

WebFOCUS

Performance Management Framework
Installation and Configuration Guide
Release 8.2

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Preface

This manual describes how to install and configure installations of Performance Management Framework (PMF). It is divided into chapters that discuss the components of PMF, the installation and upgrade procedures for PMF, and the maintenance tasks for PMF.

How This Manual Is Organized

This manual includes the following chapters:

Chapter/Appendix	Contents
1 Understanding PMF Installations	Describes the general capabilities and components of Performance Management Framework (PMF) and WebFOCUS interoperation.
2 Planning Your PMF Installation	Goes through the considerations necessary to plan a PMF installation.
3 Performing a New PMF Installation	Provides instructions for installing PMF.
4 Upgrading a PMF Installation	Provides instructions on how to upgrade a PMF installation and migrating the data mart.
5 Confirming a PMF Installation or Upgrade	Describes how to confirm a new PMF installation or upgrade.
6 Maintaining a PMF Installation	The topics in this chapter provide details about maintaining a PMF installation.
A Reference	Contains information needed for understanding various PMF implementation considerations.
B Troubleshooting Common Issues	Helps you understand and resolve various common environmental and configuration problems that can occur while using PMF.
C Getting SLP to Work With Your WebFOCUS Installation	Provides the steps that you can follow to configure the Simple Lightweight Page manager to work with your WebFOCUS installation.

Conventions

The following table lists and describes the conventions that apply in this manual.

Convention	Description
<p>THIS TYPEFACE</p> <p>or</p> <p><code>this typeface</code></p>	Denotes syntax that you must enter exactly as shown.
<i>this typeface</i>	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
<u>underscore</u>	Indicates a default setting.
<i>this typeface</i>	Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option you can click or select.
this typeface	Highlights a file name or command.
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 are 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 points (...).
. . .	Indicates that there are (or could be) intervening or additional commands.

Related Publications

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Customer Support

Do you have questions about this product?

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You can also access support services electronically, 24 hours a day, with InfoResponse Online. InfoResponse Online is accessible through our website, <http://www.informationbuilders.com>. It connects you to the tracking system and known-problem database at the Information Builders support center. Registered users can open, update, and view the status of cases in the tracking system and read descriptions of reported software issues. New users can register immediately for this service. The technical support section of <http://www.informationbuilders.com> also provides usage techniques, diagnostic tips, and answers to frequently asked questions.

Call Information Builders Customer Support Service (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 a.m. and 8:00 p.m. EST to address all your questions. Information Builders consultants can also give you general guidance regarding product capabilities and documentation. Please be ready to provide your six-digit site code number (xxxx.xx) when you call.

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 you are using, including vendor and release.
 - The communications protocol (for example, TCP/IP or HLLAPI), including vendor and release.
 - The software release for WebFOCUS and PMF.

- 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?
 - The error message and return code, if applicable.
 - Is this related to any other problem?
- Has the procedure or query ever worked in its present form? Has it been changed recently? How often does the problem occur?
- What release of the operating system are you using? Has it, your security system, communications protocol, or front-end software changed?
- Is this problem reproducible? If so, how?
- Have you tried to reproduce your problem in the simplest form possible? For example, if you are having problems joining two data sources, have you tried executing a query containing just the code to access the data source?
- Do you have a trace file?
- How is the problem affecting your business? Is it halting development or production? Do you just have questions about functionality or documentation?

User Feedback

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Thank you, in advance, for your comments.

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Understanding PMF Installations

This chapter describes the general capabilities and components of Performance Management Framework (PMF) and how it operates in relation to other WebFOCUS applications.

In this chapter:

- [Introducing PMF](#)
 - [Locating Where PMF Components are Installed or Configured](#)
 - [Understanding Security and PMF](#)
 - [Understanding Single-Tier and Multi-Tier Installations](#)
 - [Interoperation With WebFOCUS](#)
 - [Understanding Multi-Tenancy](#)
 - [PMF Language Display](#)
-

Introducing PMF

PMF is a WebFOCUS application that allows an enterprise to store and track metrics and aggregate these metrics into *scorecards* to evaluate enterprise goals. It also provides tools to help keep the metrics updated with current data. PMF metrics are multi-dimensional, to let employees at all levels track their own progress and see how their work integrates with overall enterprise strategy.

PMF runs on a WebFOCUS Reporting Server. It takes advantage of many of the capabilities of WebFOCUS, including tabular and financial reporting, user configuration, document distribution, charting, and security.

Locating Where PMF Components are Installed or Configured

PMF components extend WebFOCUS capabilities to accommodate PMF, as other WebFOCUS applications do. As a result, PMF components are placed in many parts of the WebFOCUS installation footprint.

Note: When upgrading, moving, or reinstalling a WebFOCUS environment, it is important to make sure the PMF components are backed up prior to the change and restored to their proper locations afterward. Deleting these files can cause issues with PMF capabilities.

Reference: Components Installed or Configured on the WebFOCUS Server Application Root

The following is a list of the PMF components installed or configured on the WebFOCUS Server Application root (/ibi/apps).

Note: In multi-tier instances, the application directories are installed both on the server and client.

`mainstreet`

The core code repository for PMF. You do not need to back up this folder.

`pmfgadgets`

Location for PMF gadget procedures and components. You should back up any custom gadgets in this folder.

`pmflang`

Translated string files to support multiple languages in PMF, such as English, French, German, Chinese, Japanese, Korean, and Spanish. You do not need to back up this folder, unless you have a special case involving string customization.

`pmfcustom`

Standard location where any developed customized PMF components should be stored. Make sure to back up this component.

`pmfdbms/pmfdb_system/pmfdb_system_mss` `pmfdbms/pmfdb_system/pmfdb_system_ora` `pmfdbms/pmfdb_system/pmfdb_system_sqldb` `pmfdbms/pmfdb_system/pmfdb_system_sqlmysql` `pmfdbms/pmfdb_system/pmfdb_system_db2` `pmfdbms/pmfdb_system/pmfdb_system_sqlpstgr`

DBMS-specific folders. These folders contain common MFD and ACX files used by PMF. All are always present to facilitate RDBMS switching without reinstalling PMF. There is no need to back up these folders.

`pmftenant`

Root application folder where PMF looks for configuration and files for each tenant in a single or multi-tenant installation. The standard template tenant folder is `pmf_tenants/pmf_base`. The root folder structure of this should be backed up, but the contents will be updated on any upgrade/migration.

`pmf_tenant/[tenant]pmfdb_system/`

Folder where modified MFD and ACX files are stored for a particular PMF tenant. In single-tenant installations, [tenant] is pmf_base. There is no need to back up this folder.

`pmf_tenant/pmldata`

Root storage folder for configuration files modified during PMF installation, as well as standard PMF fonts for installation on Windows client machines (to allow display of indicators in PowerPoint output). There is no need to back up this folder.

`pmf_tenant/[tenant]/pmldata_tenant/`

Folder where modified configuration and settings files are stored and retrieved when looked for. In single-tenant installations, [tenant] is pmf_base. There is no need to back up the contents of these folders.

`pmfdbms`

Database file backups for demonstrations, new DB, and upgrade DDL (SQL) scripts. There is no need to back up this folder.

`pmfdemo`

Demonstration data and PMF source database snapshots. There is no need to back up this folder.

