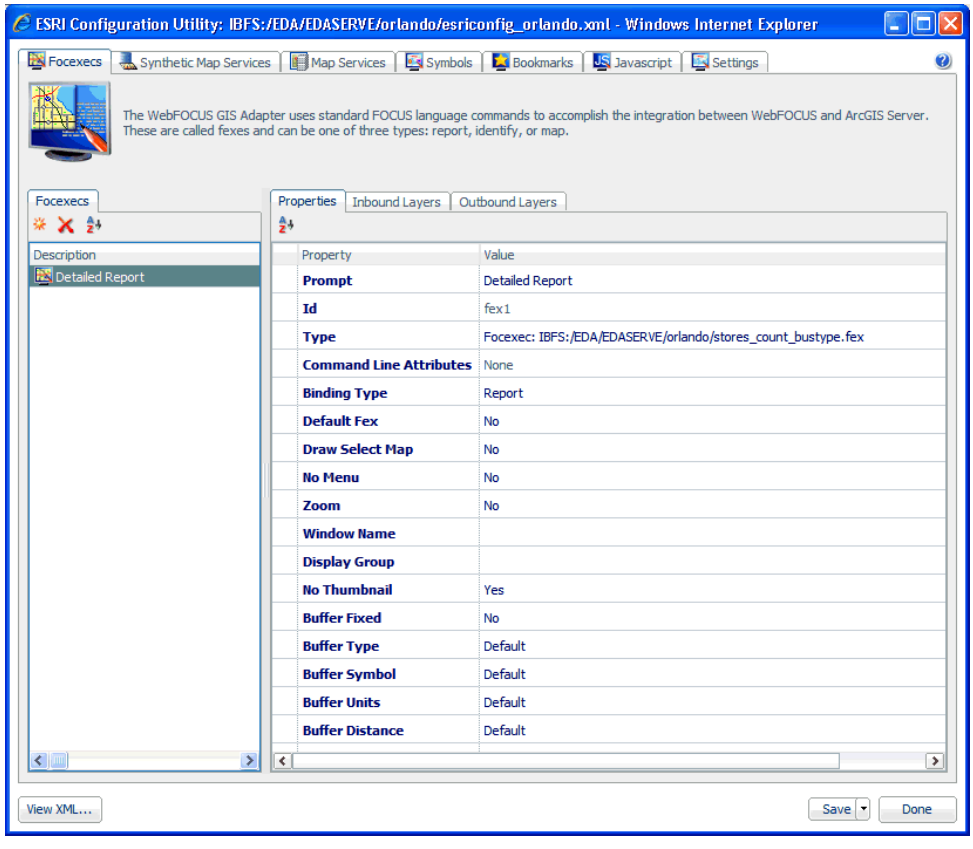
2. Click *Edit File*.

The Open dialog is displayed, as shown in the following image.



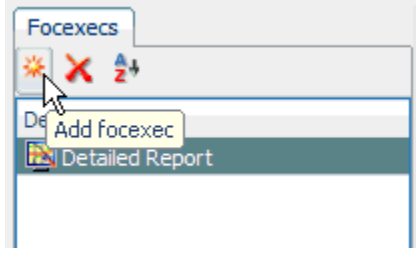
3. Browse to the *orlando* application directory under EDASERVE, select the *esriconfig_orlando.xml* definition file that you configured earlier, and click *Open*.

The ESRI Configuration Utility opens the selected *esriconfig_orlando.xml* definition file, as shown in the following image.

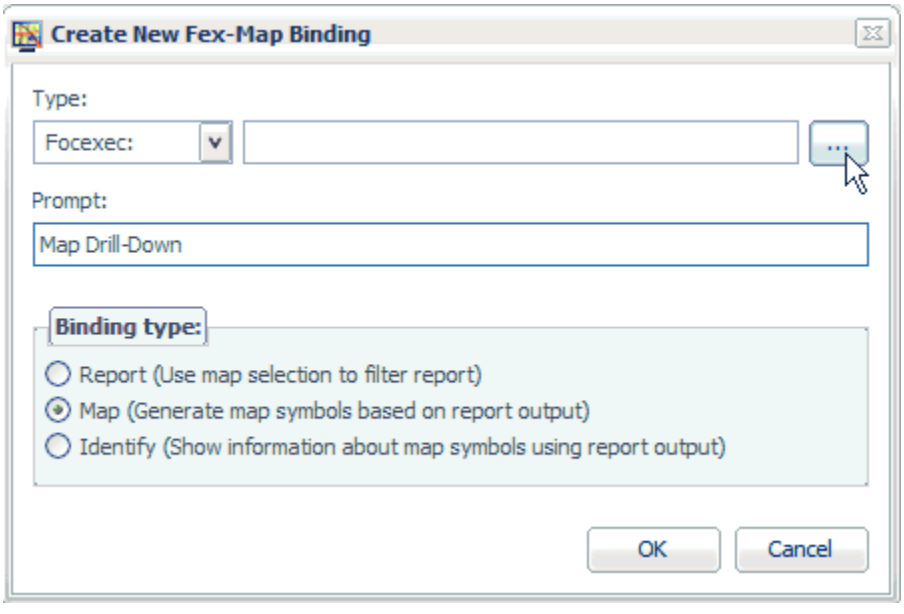


The Focexecs tab is selected by default.

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

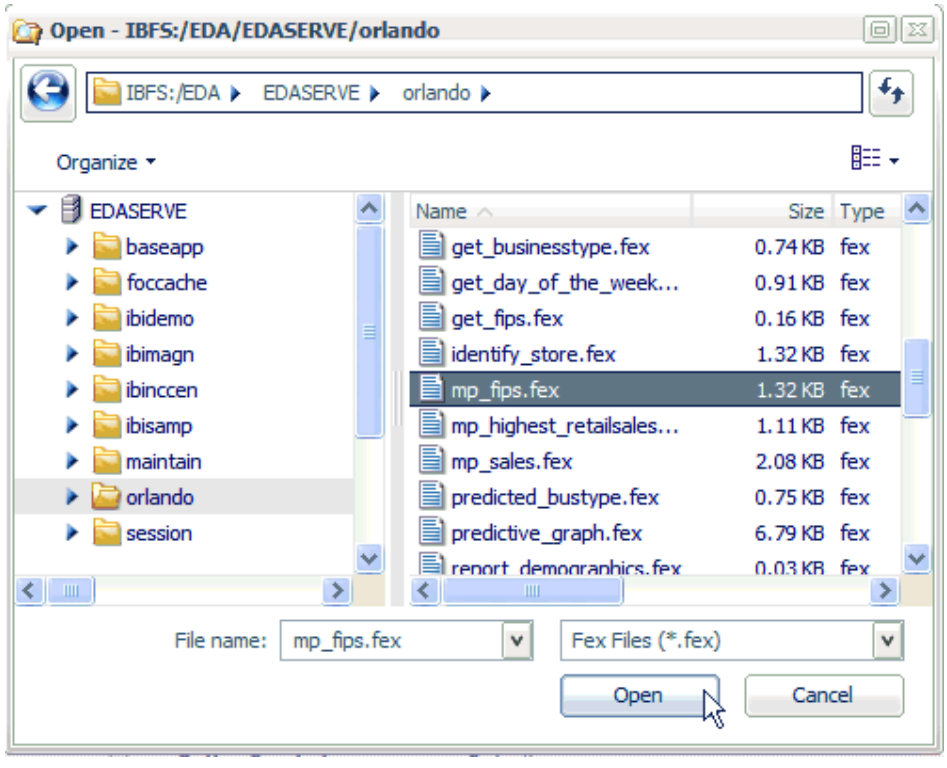


The Create New Fex-Map Binding dialog opens, as shown in the following image.



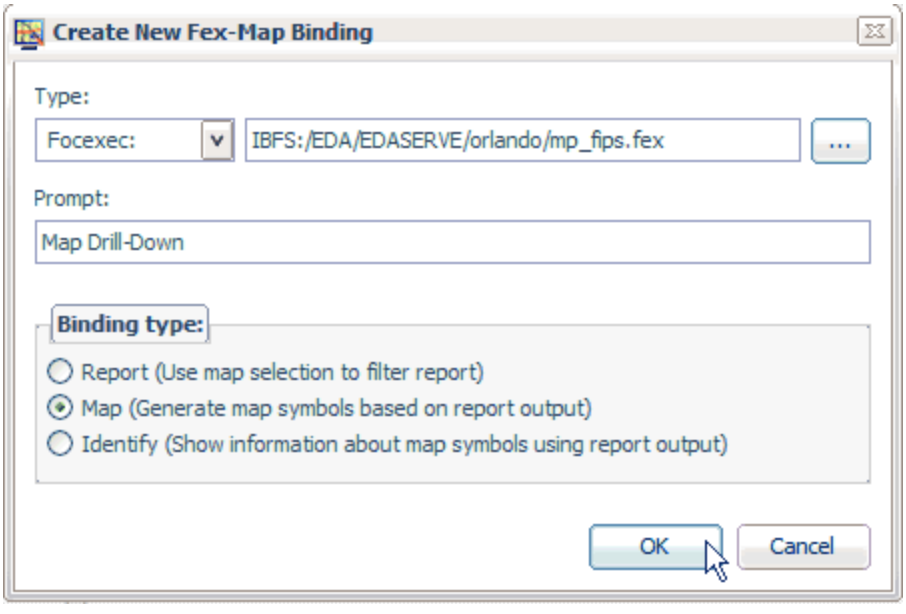
5. Perform the following steps:
   a. Ensure *Focexec* is selected from the Type drop-down list.
   b. In the Prompt field, enter a name (for example, Map Drill-Down) that will be used to identify this report in the application (accessed by the WebFOCUS GIS Viewer for Flex).
   c. Select *Map* from the Binding type area.
6. Click *Browse* to the right of the Fex file path field.

The Open dialog is displayed.