Reference: Components Installed or Configured in the Font Storage Area

There are currently 24 PostScript font files (pmf01 to pmf08) added to enable icons in PDF reports in the Font Storage area (/ibi/srvxx/home/etc). Make sure to back up these components.

Reference: Components Installed or Configured in the Font Map Area

There are modifications made during PMF installation to the DHTML.FMP and PDF.FMP files to map the fonts needed for PMF PDF and PPT reports in the Font Map Area (/ibi/srvxx/home/nls). Make sure to back up these components.

Reference: Edited Server Configuration Files

The following is a list of the edited Server configuration files.

`[tenant].prf`

The PMF application paths are added to a separate server profile for each PMF tenant. A single-tenant installation would use pmf_base.prf.

Reference: Components Installed or Configured on the WebFOCUS Client

In the client basedir folder, a PMF domain is added that contains all the tab launch pages for the WebFOCUS BID templates.

`ibi_html/javaassist/images/tdg/template/`

Contains three text files that control color palettes for graphing.

`webapps/rcasterXX/samples/`

Contains three PMF .jsp files.

Note: These additions to the ReportCaster webapps directory require decompressing/recompressing the ReportCaster WAR file after installation is complete. If these files are modified for a hotfix, they will also need to be decompressed/recompressed.

`webapps/webfocusXX/worp/jsp/`

Adds changes to a customized WebFOCUS BID login page, mainly used for PMF demonstrations. This file is distributed with WebFOCUS.

Make sure to back up these components.

Reference: Client Files Edited

`Site.wfs`

Needed variable pass-throughs (security tokens, protocol and port) and use of global filtering file for the PMF Domain are configured.

`Install.cfg`

PMF installer inserts install key for PMF.

`web.xml`

Adds routing for SLP page manager.

Make sure to back up these files.

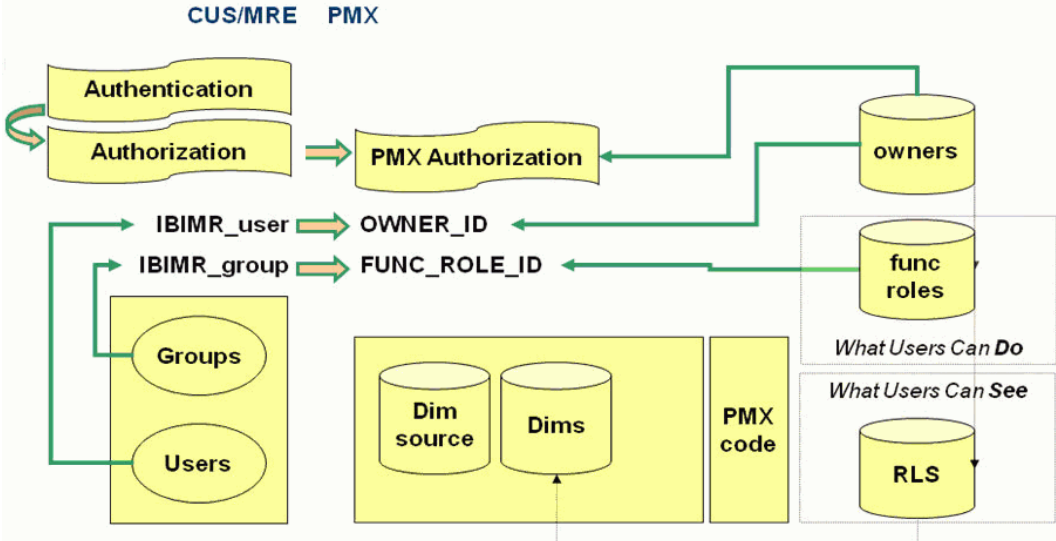
Understanding Security and PMF

PMF is a WebFOCUS application designed to run within security protocols as configured for WebFOCUS MR/CUS (Information Builders' named-user system). It is not designed to run for public or general users. Instead, it identifies its users so that appropriate task permissions and data security can be enforced.

Authentication and Authorization Between Web, MR/CUS, and PMF

Users must sign on through whatever system handles primary web login. When the user credentials are passed to WebFOCUS MR/CUS security, by whatever means is used (for example, direct submission of the credentials via a standard WebFOCUS sign-on page), MR/CUS either confirms the identity of the user and allows access for a valid session, or denies the user access because some part of their credentials do not match.

Once a user is logged in to the MR/CUS system, WebFOCUS turns control over to any intermediate portal layer (for example, WebFOCUS BID portal or a SharePoint or WebSphere portal). The PMF contexts are then called. At this point, both a WebFOCUS and MR cookie have been created (or their equivalent session IDs). Control is then passed to PMF, which validates the specific access of the user to the PMF application itself (the user must be identified using an Owner record in PMF). If the user is authorized, a WFUSER cookie is created, which contains the information specific to the PMF session of the user.



External Security Repository

If you have WebFOCUS MR configured to use an external security system (such as one based on LDAP, RACF, or ActiveDirectory), no special configuration needs to be made for your system to work with PMF. The MR security layer handles the authentication portion of the sign-on process. Once this is allowed, the user then proceeds normally into the portal and from there to the PMF application.

In the greatest sense, PMF is "unaware" of the actual protocols used to authenticate users. However, it is not possible for a user without proper authentication credentials to access critical data or perform any change control functions within the PMF application.

Webserver Security

Web server security (for example, HTTPS, and/or SSO various utilities, such as WebSEAL) can generally be used with PMF. PMF obtains the protocol initialization information from WebFOCUS Client and uses what WebFOCUS tells it to.

Special notice must be made in situations where you have a mixed web environment. For example, some web resources are delivered using HTTPS and others using HTTP. Note that as with any secure web application, PMF will use only the protocol used during initial sign-on. It cannot support mixed protocol access.

There are situations where a user has aliased web resources. The most common is using the localhost protected server name during access. If you mix server contexts when using PMF, you will be liable to create cross-site scripting errors with PMF. This happens because much of the PMF user interface is done using JavaScript. The sandbox protocols for JavaScript do not allow scripts to be launched from different server contexts.

This is important in protecting you and your users from various forms of JavaScript injection attacks, which can seriously compromise security. Please take note of this and adjust your use of your web environment to respect common security protocols accordingly.

WebFOCUS Server Security

PMF can run under both unsecured or secured WebFOCUS Reporting Server environments. You would most commonly set up your WebFOCUS Reporting Server to treat the WebFOCUS Client as a trusted node in order to avoid more common security pitfalls and provide the best results. However, you can vary your security as needed.

In situations where the authenticated OS user credentials are being passed through to the WebFOCUS Server (as would happen in particular situations where some older FOCUS applications were ported to WebFOCUS), note that all PMF users would then need to be in the OS network bindery (for example, ActiveDirectory or LDAP) before they would be permitted to access the WebFOCUS Server resources needed to run PMF.

For example, security protocols under the WebFOCUS Server of OPSYS and IWA running a secured server can interfere with any WebFOCUS application if the end user is not authenticated to run against the Operating System or ActiveDirectory binderies. Please ensure you have taken the proper steps to provide your users with access to the PMF application and the ability for the WebFOCUS Server to support their use.

Understanding Single-Tier and Multi-Tier Installations

PMF, as a WebFOCUS application, can be installed and configured to run in any of your WebFOCUS environments. This means PMF can run in:

- ❑ **The simplest WebFOCUS environment.** A single-tier system connected to one or more RDBMS systems.
- ❑ **The most complex environment.** Multiple web server farms, each of which has a WebFOCUS Client installed, with shared disk space, failover-linked WebFOCUS Reporting Servers, and various machines running on different operating systems.

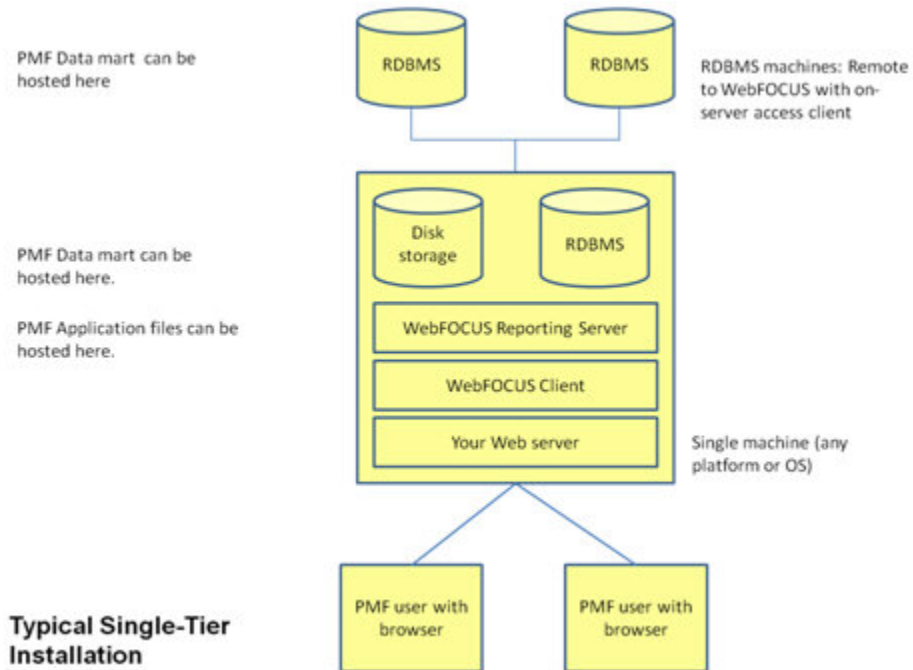
Typical Single-Tier Installation

In a single-tier WebFOCUS installation, you would most typically have:

- ❑ One machine running your web server, WebFOCUS Reporting Server, and WebFOCUS Client. The PMF application footprint is installed on this machine.
- ❑ Any number of browser users, with scalability to the number of users provisioned by adding processors to the WebFOCUS server.
- ❑ One or more RDBMS resources.

In this type of environment, you would have PMF installed once on the Reporting Server, web server, or client machine, to support all your users. You would also need to host the PMF data mart on one of your RDBMS servers. PMF supports hosting on MySQL, MS SQL Server, Oracle, Teradata, PostGreSQL, Information Builders HyperStage, or IBM DB2.

The following image is an example of a typical single-tier installation.



Typical Multi-Tier Installation

In a multi-tier WebFOCUS installation, you would most typically have:

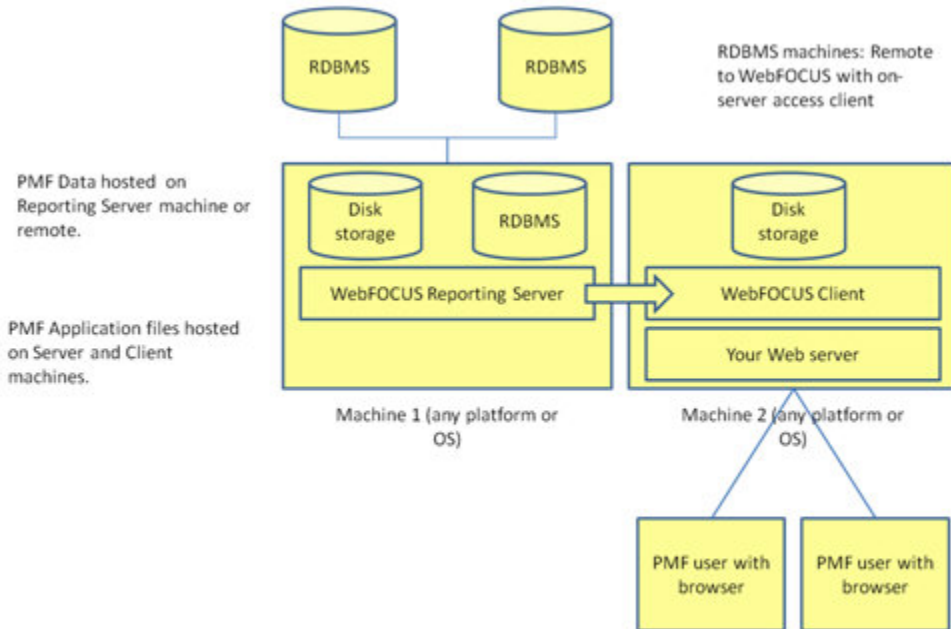
- One or more machines running your web server and WebFOCUS Client. The PMF application footprint is installed on each machine.
- One or more RDBMS resources.
- One or more machines running your WebFOCUS Reporting Server, with the RDBMS connections defined. The PMF application footprint is also installed on this machine.
- Any number of browser users, with scalability to number of users provisioned by adding machines to the server farms and/or adding processor capacity to the machines.

In this type of environment, you would have PMF installed multiple times:

- Once for each WebFOCUS Reporting Server.
- Once for each web server or client machine designed to serve your PMF stakeholders.

You would also need to host the PMF data mart on one of your RDBMS servers, most typically Oracle, MS SQL Server, MySQL, or PostgreSQL.

The following image is an example of a typical multi-tier installation.



Typical Multi-Tier Installation

Additional considerations introduced in this type of installation are if you are using web server farms with multiple web servers and WebFOCUS Clients. Some PMF run-time components create local data to be reused by browser users. For example, some of the WebFOCUS chart procedures shipped with PMF create local captured graphics in storage on the web server or WebFOCUS Client tier. Since a connection to PMF is non-persistent across the WebFOCUS environment, a logged-in user might be passed off to multiple web servers during a single session. You will need to define shared storage across the web servers, so these items will be available in the same location across all web servers.

Interoperation With WebFOCUS

Reference: Interoperation With ReportCaster

PMF interacts with ReportCaster in two ways.

- ❑ The ReportCaster API is used to create and modify schedules. The returned object is stored in the PMF repository so that only PMF schedules appear in a users list.

- ❑ The ReportCaster repository is also accessed using a WebFOCUS Server data adapter so that the schedules parameters can be retrieved and redisplayed to a user and the schedule can be modified.

Reference: Interoperation With the Reporting Server

The WebFOCUS Reporting Server is accessed from the WebFOCUS Client when a user runs a report or panel interactively, from ReportCaster when a schedule is executed, and from itself when a currently running report or panel executes another report.

Reference: Interoperation With Managed Reporting Users and Groups

PMF uses MR users and groups as a standard delivered authentication security, but is fully compatible with all security models that WebFOCUS supports. PMF is a WebFOCUS application and will conform to security models the same way any other WebFOCUS application conforms.