7. Browse to the *orlando* application directory under EDASERVE, select the *mp_fips.fex* Map FOCEXEC, and click *Open*.

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

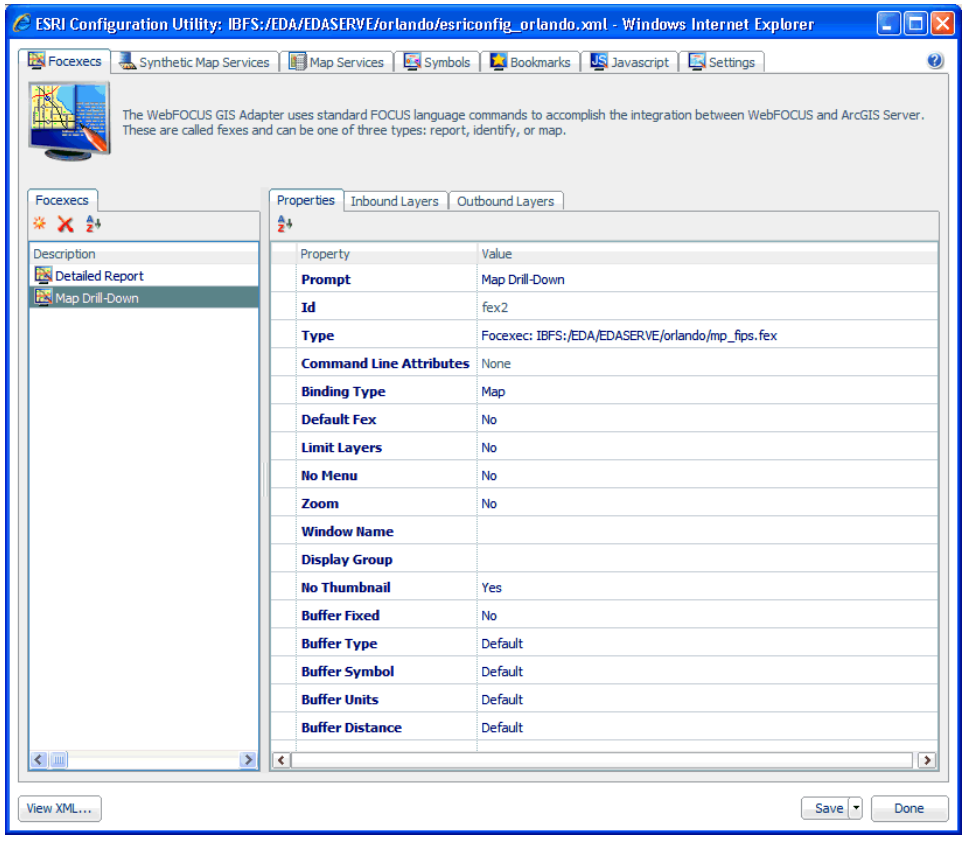


Notice that the path to the selected Map FOCEXEC (for example, mp_fips.fex) is now added to the Fex file path field.

Note: To explore the syntax and structure used for this Map FOCEXEC (mp_fips.fex), see *Sample Map FOCEXEC* on page 98.

8. Click *OK*.

The new Map FOCEXEC (called Map Drill-Down) is added to the Focexecs pane in the ESRI Configuration Utility, as shown in the following image.



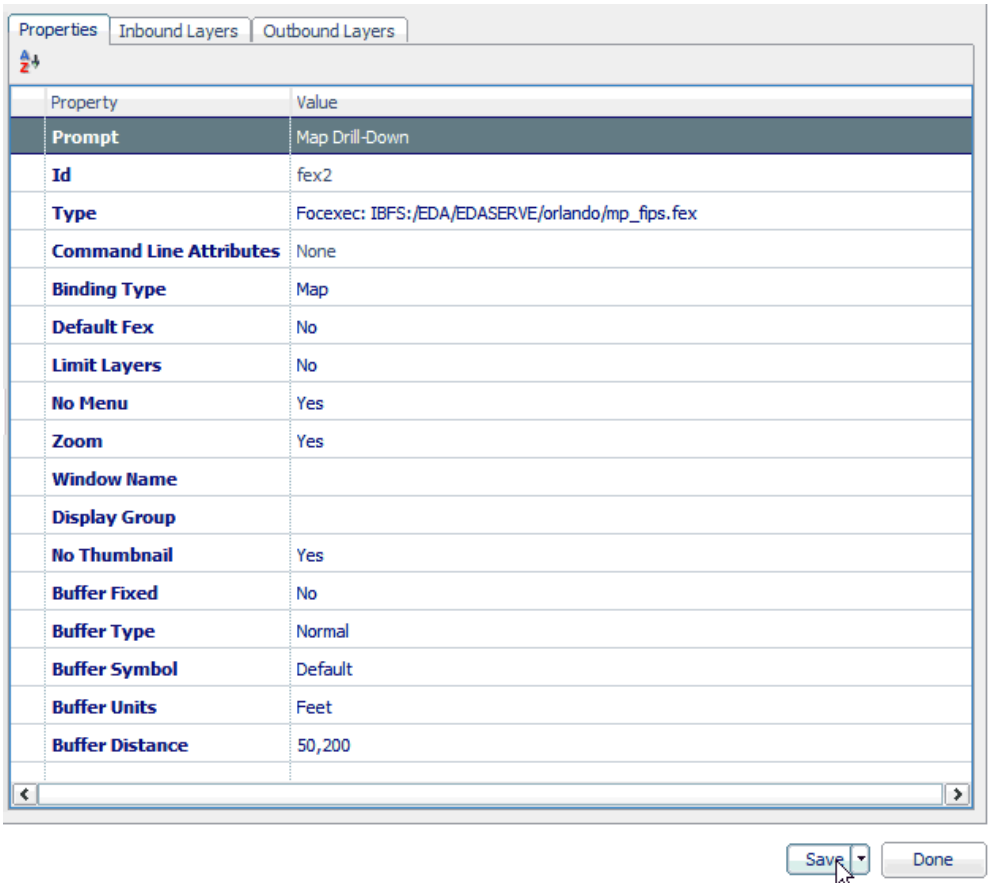
The Properties tab lists the available configuration properties for the Map FOCEXEC. Enter the configuration properties for the Map Drill-Down FOCEXEC, as listed in the following table.

Property	Description
Prompt	The Prompt value that you specified in the Create New Fex-Map Binding dialog. `Map Drill-Down`

Property	Description
Id	An ID that is automatically assigned to the FOCEXEC based on the order it is added. `fex2`
Type	The type (Focexec or Adhoc) and path to the selected Report FOCEXEC on the server. `Focexec:IBFS:/EDA/EDASERVE/orlando/mp_fips.fex`
Command Line Attributes	`None`
Binding Type	The type of FOCEXEC (Report, Map, or Identify), as indicated by the selection made from the Binding type area in the Create New Fex-Map Binding dialog. `Map`
Default Fex	Designates this Report FOCEXEC to be the report that is launched when no other is specified. `No`
Limit Layers	Displays layers that are only listed within the Outbound area. `No`
No Menu	Removes this procedure from the menu of the WebFOCUS GIS Viewer for Flex. `Yes`
Zoom	Zooms into the area that was selected in the WebFOCUS GIS Viewer for Flex. `Yes`
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.

Property	Description
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.
No Thumbnail	`Yes`
Buffer Fixed	Determines whether the buffer distances are preset or can be changed from the user interface. `No`
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. `Normal`
Buffer Symbol	Allows you to select a Buffer symbol style from the drop-down list to be used by your Report FOCEXEC. `Default`
Buffer Units	The unit of measure used for buffering. `Feet`
Buffer Distance	The distance values used for buffering. This can be a list of comma-separated values. `50,200`

For example:



9. Click *Save*.

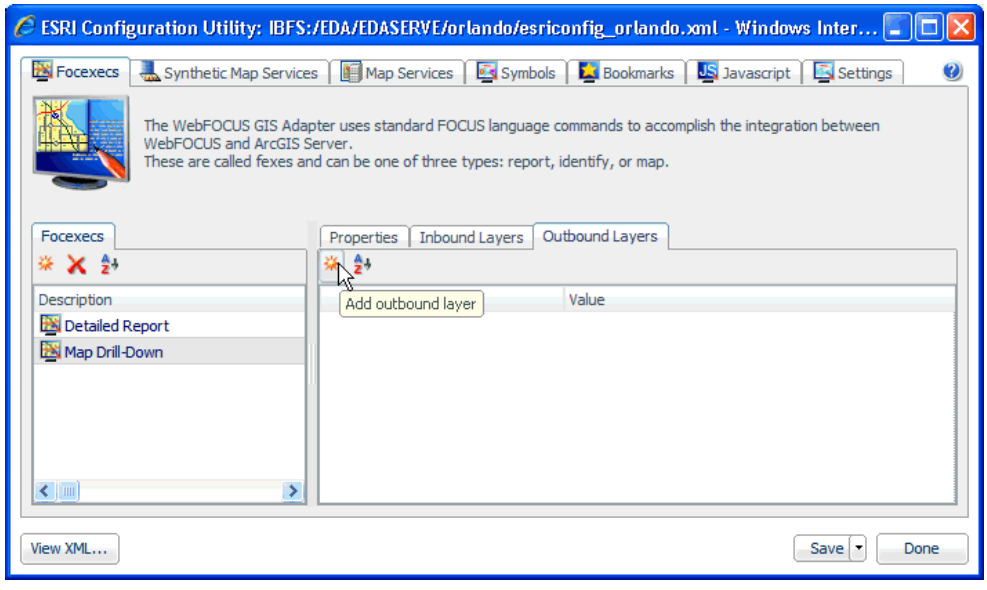
Procedure: How to Define an Outbound Layer for the Map FOCEXEC

The binding between the Map FOCEXEC and ArcGIS Server is achieved by defining an outbound layer. Outbound layers provide information from WebFOCUS to ArcGIS Server, and determine the linkage between a Map Layer attribute and WebFOCUS XML output. Outbound layers are required for WebFOCUS Map bindings. These layers visually represent results from a WebFOCUS Report using color, image, size, title, and text columns.