Reference: Interoperation With Managed Reporting Repository

When using WebFOCUS BID as the front end portal, or OPS using another common portal, such as SharePoint, SAP NetWeaver, or WebSphere, portal content needs to come from the MR Repository. PMF adds a domain to the MR Repository that contains content to populate the portal.

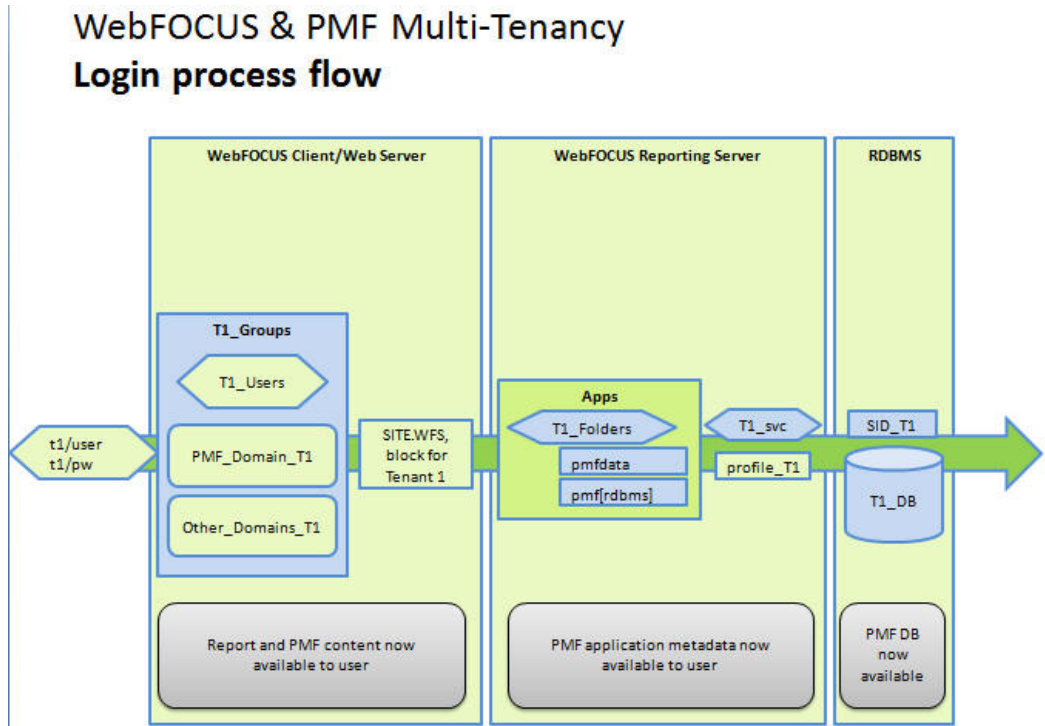
Understanding Multi-Tenancy

PMF can be installed and configured to allow more than one separate and distinct PMF data mart to be used with a single copy of the PMF application. This configuration allows different constituents to see completely different Scorecards, Metrics, and Dimensions. It also allows for multiple separate and distinct copies of the PMF application to be hosted in a single environment of WebFOCUS Reporting Server(s), WebFOCUS Client(s), and ReportCaster. This type of configuration does not allow any sharing or crossover of these constituents.

This type of PMF installation is called multi-tenancy, since each separate PMF data mart and configuration is like a “tenant” in an “apartment,” where the “building” is the PMF application.

When a particular user logs on to PMF, the multi-tenancy configuration allows their correct data mart to be accessed. This setup is particularly useful because it allows you to host many PMF apps with as few as just one set of servers.

The following image shows the login process flow of a multi-tenancy configuration.



When to Use Multi-Tenancy

Multi-tenancy should only be used if you need to have totally separate and distinct businesses use PMF, with no common Metrics or Dimensions. When this type of configuration is made, separate tenants have no common access and cannot see each others Scorecards, Metrics, or Dimensions. Multi-tenancy should not be used if this is not the desired scenario. If, for example, you wanted to allow different groups of users to see some common and some different Metrics and Dimensions, you would simply link these Metrics to different Scorecards, and make these visible to the stakeholders by giving them access to the Scorecards.

Licensing With Multi-Tenancy

There are licensing considerations to be answered if you plan to use PMF with a multi-tenancy configuration. Each separate working mart can be seen as a different instance of PMF and might have separate licensing. Please check with your IBI representative for more information.

Automation and Multi-Tenancy

It is possible that if you need to perform multi-tenancy installations regularly, you would want to write a batch script to automate the process. There is no default automation script for this, and since shell scripting is an OS dependent capability, you would need to create your own script.

PMF Language Display

As of version 8.2.2, PMF has the ability to support English, Brazilian Portuguese, Chinese, French, German, Italian, Japanese, Korean, Chinese, and Spanish for its user interface. You can switch PMF to display the user interface and all report column titles and headings in any of these languages. There can be only one primary language configured for PMF at this time.

Note: Japanese, Chinese, and Korean all require UTF-8.

If you change the user interface to display a language other than English, PMF runs a process to automatically change some internal data depending on the selected language. This data includes shipped versions of units of measure, content, dashboards, gadgets, time ranges, system settings, and functional roles.

The internal information that is not automatically translated when the primary language is changed includes Scorecard data, Dimension data, user-entered data, and static components such as Business Intelligence Dashboard (BID) tab titles and shipped documentation. Also, you should select your desired language at installation time, otherwise you would have to manually change BID tab titles when you change the PMF language. For documentation, you have to download and install non-English documentation for PMF.

The primary language is stored as a setting in the PMF primary data mart. It is possible to connect the application to a data mart and have PMF automatically adopt the language configured there after an automatic metadata resynch is performed (as long as the language configured is one PMF supports).

If you want user interfaces and data display to be appropriate for the language you select, you should change the primary language of your WebFOCUS environment. The WebFOCUS primary language controls BID menus, WebFOCUS tools available from BID menus, and right-click menus in the PMF trees. For more information about changing the primary language for WebFOCUS, see the *WebFOCUS Security and Administration* manual, and the *WebFOCUS and ReportCaster Installation and Configuration* manual for your platform.



Chapter 2

Planning Your PMF Installation

This chapter describes the steps you must take and the information to consider when planning an installation of Performance Management Framework (PMF).

In this chapter:

- [Installation Requirements](#)
 - [Considerations for Installing PMF](#)
 - [Configuration Considerations for Multi-Tenancy](#)
-

Installation Requirements

This topic describes prerequisites, components, and settings necessary to install PMF.

Installation Prerequisites

To install a complete PMF solution, you need the following before you start:

- An installed, configured, and tested Java Application Server. Check to make sure the version you plan to use is compatible with WebFOCUS.
- RDBMS installed and active.
- WebFOCUS Reporting Server, WebFOCUS Client, and WebFOCUS ReportCaster. PMF supports WebFOCUS Version 8 and higher only. If you need support for WebFOCUS 77, please use PMF 8.0.7.
- PMF CD or access to the Setup program for PMF.

Installation Documentation for System Components

For each of the following WebFOCUS components, refer to the relevant Information Builders documentation.

To install and configure...	You will need this document...
WebFOCUS Reporting Server with WebFOCUS Maintain WebFOCUS Client ReportCaster (including Report Library)	<i>WebFOCUS and ReportCaster Installation and Configuration</i> manual for your platform (for example, UNIX, Windows, or z/OS).
To administer...	You will need this document...
ReportCaster (including Report Library)	<i>ReportCaster Development and Administration</i>
WebFOCUS Managed Reporting (including WebFOCUS Business Intelligence Dashboard)	<i>WebFOCUS Managed Reporting Administrator's Manual</i>

Considerations for Installing PMF

New or Upgrade?

Are you upgrading data or application or both?

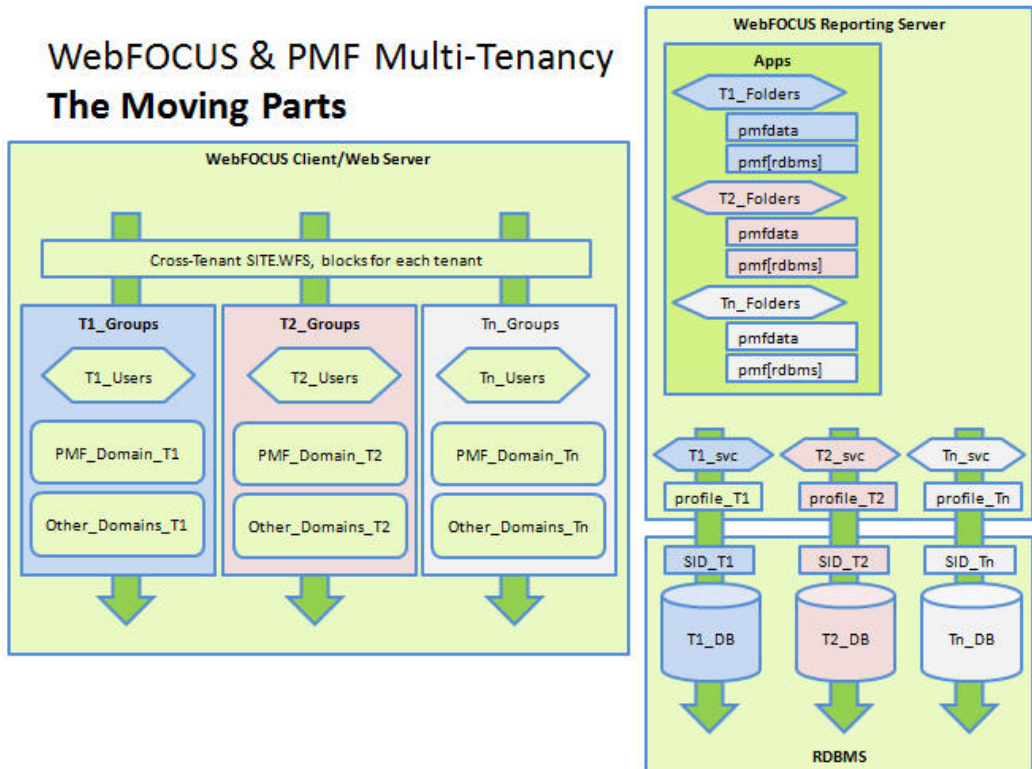
Installing a new instance of PMF is quick and straightforward. For steps on how to perform a new installation, see [Performing a New PMF Installation](#) on page 29.

When discussing a PMF upgrade there are two major components that can be upgraded, resulting in two choices for upgrade. The following components can be upgraded in PMF:

- Application
- Both the database and application

Configuration Considerations for Multi-Tenancy

There are two main variants of multi-tenancy and each depends on the nature of the types of customizations that tenants might require. The following image shows the parts that make up a multi-tenancy configuration.



The example scenarios used below assume that tenants want totally separate PMF data marts, MR domains, and Group Views. For more information, see [Understanding Multi-Tenancy](#) on page 22.

- ❑ **The “Different Organization” Scenario.** You might want to vary the PMF data marts for each tenant, have the ability to vary MR Domains while making them private to each tenant, and have Group Views for each tenant. This is typically the case if tenants were employed by different organizations, and there was a requirement that no tenant would ever be granted the ability to see each others MR or Group View content. This scenario would be followed if, for example, you were configuring PMF to support multiple groups of users in a SaaS environment where they remotely log in to the app and additionally need an absolute guarantee that they would never see the content of others. This type of scenario is the default assumption for multi-tenancy use. For steps on how to execute this configuration, see [Installing PMF for Multi-Tenancy](#) on page 56.
- ❑ **The “Same Organization” Scenario.** You might want the exact same MR Domain content and PMF Group Views for all tenants. It is fairly typical that the MR channels (Domain content) in PMF would be the same in the PMF Domain for all tenants. Tenants might not be concerned if they have the ability to share (when granted access) to other tenants MR and portal content. Typically, this would be the case if all tenants were groups employed by the same organization. If you need the ability to be able to share MR domain content among the various data mart users, you would use this scenario.

Before starting:

- ❑ It is assumed that you are using the same version of PMF for all tenants.
- ❑ You will need to agree on, and establish, a tenant name for each tenant data mart.

Performing a New PMF Installation

These topics provide details about installing Performance Management Framework (PMF).

In this chapter:

- [Installing PMF in WebFOCUS 8](#)
 - [Setting Up Your Data Mart Connection](#)
 - [Setting Up the PMF Data Mart in Your RDBMS](#)
 - [Installing PMF for Multi-Tenancy](#)
 - [Changing Language Display](#)
 - [Using the Unattended Install](#)
 - [MR External Security \(Realm Security: Setting Up a Bootstrap User\)](#)
 - [Configuring PMF to Communicate With ReportCaster](#)
-

Installing PMF in WebFOCUS 8

After you have installed the required WebFOCUS components, you can install and configure PMF. The Setup program simplifies the setup process. It is a cross-platform GUI-based installation program written in the Java language that runs on any operating system that supports a Java-based GUI. This includes Windows, UNIX, and Linux.

Before you use the Setup program, note the following:

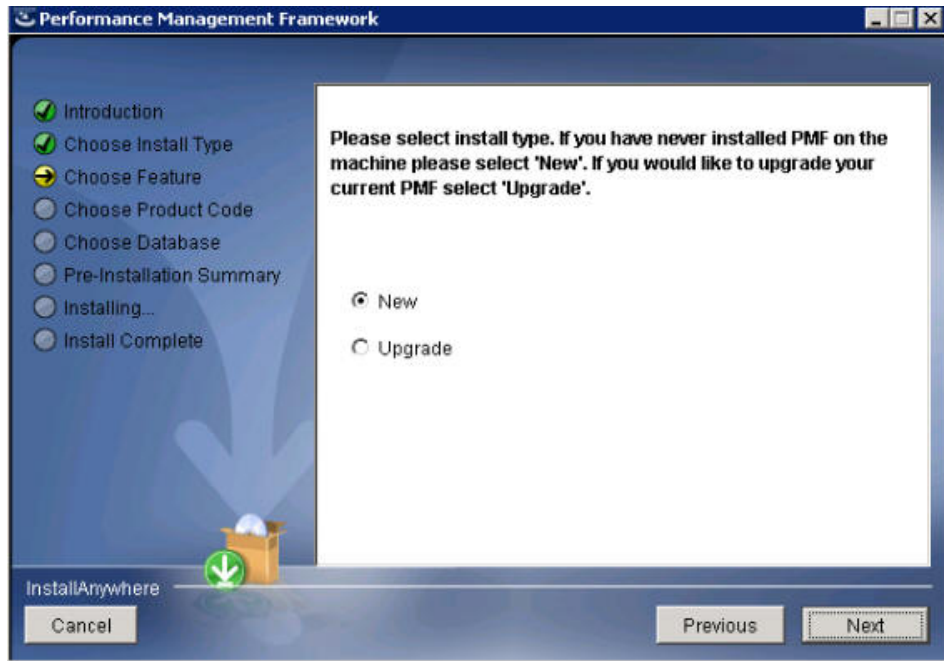
- The Setup program can separately deploy client and server components of the PMF application to your WebFOCUS Data Server and WebFOCUS web server.
- The Setup program deploys conversion scripts for use by your Database Administrator (DBA) to create new data marts and migrate existing data marts from previous versions.