To define an outbound layer for the Map FOCEXEC using the ESRI Configuration Utility:

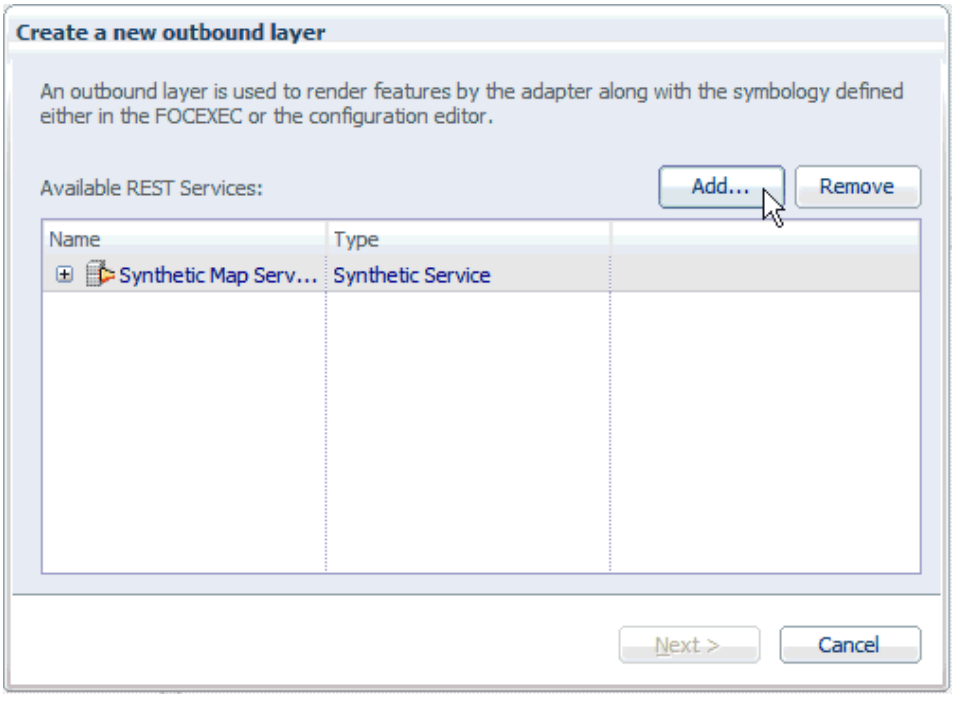
1. Select an available Map FOCEXEC (for example, Map Drill-Down) for which you want to configure an outbound layer and then click the *Outbound Layers* tab located in the FOCEXECs configuration area of the ESRI Configuration Utility, as shown in the following image.

   Note: In this example, an outbound layer is defined to the Map FOCEXEC called Map Drill-Down (mp_fips.fex).



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

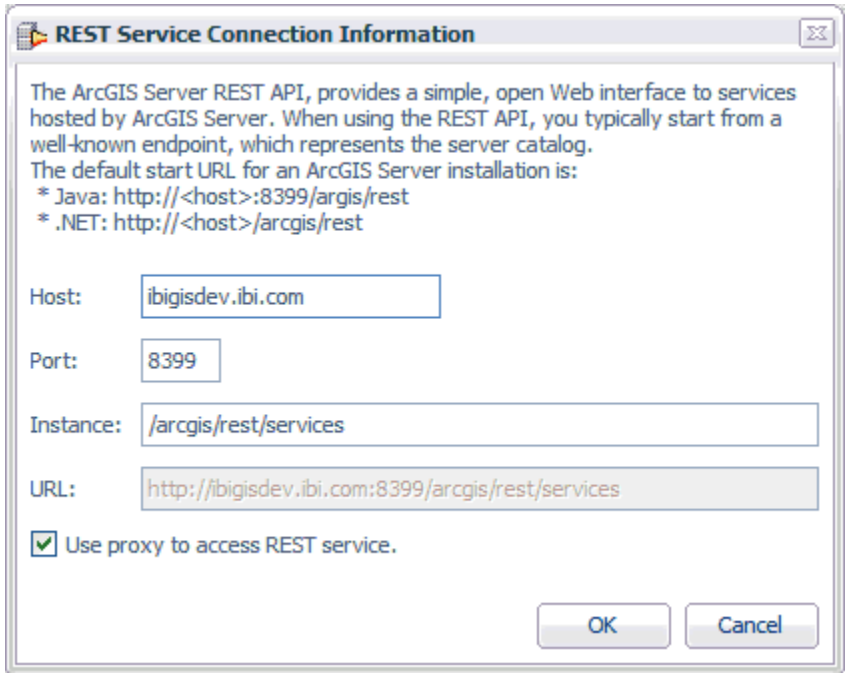
The Create a new outbound layer dialog opens, as shown in the following image.



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:

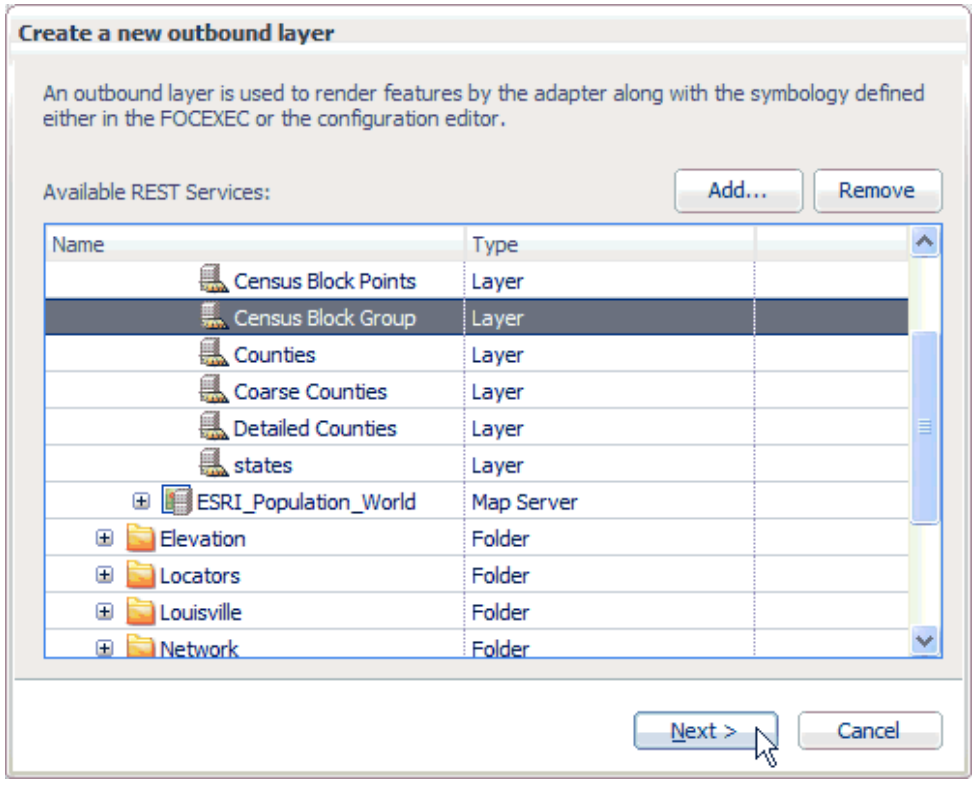
```
String[] serverUrls = {
  //"<url>[,<token>]"
  //For ex. (secured server): "http://myserver.mycompany.com/arcgis/rest/
services,ayn2C2iPvqjeqWoXwV
        6rjmr43kyo23mhIPnXz2CEiMA6rVu0xR0St8gKsd0olv8a"
  //For ex. (non-secured server): "http://sampleserver1.arcgisonline.com/arcgis/
rest/services"
  "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 Server 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*.

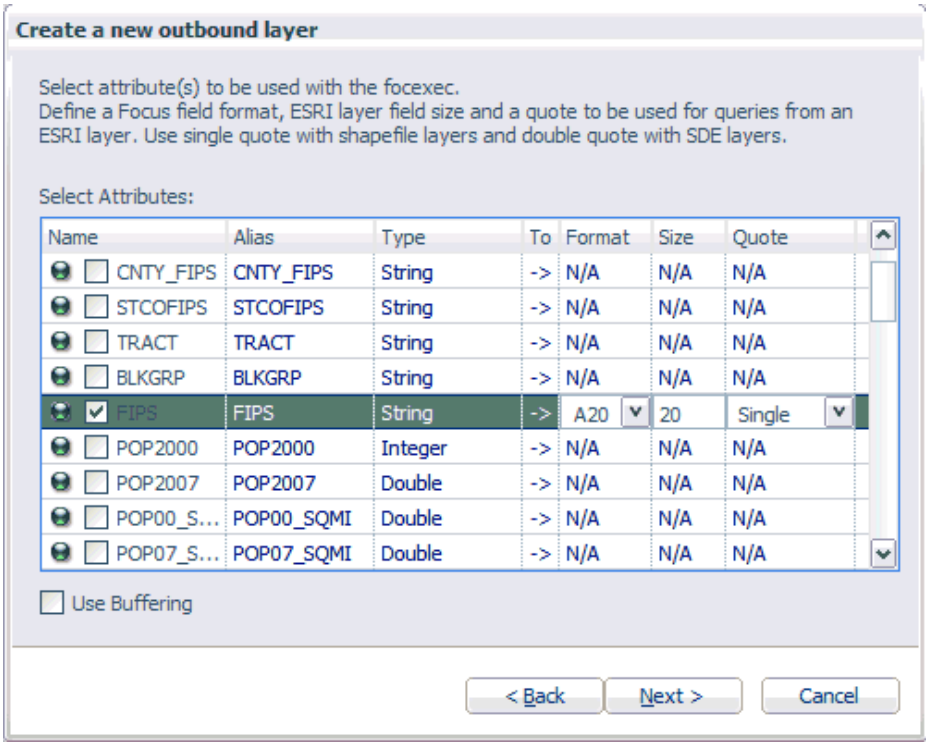
   You are returned to the Create a new outbound layer dialog.



6. Expand an available Map Server node and then select the layer (for example, Census Block Group) 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.



8. Select the attribute(s) (for example, FIPS) 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.

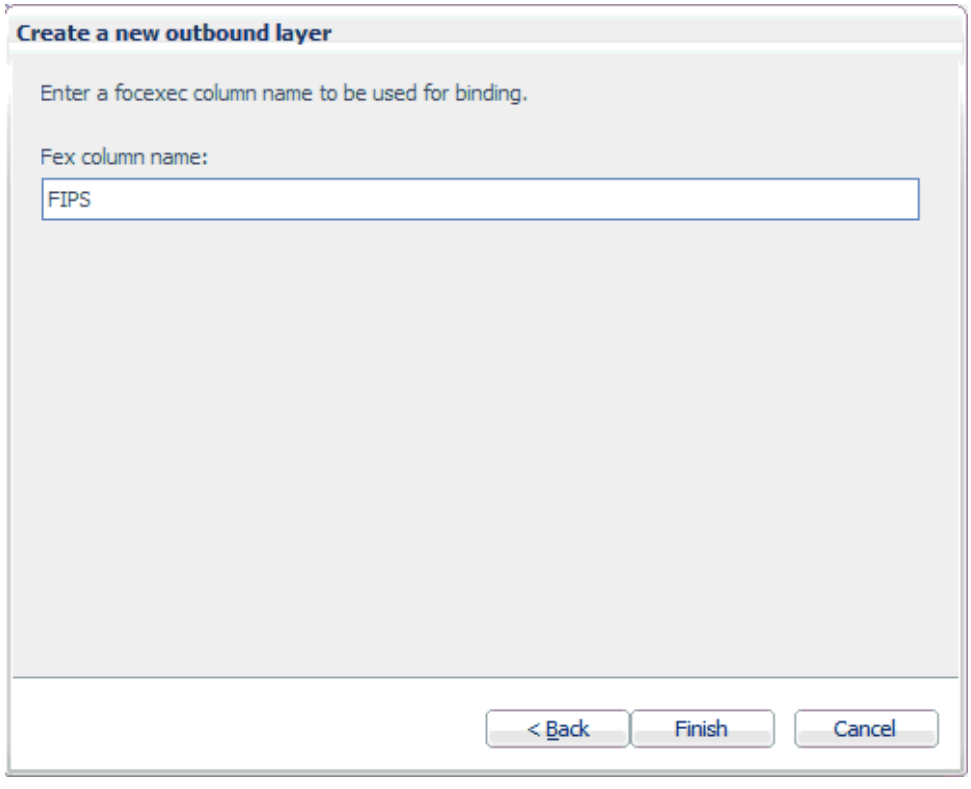
   The Format column reflects the FOCEXEC format to be used for conversion. Valid FOCUS formats are used with a length (for example, A20).

   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.

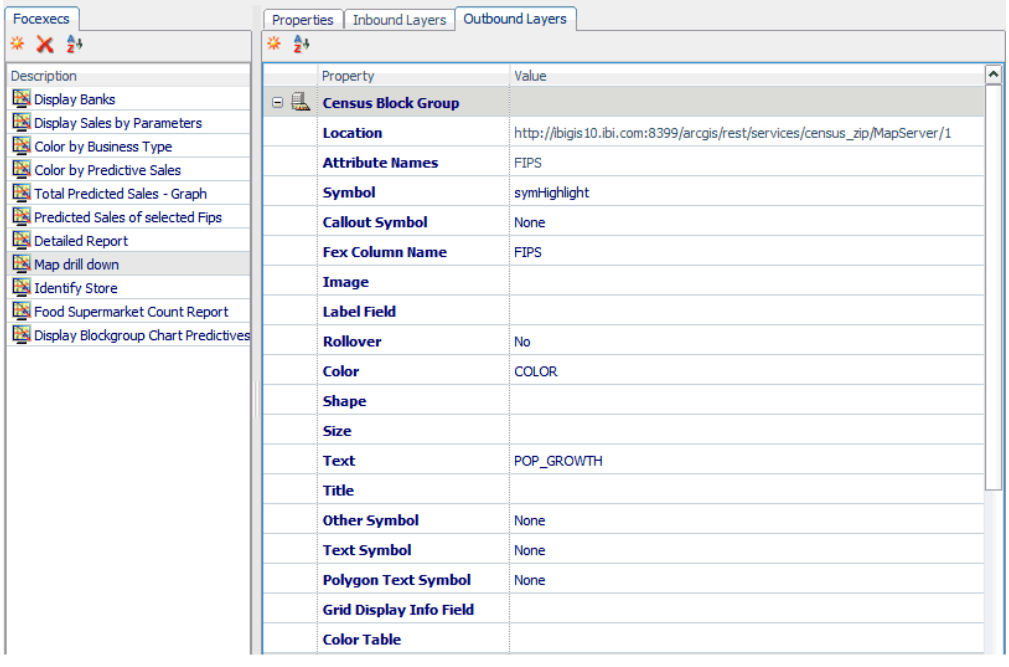
9. Click *Next* when you have finished making your attribute selections.

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



10. Specify a FOCEXEC column name (for example, FIPS) 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. `http://ibigis10.ibi.com:8399/arcgis/rest/services/census_zip/MapServer/1`
Attribute Names	The selected attribute(s) for the outbound layer definition. `FIPS`

Property	Description
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. `symHighlight` For more information on defining symbols, see *How to Configure a New Symbol Definition* on page 106.
Callout Symbol	Allows you to select a callout symbol style from the drop-down list to be used by your FOCEXEC. `None`
Fex Column Name	The specified FOCEXEC column name to be used for binding. `FIPS`
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. `No`
Color	`COLOR`
Shape	
Size	
Text	`POP_GROWTH`
Title	
Other Symbol	Allows you to select an additional symbol from the drop-down list. `None`

Property	Description
Text Symbol	Allows you to select an available text symbol from the drop-down list. None
Polygon Text Symbol	Allows you to select an available polygon text symbol from the drop-down list. None
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.

Reference: Sample Map FOCEXEC

This section provides the syntax used by the Map Drill-Down FOCEXEC (mp_fips.fex).

```
-* File mp_fips.fex
-*-SET &FIPSLIST = 120950119021;
-SET &FIPSPARM = &FIPS;
TABLE FILE BLOCKGRP_DETAILS
SUM
     BLOCKGRP_DETAILS.SEG01.POP_GROWTH
     COMPUTE COLOR/A20 = IF BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 100 THEN
'RED'
ELSE IF  BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 80 THEN 'ORANGE'
ELSE IF BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 60 THEN '255,60,0'
ELSE IF  BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 40 THEN '240,144,14'
ELSE IF BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 20 THEN '225,208,26'
 ELSE IF BLOCKGRP_DETAILS.SEG01.POP_GROWTH GE 0 THEN '166,210,37'
 ELSE '128,128,128';
BY  LOWEST BLOCKGRP_DETAILS.SEG01.FIPS
WHERE BLOCKGRP_DETAILS.SEG01.FIPS EQ '&FIPSPARM';
ON TABLE SET PAGE-NUM NOLEAD
ON TABLE NOTOTAL
ON TABLE PCHOLD FORMAT HTML
ON TABLE SET HTMLCSS ON
ON TABLE SET STYLE *
     INCLUDE = endeflt,
$
TYPE=REPORT,
     OBJECT=MENU,
     COLOR='WHITE',
     HOVER-COLOR=RGB(66 70 73),
     BACKCOLOR=RGB(102 102 102),
     HOVER-BACKCOLOR=RGB(218 225 232),
     BORDER-COLOR='WHITE',
$
TYPE=REPORT,
     OBJECT=STATUS-AREA,
     COLOR='WHITE',
     BACKCOLOR=RGB(102 102 102),
$
TYPE=REPORT,
     OBJECT=CURRENT-ROW,
     HOVER-BACKCOLOR=RGB(218 225 232),
     BACKCOLOR=RGB(200 200 200),