Procedure: How to Run PMF Setup

1. Insert the Performance Management Framework CD in your CD drive. The Setup program starts automatically.

Choose what language to run the PMF Setup program in before proceeding.

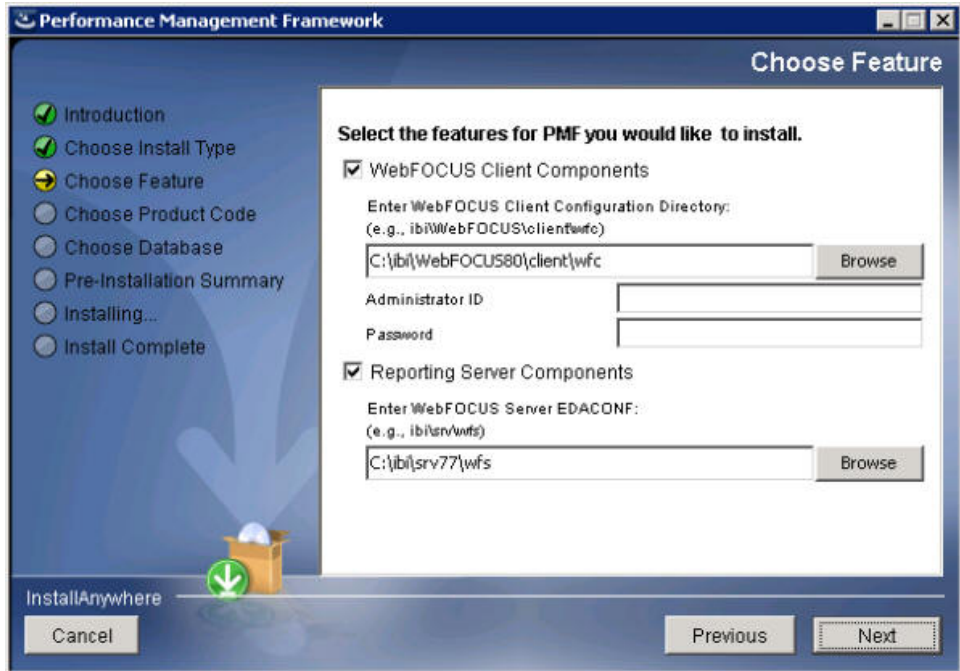
2. A window opens, listing the prerequisites for installing PMF.
Click *Next* to continue.
3. Select *New* in the window that appears, as shown in the following image.



Note: Choosing *New* will install a new version and overwrite any existing PMF installation.

Click *Next* to continue.

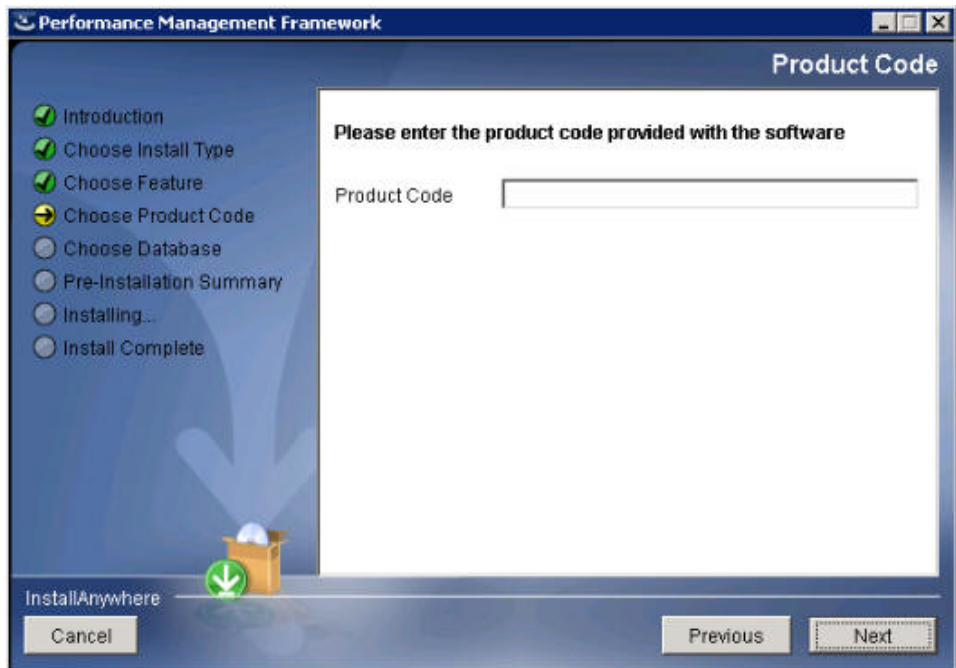
4. Select the check boxes for the components that you want to install, specify the WebFOCUS Client, and WebFOCUS Server file locations, and specify the Administrator ID and password in the Choose Feature window, as shown in the following image.



The default ID is *admin* with no password.

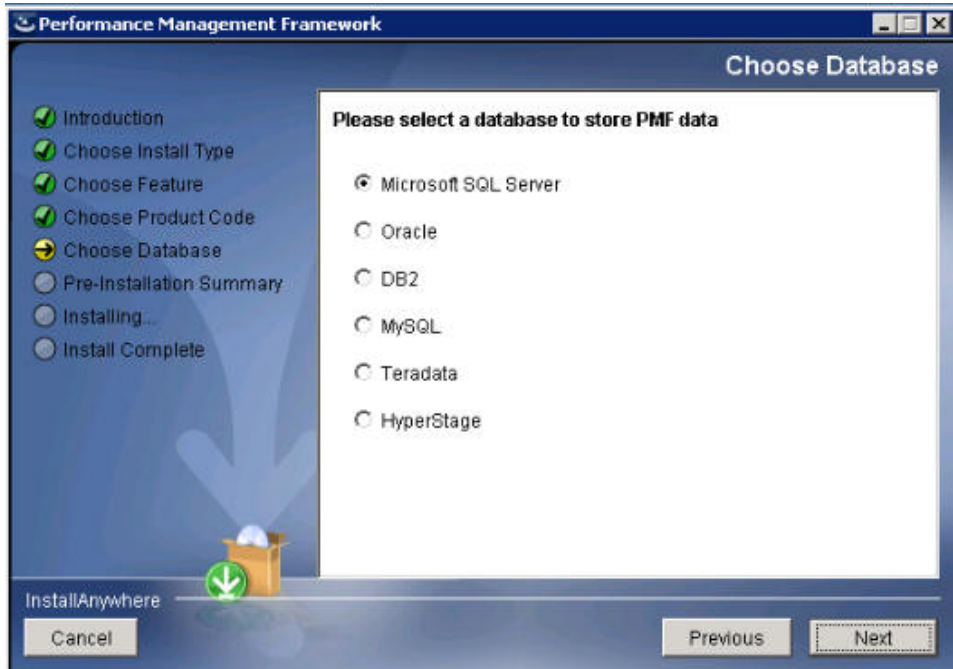
Click *Next* to continue.