$
TYPE=REPORT,
     OBJECT=CALC-AREA,
     COLOR='WHITE',
     BACKCOLOR=RGB(102 102 102),
$
ENDSTYLE
END
```

Defining Synthetic Map Services

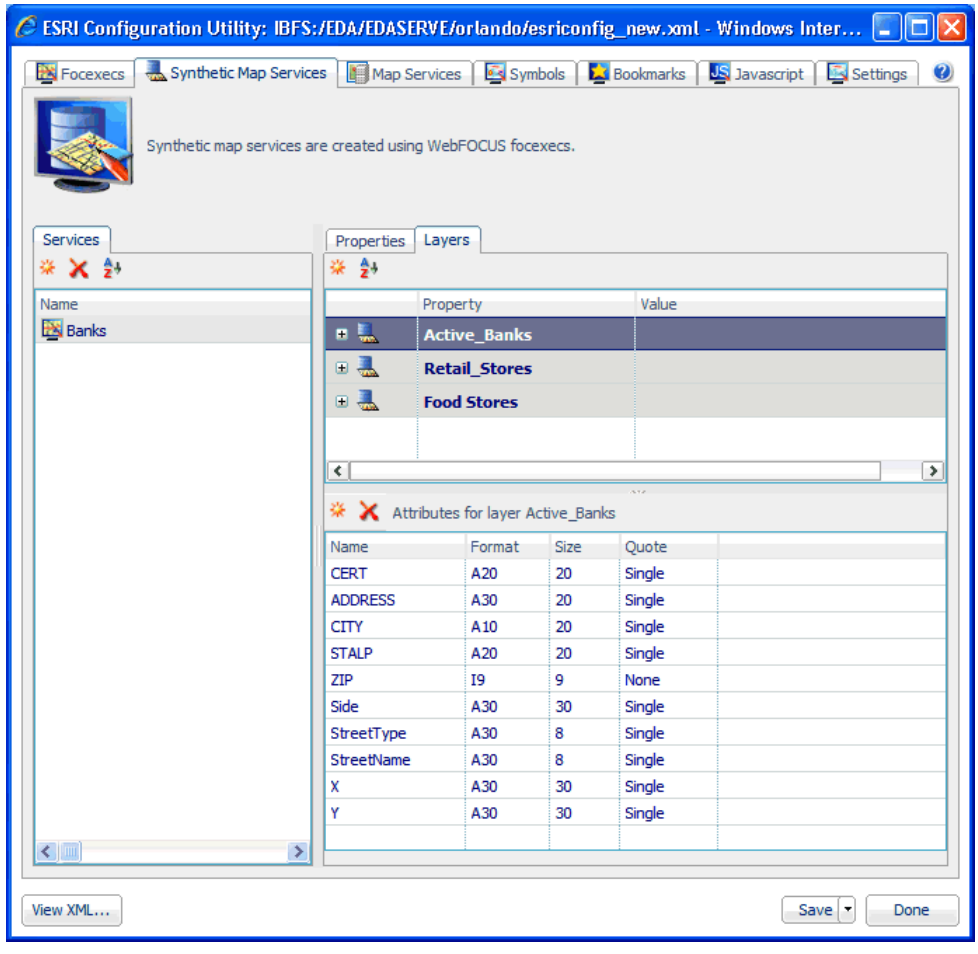
Most GIS software supports a concept of a free-form layer. In ArcGIS Server, this is known as an acetate layer. Acetate layers allow the developer to place any map related information where the user can view it. An acetate layer by itself is not capable of supporting end-user interaction. WebFOCUS synthetic 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 using 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.

The following image shows the XML definition file (esriconfig_new.xml) being edited in the ESRI Configuration Utility. The esriconfig_new.xml file is used by the Retail Predictives sample application. In this image, the Synthetic Map Services tab is selected.



The Retail Predictives sample application uses a synthetic map service called Banks, which has the following synthetic layers defined:

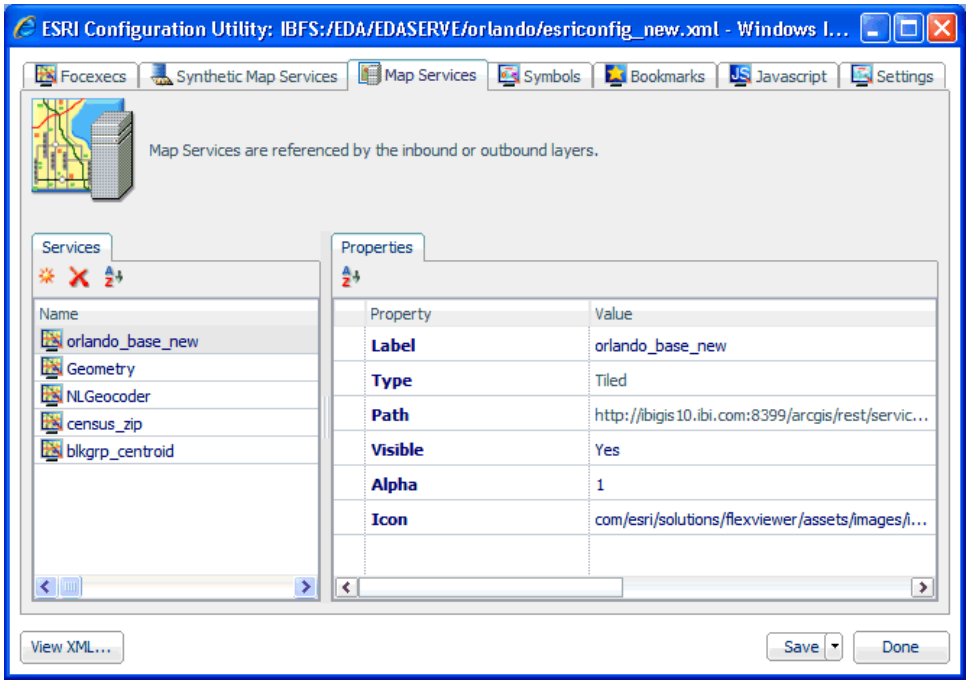
- Active_Banks
- Retail_Stores
- Food Stores

Defining Map Services

Map services must be initially published using the ArcGIS Server Manager Console. They are considered as ArcGIS services that allow maps, features, and attribute data to be available inside client applications. Once published, map services are referenced by inbound and outbound layers. The following types of map services can be created for a Geographic Business Intelligence Solution (GBIS):

- **Tiled.** Have a cache of pre-rendered image tiles, which allows the ArcGIS Server to render images based on the user request.
- **Dynamic.** Must be rendered by the ArcGIS Server each time a user zooms or pans a map. Dynamic map services do not have a cache of pre-rendered image tiles.
- **Geometry.** Used by WebFOCUS GIS Flex Viewer to make appropriate spatial selections from a map.
- **Geolocator.** Finds and displays addresses on a map to see how they relate to surrounding features.

The following image shows the XML definition file (esriconfig_new.xml) being edited in the ESRI Configuration Utility. The esriconfig_new.xml file is used by the Retail Predictives sample application. In this image, the Map Services tab is selected.



The Retail Predictives sample application uses the following map services:

Tiled

- orlando_base_new

Dynamic

- census_zip
- blkgrp_centroid

Geometry

- Geometry

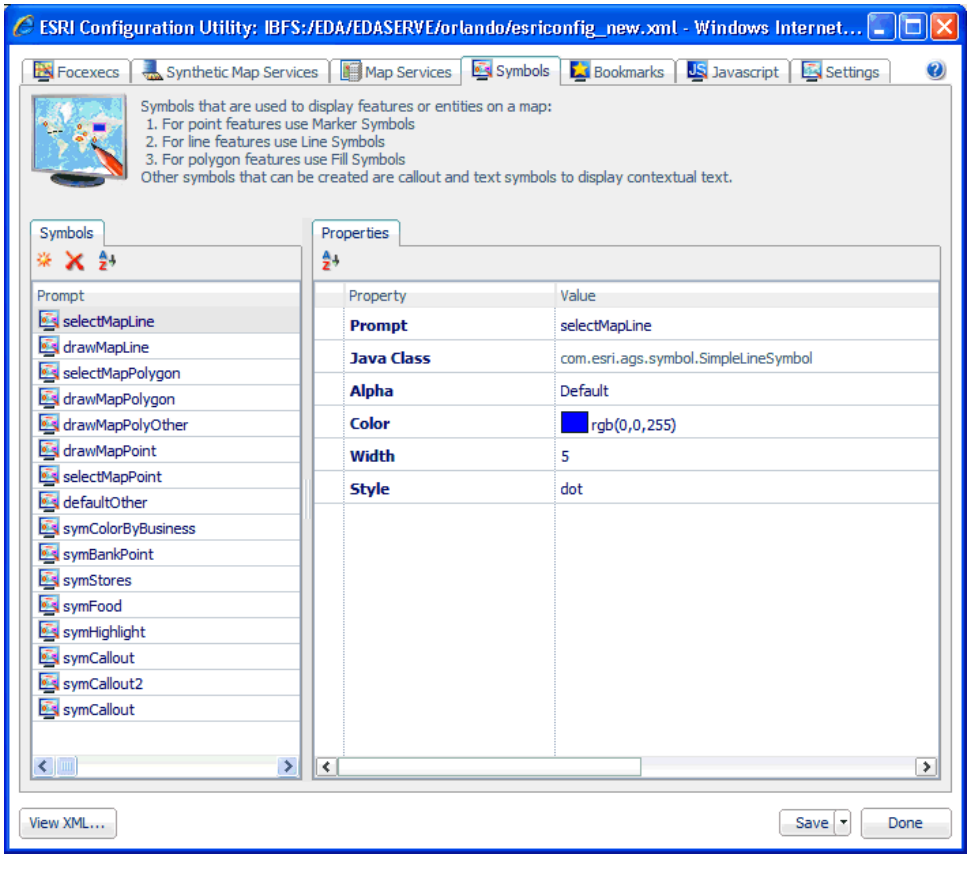
Geolocator

- NLGeocoder

Defining 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.

The following image shows the XML definition file (esriconfig_new.xml) being edited in the ESRI Configuration Utility. The esriconfig_new.xml file is used by the Retail Predictives sample application. In this image, the Symbols tab is selected.



The Retail Predictives sample application uses the following symbols. The Java Class being used by each symbol is also listed.

- selectMapLine

  `com.esri.ags.symbol.SimpleLineSymbol`

- drawMapLine

  `com.esri.ags.symbol.SimpleLineSymbol`

- selectMapPolygon

  `com.esri.ags.symbol.SimpleFillSymbol`

- drawMapPolygon

  `com.esri.ags.symbol.SimpleLineSymbol`

- drawMapPolyOther

  `com.esri.ags.symbol.SimpleLineSymbol`

- drawMapPoint

  `com.esri.ags.symbol.SimpleMarkerSymbol`

- selectMapPoint

  `com.esri.ags.symbol.SimpleLineSymbol`

- defaultOther

  `com.esri.ags.symbol.SimpleLineSymbol`

- symColorByBusiness

  `com.esri.ags.symbol.SimpleFillSymbol`

- symBankPoint

  `com.esri.ags.symbol.PictureMarkerSymbol`

- symStores

  `com.esri.ags.symbol.SimpleLineSymbol`

- symFood

  `com.esri.ags.symbol.SimpleLineSymbol`

- symHighlight

  `com.esri.ags.symbol.SimpleFillSymbol`

- symCallout

  `com/ibi/flexviewer/externalsymbol/TextCalloutArea.swf`

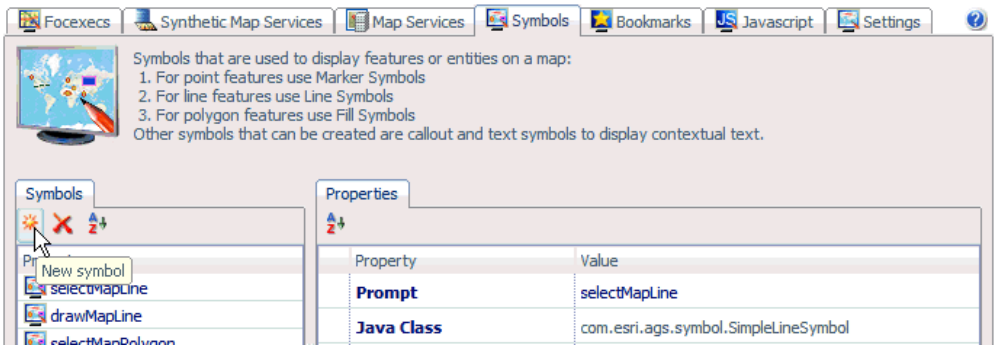
- symCallout2

  `com/ibi/flexviewer/externalsymbol/TextCalloutArea.swf`

Procedure: How to Configure a New Symbol Definition

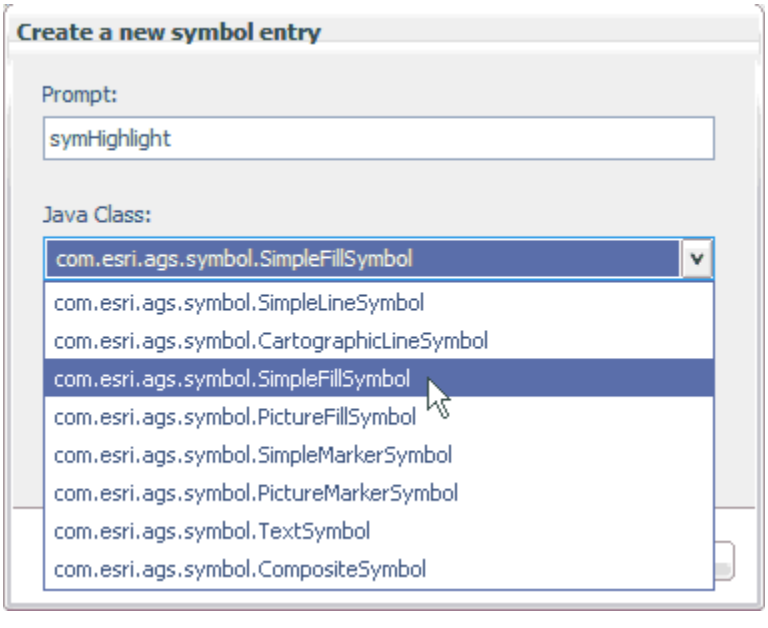
To configure a new symbol definition:

1. Click the *Symbols* tab located at the top of the ESRI Configuration Utility, as shown in the following image.



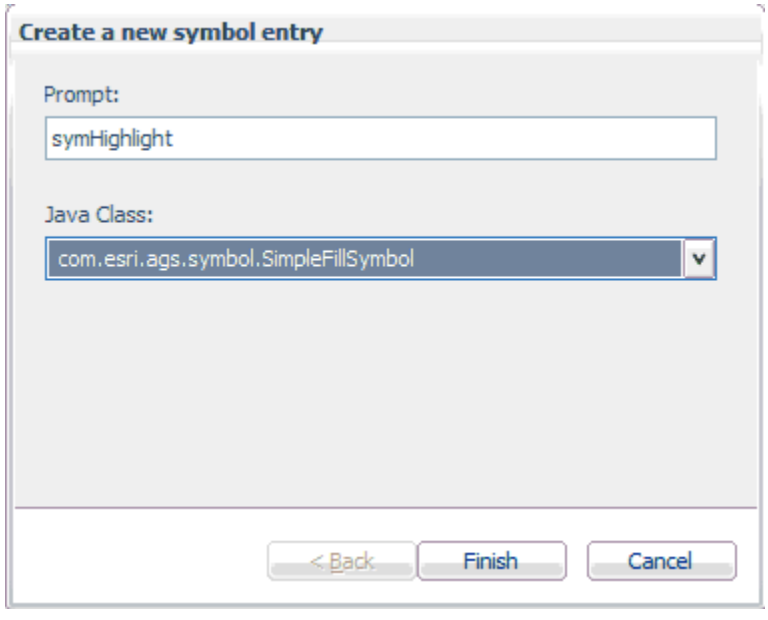
2. Click *New Symbol* in the left pane.

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



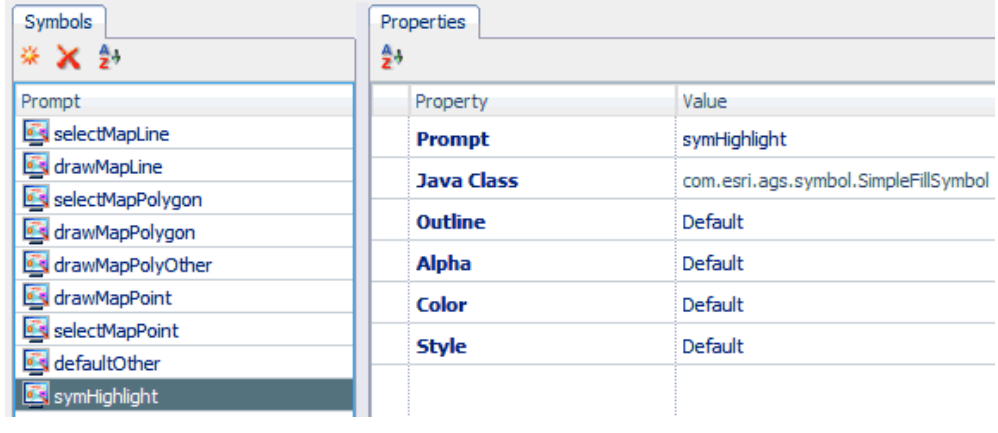
3. Enter a unique name for the new symbol in the Prompt field (for example, symHighlight).

4. 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).



5. Click *Finish*.

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

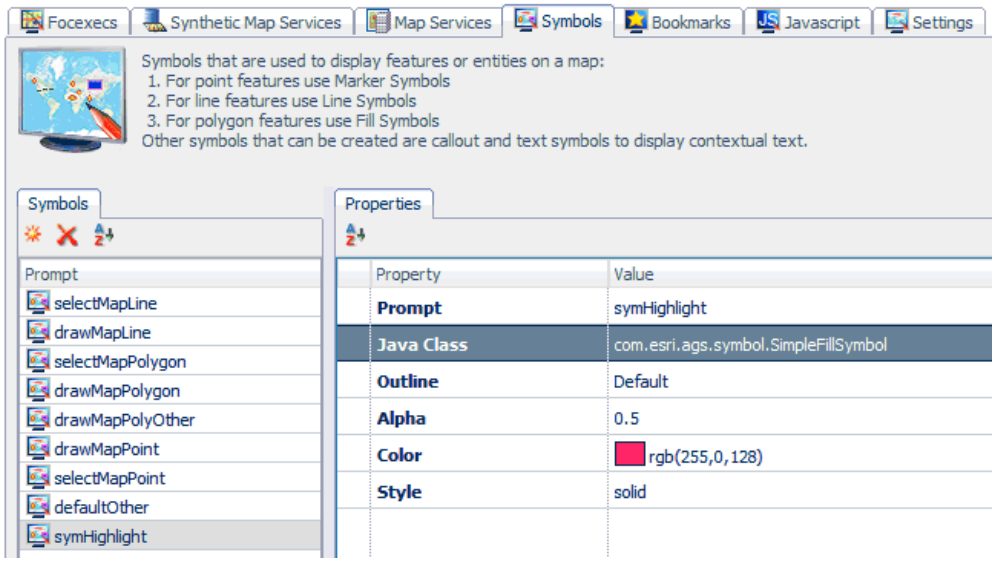


The Properties tab lists the available configuration properties for the symbol definition, which are specific to the Java class. For example, the following table lists and describes the configuration properties that are specific to the Simple Fill Symbol (com.esri.ags.symbol.SimpleFillSymbol) Java class.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

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. `symHighlight`
Java Class	The specific Java class that is associated with the new symbol definition. `com.esri.ags.symbol.SimpleFillSymbol`
Outline	The type of outline to be used. Select an available line symbol definition from the drop-down list. `Default`
Alpha	Fill symbol transparency level. `0.5`
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. `rgb(255,0,128)`

Property	Description
Style	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: ❏ backward diagonal lines ❏ cross ❏ diagonal cross ❏ forward diagonal lines ❏ horizontal lines ❏ no fill ❏ solid ❏ vertical lines `solid`

For example:



Note: For more information on the configuration properties that are available for the supported symbol Java classes, see the *WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcGIS Flex API* documentation.

Understanding Replaceable Parameters

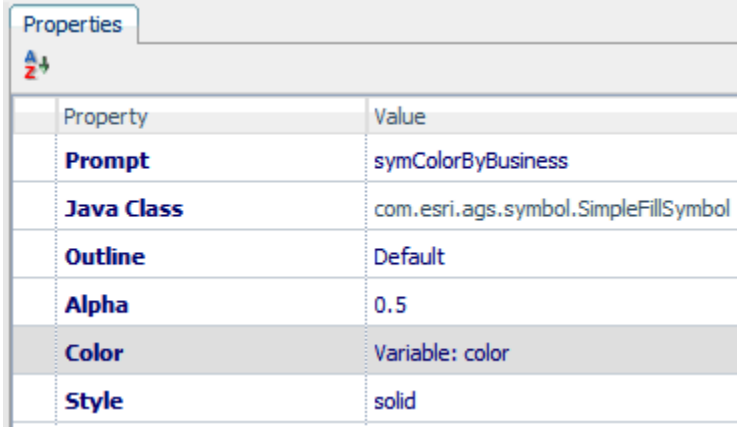
This section describes how WebFOCUS report columns can be bound to a symbol using a replaceable parameter (for example, COLOR).

In the sample application being used in this tutorial, the Color by Predictive Sales Map FOCEXEC (mp_sales.fex) uses shades of color on the map to represent predicted sales across the region, which are identified by Federal Information Processing Standard (FIPS) codes.

The Color by Predictive Sales Map FOCEXEC (mp_sales.fex) has an outbound layer configured, which uses the following symbol:

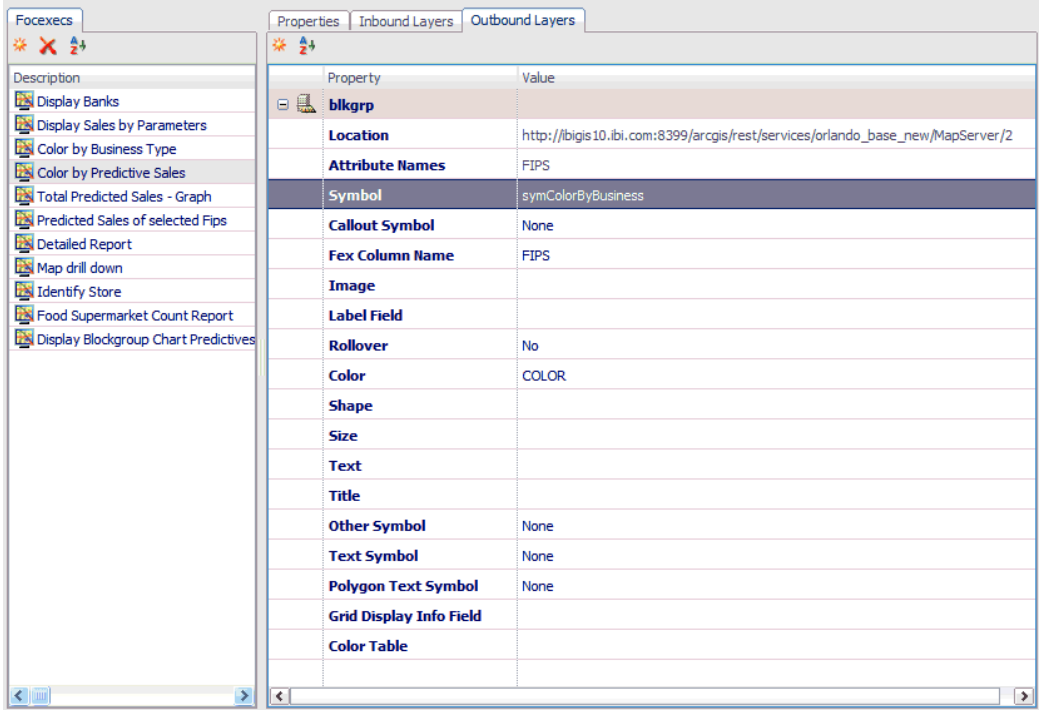
```
symColorByBusiness
```

The following image shows the properties for this symbol (symColorByBusiness).



Notice that the Color property is set to the *color* variable.

The following image shows the properties for the outbound layer that is defined for the Color by Predictive Sales Map FOCEXEC (mp_sales.fex).



Notice that the Symbol property is set to *symColorByBusiness* and the Color property is set to *COLOR*.

The following image shows a snapshot of the syntax that is used for the Color by Predictive Sales Map FOCEXEC (mp_sales.fex).

```
-* File rp_sales.fex
TABLE FILE RETAIL
-*BY  LOWEST RETAIL_PREDICTIVES.RETAIL_PREDICTIVES.BUSTYPE
-*WHERE RECORDLIMIT EQ 100
-*WHERE RETAIL_PREDICTIVES.RETAIL_PREDICTIVES.FIPS EQ (&FIPSLIST);
SUM
     RETAIL.RETAIL.PREDICTED_SALES
     MAX.RETAIL.RETAIL.PREDICTED_SALES AS 'MAX SALES'
     FST.RETAIL.RETAIL.SEASON
     FST.RETAIL.RETAIL.BUSTYPE AS 'BUSINESS TYPE'
     FST.RETAIL.RETAIL.TIMEPERIOD AS 'TIME PERIOD'
     RETAIL.RETAIL.SALES
     COMPUTE COLOR/A20 = IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3500 THEN 'RED'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3300 THEN '25,69,0'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3200 THEN 'ORANGE'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3100 THEN '255,215,0'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3000 THEN '25,140,0'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2800 THEN '205,105,57'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2600 THEN '227,207,87'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2200 THEN '85,47,107'
     ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2000 THEN '173,255,47'
     ELSE '220,220,220';
```

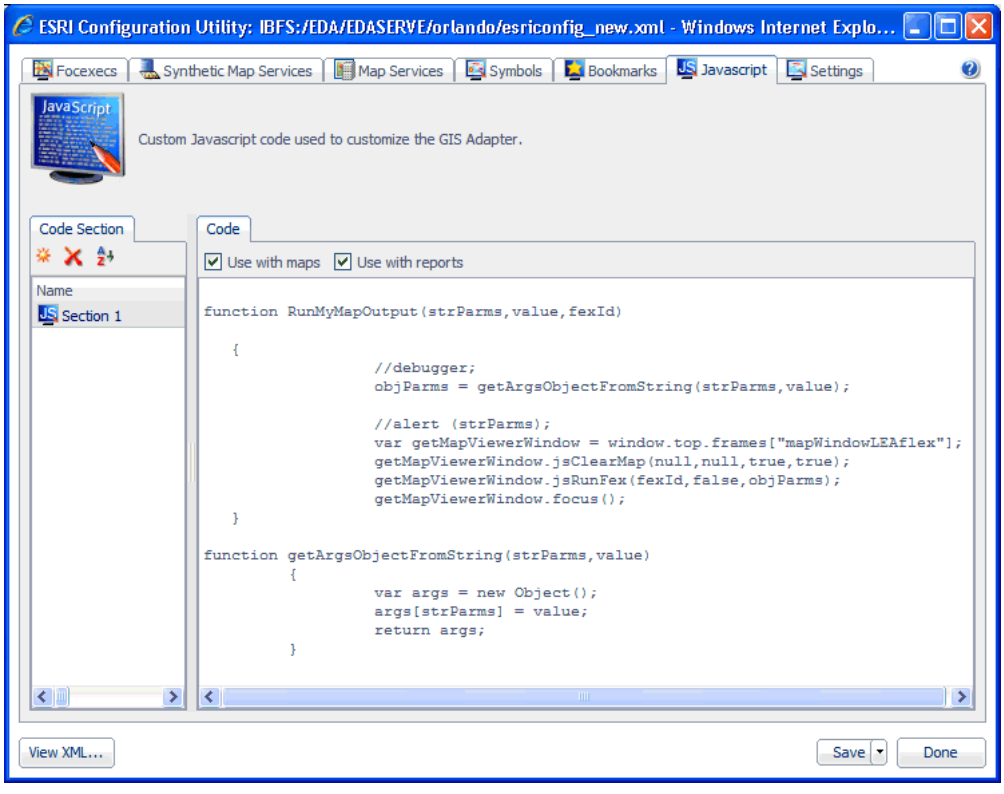
Results of the following logic is used by the *symColorByBusiness* symbol (through the *color* variable) to determine the color of the shaded regions on the generated map based on predicted sales.