5. Enter the product code in the Product Code field, which is shown in the following image.



Click *Next* to continue.

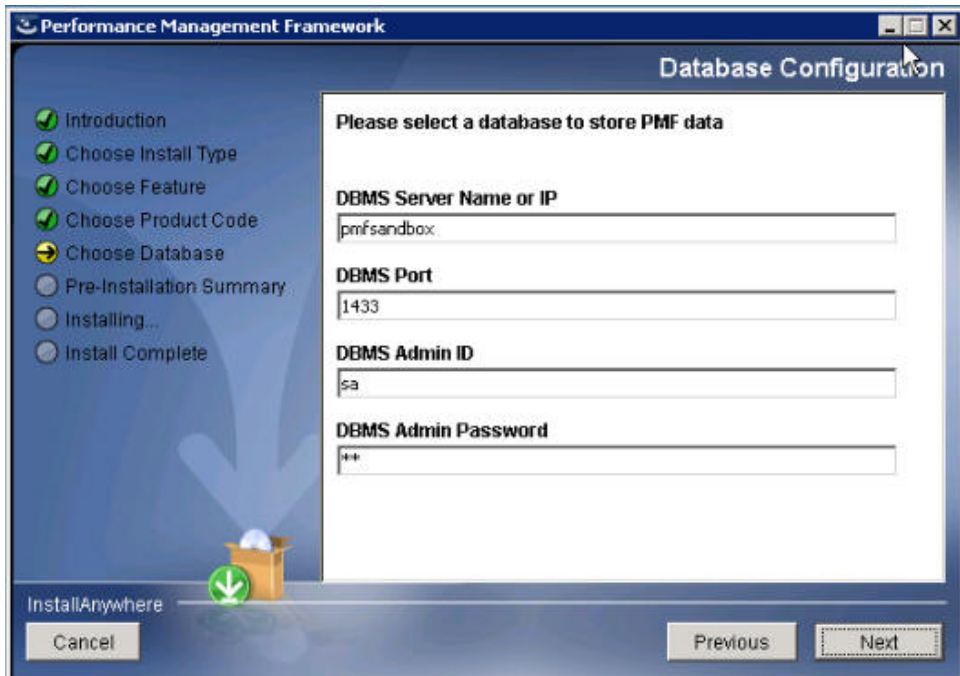
6. Select the database you will be using for PMF in the Choose Database window, as shown in the following image.



Click *Next* to continue.

Note: If you are not using MS SQL Server or MySQL, you will need to manually create the database utilizing the included DDL scripts.

7. An example of a completed Database Configuration window is shown in the following image.



Click *Next*.

8. Click *Next* and a summary information window will be displayed. However, there will be no database or connection at the end of the installation. To create the database and connection, see [Setting Up Your Data Mart Connection](#) on page 40.

Note: Up to this point, no changes have been made to your machine and you may cancel the setup.

Click *Next* to continue.

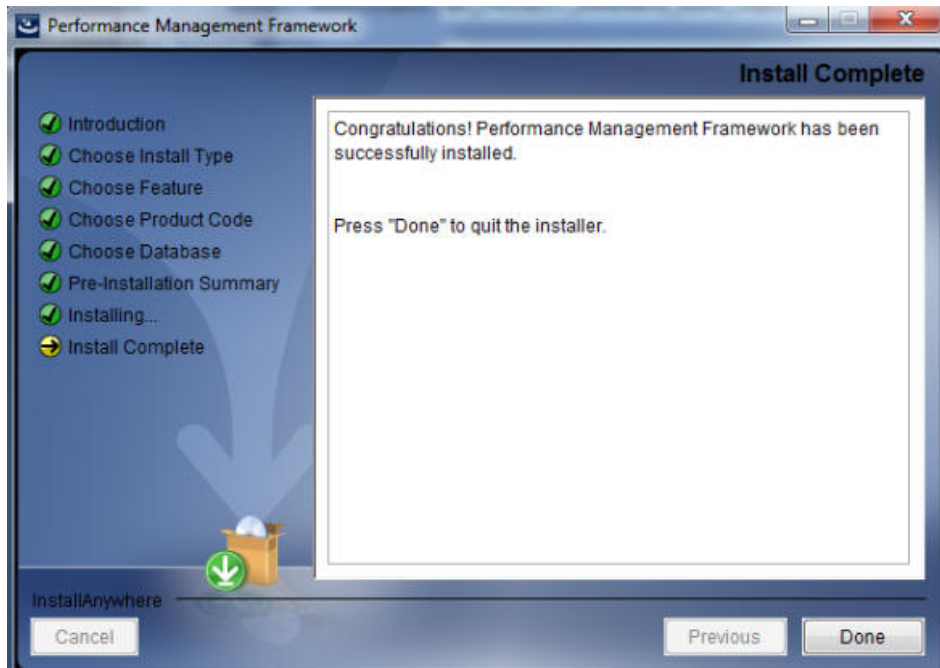
- The installation window appears when PMF is being installed on your machine, as shown in the following image.



Click *Next* to continue.

- The Setup program copies all files and configures PMF for operation.

11. The final setup window appears, indicating that PMF has successfully installed, as shown in the following image.



Click *Finish* to exit the installation.

Next, you or your database administrator (DBA) needs to create a database and connection as described in [How to Run PMF Setup in UNIX/Linux](#) on page 37. You can then verify your PMF installation as documented in the respective section for your RDBMS.

Procedure: How to Run PMF Setup in UNIX/Linux

1. Launch the Setup program, as shown in the following image.

```

=====
Introduction
-----

InstallAnywhere will guide you through the installation of PMF.

It is strongly recommended that you quit all programs before continuing with
this installation.

Respond to each prompt to proceed to the next step in the installation.  If you
want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE: █

```

2. Specify the components that you want to install, the WebFOCUS Client, and WebFOCUS Server file locations in the appropriate fields, and the Administrator ID and password, as shown in the following image.

```

Choose Feature
-----

WebFOCUS Client Components (Y/N): y

WebFOCUS Client Components (DEFAULT: /qa/cts/ibi/WebFOCUS80/client/wfc):
                                     /qa/cts/carlotta/cxs8001/ibi/WebFOCUS80/client/wfc

Administrator ID: admin

Password:*****

Reporting Server Components (Y/N): y

Reporting Server Components (DEFAULT: /qa/cts/ibi/srv77/wfs):
                                     /qa/cts/carlotta/cxs8001/ibi/srv80/wfs