```
COMPUTE COLOR/A20 = IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3500 THEN 'RED'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3300 THEN '25,69,0'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3200 THEN 'ORANGE'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3100 THEN '255,215,0'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 3000 THEN '25,140,0'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2800 THEN '205,105,57'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2600 THEN '227,207,87'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2200 THEN '85,47,107'
ELSE IF MAX.RETAIL.RETAIL.PREDICTED_SALES GE 2000 THEN '173,255,47'
ELSE '220,220,220';
```

Defining Custom JavaScript

The ESRI Configuration Utility allows you to write your own JavaScript syntax that can be referenced by the XML definition file. You can also specify whether the custom JavaScript syntax should be used with maps and/or reports by selecting the corresponding check boxes.

The following image shows the XML definition file (esriconfig_new.xml) being edited in the ESRI Configuration Utility. The esriconfig_new.xml file is used by the Retail Predictives sample application. In this image, the Javascript tab is selected.



The Retail Predictives sample application uses the following custom JavaScript syntax:

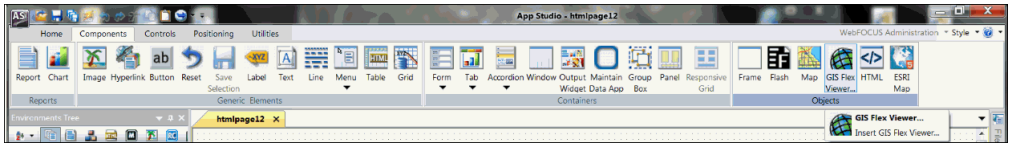
```
function RunMyMapOutput(strParms,value,fexId)
   {
           //debugger;
           objParms = getArgsObjectFromString(strParms,value);

           //alert (strParms);
        var getMapViewerWindow = window.top.frames["mapWindowLEAflex"];
        getMapViewerWindow.jsClearMap(null,null,true,true);
        getMapViewerWindow.jsRunFex(fexId,false,objParms);
        getMapViewerWindow.focus();
   }
function getArgsObjectFromString(strParms,value)
    {
        var args = new Object();
        args[strParms] = value;
        return args;
    }
```

Launching the WebFOCUS GIS Viewer for Flex

After you have completed the configuration of the XML definition file (for example, esriconfig_new.xml) for your application using the ESRI Configuration Utility, you must create an HTML file, which will be used to call the WebFOCUS GIS Viewer for Flex.

WebFOCUS App Studio provides direct integration with the WebFOCUS GIS Viewer for Flex and allows you to create an HTML file where you can add all of the numerous controls, report objects, and map objects for your application.

To launch the GIS Viewer from WebFOCUS App Studio, open the HTML canvas. On the *Components* tab, in the *Objects* group, click *GIS Flex Viewer*, as shown in the following image.



For more information, see the App Studio online Help.

You can then drag the crosshair to the desired size for the WebFOCUS GIS Viewer for Flex controls and report. The WebFOCUS GIS Viewer for Flex component will contain a number of controls, a report, and a map object. It is recommended that the WebFOCUS GIS Viewer for Flex component be drawn large enough to accommodate all of these items.

You will then choose the XML definition file (for example, esriconfig_new.xml) to use with the WebFOCUS GIS Viewer for Flex component.

The following line must be present in your XML definition file for you to pass parameters from the controls to the map object and from the map object to the report.

```
<callback identify="parmcollect" map="IBI_GetLayoutPainterParameters"
report="IBI_GetLayoutPainterParameters"/>
```

The New Parameter dialog box will open and you will be able to change the options for the parameters contained within the WebFOCUS GIS Viewer for Flex component. The WebFOCUS GIS Viewer for Flex component will then be inserted into the HTML page.

Note: Controls and reports within the WebFOCUS GIS Viewer for Flex can be chained. Maps within the WebFOCUS GIS Viewer for Flex component cannot be chained.

Flushing Tables

To ensure that the latest configuration changes are reflected in your application, 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:

Chapter 4

Tips and Usage Considerations

This section provides a selection of tips and usage considerations for the WebFOCUS Adapter for Geographic Information Systems.

In this chapter:

Creating Rollovers

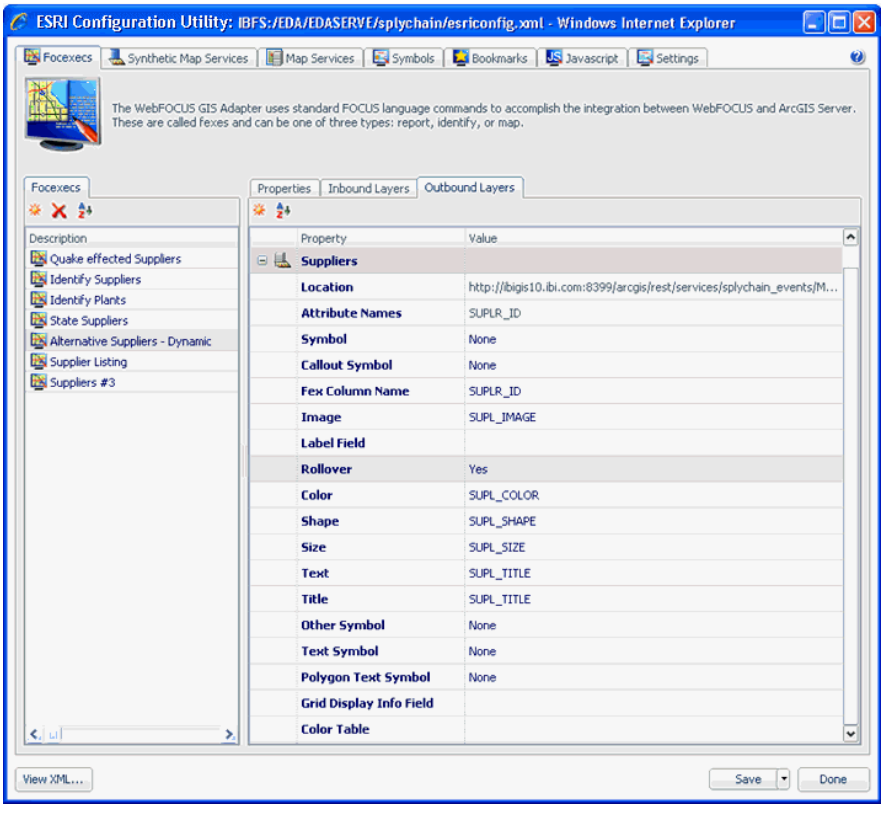
This section describes how to create rollovers using the ESRI Configuration Utility. Rollovers are useful interactive features that can be used to display additional information about key points on a map.

Procedure: How to Create Rollovers

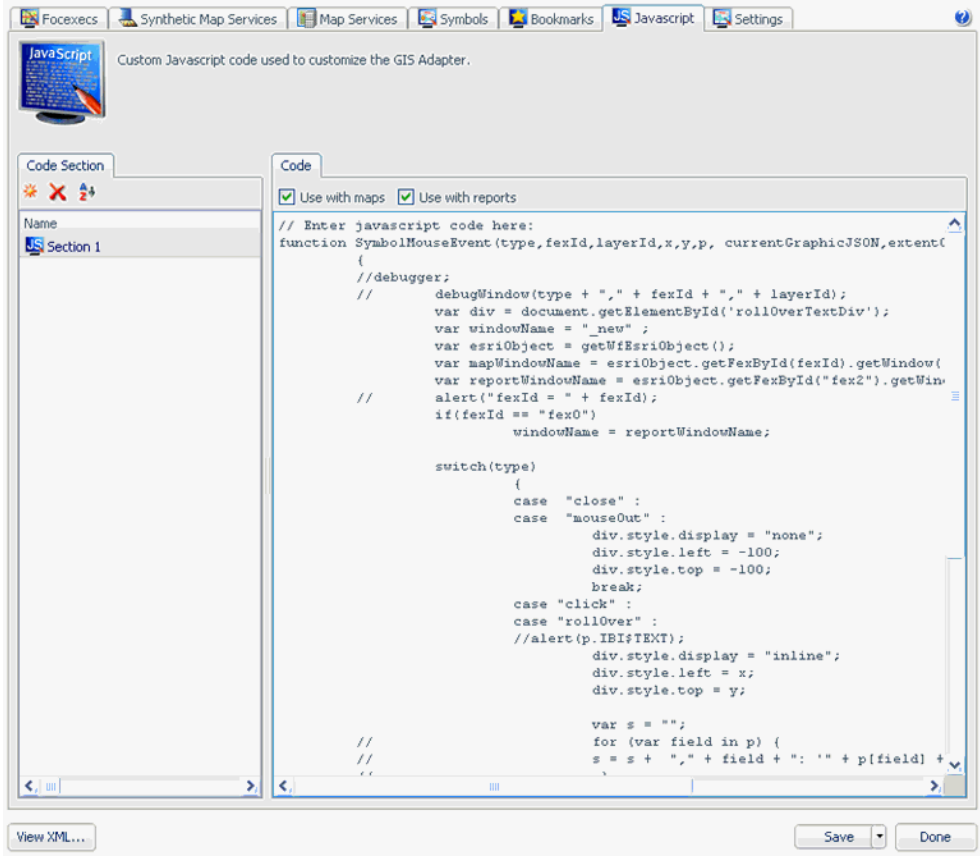
1. Create a Map FOCEXEC in the Focexecs tab.
2. Add an outbound layer.

   For more information on creating outbound layers, see the *WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcGIS Flex API* documentation.
3. Click the *Focexecs* tab located at the top of the ESRI Configuration Utility and then click the *Outbound Layers* tab.

4. In the Outbound Layers tab, select *Yes* for the Rollover property, as shown in the following image.



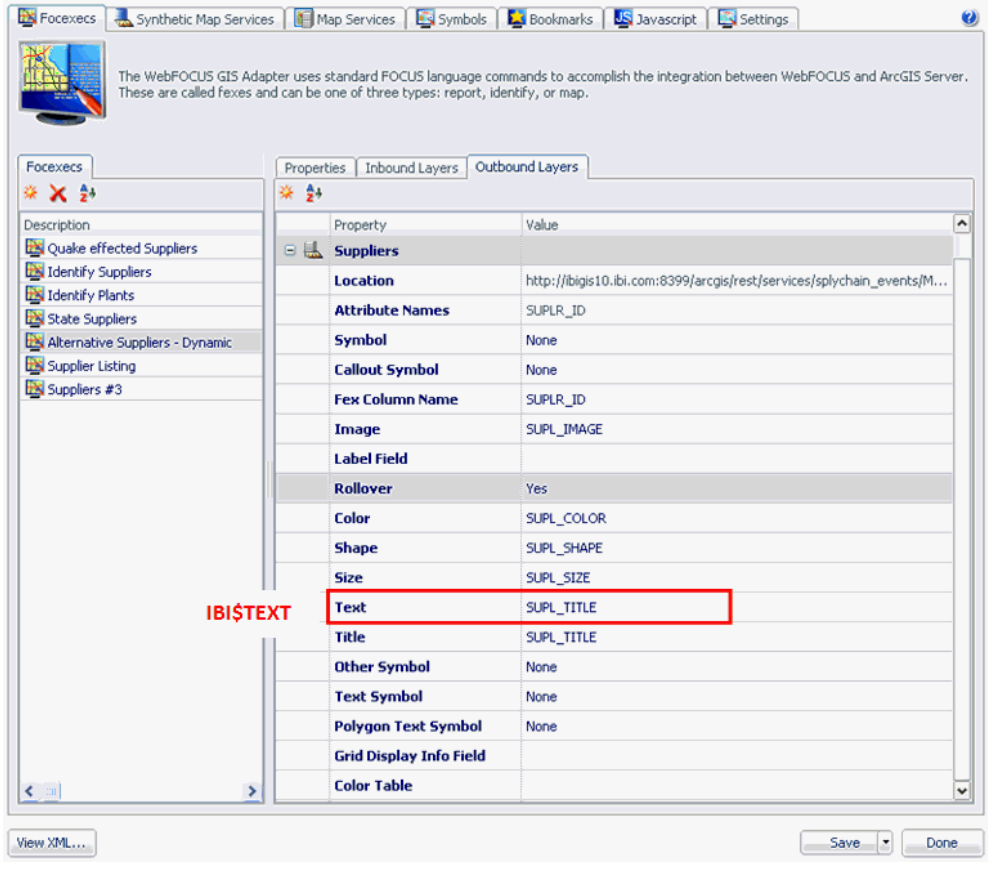
5. Click the *Javascript* tab and create a new JavaScript function (for example, SymbolMouseEvent).



The following syntax provides a sample of the SymbolMouseEvent JavaScript function that you can use:

```
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;
      }
}
```

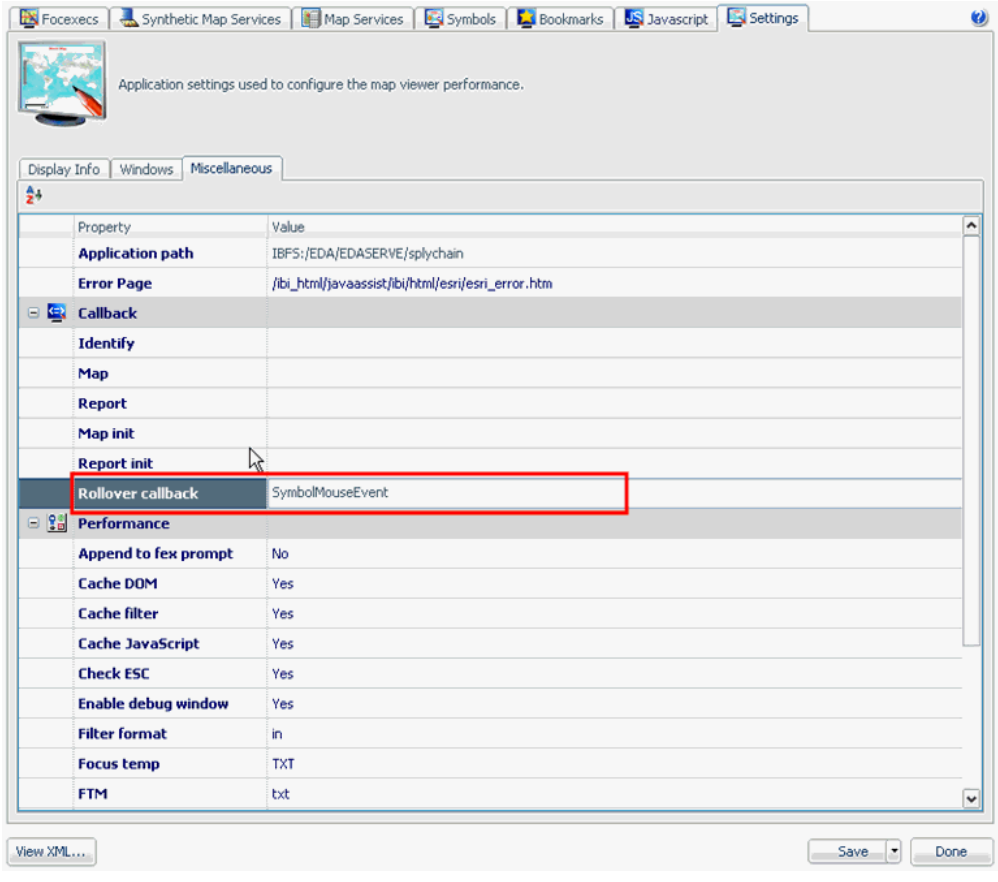
In the syntax, IBI$TEXT refers to the value that is returned from the outbound layer node in the Map FOCEXEC, as shown in the following image.



Note: Rollovers can also contain HTML text.

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

7. Enter the name of the JavaScript function that must be called (for example, SymbolMouseEvent) in the Rollover callback field, as shown in the following image.



8. Click *Save* to save the changes that were made to the XML definition file.

Chapter 5

Additional Resources

This section provides additional resources for the WebFOCUS Adapter for Geographic Information Systems.

In this chapter:

Reference Documentation

For more information on configuring and using the WebFOCUS Adapter for Geographic Information Systems, see the *WebFOCUS Adapter for Geographic Information Systems: ESRI ArcGIS Server and ArcGIS Flex API* documentation.

ESRI Resources

For more information on ArcGIS resources, visit the following website:

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

For more information on ArcGIS Server, visit the following website:

http://resources.arcgis.com/en/help/getting-started/articles/026n00000007000000.htm

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Information Builders, Inc.
Two Penn Plaza
New York, NY 10121-2898