```

3. Enter the product code in the Product Code field, as is shown in the following image.

```
Product Code
-----

Please enter the product code provided with the software
Product Code: █
```

4. Select the database you will be using for PMF, as shown in the following image.

```
Choose Database
-----

1- Microsoft SQL Server
2- Oracle
3- DB2
4- MySQL
5- Teradata
6- HyperStage

Please select a database to store PMF data: 2
```

5. Type the DBMS server name, listener port, Admin ID, and password in the appropriate fields, as shown in the following image.

```
Database Configuration
-----

Please select a database to store PMF data

DBMS Server Name or IP: x64lnx2

DBMS Port: 1521

DBMS Admin ID: PMFWF8

DBMS Admin Password:*****
```

6. The summary information appears, as shown in the following image.

```
Pre-Installation Summary
-----

Please Review the Following Before Continuing:

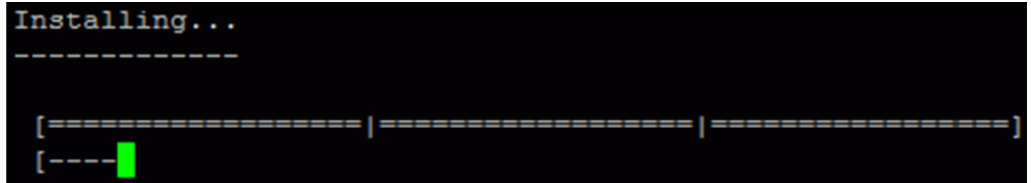
Product Name:
    PMF

Disk Space Information (for Installation Target):
    Required:  588,218,801 Bytes
    Available: 3,976,728,576 Bytes

PRESS <ENTER> TO CONTINUE:
```

Note: Up to this point, no changes have been made to your machine and you may cancel the setup.

7. The installation information appears when PMF is being installed on your machine, as shown in the following image.



8. The Setup program copies all files and configures PMF for operation.
9. The final installation information appears, indicating that PMF has been installed successfully.

Enter 3 to finish and exit the installation.

Setting Up Your Data Mart Connection

If you follow the standard installation procedure, then when the procedure is completed, your DBA needs to create a database and connection for your server. For SQL Server and MySQL, the PMF installer automatically creates the database schema and all basic data structures required to run PMF. You only need to follow these instructions if you need additional PMF databases for testing or QA.

Procedure: How to Create a Database and Connection

1. Using the SQL DDLs provided by Information Builders for your RDBMS, create the structure of a production database.
2. In the WebFOCUS Server Console, create a connection named *pmf_system*, or modify an existing connection as needed.
3. Point the *pmf_system* adapter connection to the new database.
4. Go to the verification procedure described in [Verifying an Installation or Upgrade](#) on page 77.

Setting Up the PMF Data Mart in Your RDBMS

After completing the PMF install program, the PMF application is prepared for use on your Reporting Server.

As previously mentioned in this documentation, PMF also requires a connection to a physical data mart, which must reside in an RDBMS. PMF uses this data mart as the central place where it stores data for Measures and Dimensions, the information that controls these, and other critical data, such as Feedback, Tasks, the specifications for Alerts, and Dashboard preferences.

Note the following before performing any of the procedures in this section:

- Whenever upgrading PMF to a new release, the upgrade migration scripts now run within PMF using auto-migration functionality. A manual upgrade and/or migration is not required.
- In multi-tenant environments, each PMF schema typically resides in a separate database on the RDBMS server.
- The schema name cannot exceed 10 characters.

General Procedure for Setting Up a PMF RDBMS

To set up the PMF data mart, you need to:

1. Set up, or gain access to, an existing RDBMS resource on which you can set up a PMF data mart. PMF supports hosting on MySQL, MS SQL Server, Oracle, Teradata, Information Builders HyperStage, PostgreSQL, or IBM DB2. If you need the data mart to be different from one of these, contact your Information Builders support representative.
2. Have security credentials for the RDBMS that are at a sufficient level to allow the following options:
 - Create, alter, and drop of tables, views, and procedures.
 - Execute/Run on procedures.
 - For Oracle, create and drop public synonyms, triggers, and sequences. You must also have the ability to enable and disable triggers. Note that the drop public synonym must be explicitly granted.
 - Select, update, and delete for all tables, and select on all views.

Test and confirm the credentials you have given these rights before attempting to use the credentials to create the PMF Data mart in your RDBMS.

3. If necessary, have your DBA review the provided, packaged PMF SQL DDL code that creates and sets up the PMF data mart.
4. From your SQL tool of choice, either run the provided, packaged PMF files yourself or have your DBA run them and save the SQL output files from the process, at full error reporting levels so it will be possible to see any error messages.

5. Review the SQL output files from the process and confirm all ran properly with no displayed errors.
Note: For SQL Server or MySQL, the PMF installer will correctly configure the profile for the default tenant. For all others, this is a manual step.
6. Make sure connectivity software (for example, the database connection client) for your Reporting server has been properly set up. Make sure that your tenant profile is properly configured for PMF.
7. Make sure the WebFOCUS RDBMS connection called *pmf_system* has been properly configured for connection to the RDBMS.
8. Log into PMF as an administrator and resynch the PMF metadata from the newly connected data mart. If necessary, enter any required RDBMS parameters.
9. If desired, perform a snapshot restore of demonstration data for PMF.

Reference: Settings for Data Mart Build and Upgrade

The following system settings are required by certain supported RDBMSs to enable various PMF functions. These settings will vary from one RDBMS to another.

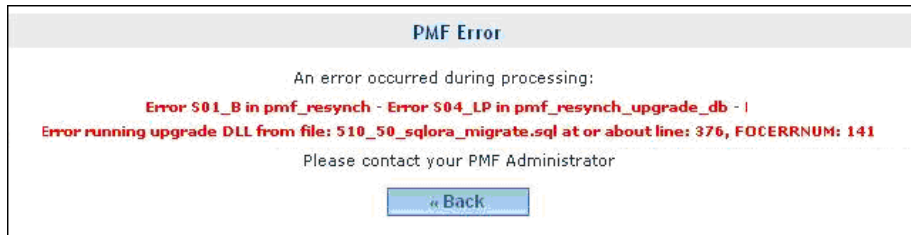
Setting	Controls
PMF_DB_OWNER	The configured owner or schema of the database that contains the PMF data mart.
PMF_DB_TABLESPACE	The defined and configured tablespace for the database.
PMF_DB_INDEXSPACE	The defined and configured index space for the database.

During installation, the PMF installer prompts for none, one, or all of these setting depending on the database. After the install is completed, PMF updates the PMF settings table with the confirmed values that you provided.

Important:

- Do not enter dummy or placeholder values for these settings.
- These settings are case sensitive. To determine whether they should be upper case or lower case, please check the requirements for your RDBMS.
- Once these values have been entered and accepted by the Resync panel, they cannot be changed in the PMF application.

- ❑ If you have changed your configuration or security settings, the settings are not blank and the PMF Resynch panel does not prompt for them. However, the PMF Resynch panel will display an error message, as shown in the following image.



To correct the error, you have to restore your data mart from the backup and change the PMF_DB_OWNER, PMF_DB_TABLESPACE, and PMF_DB_INDEXSPACE settings in the SYSTEM_SETTINGS database table.

Procedure: How to Build a SQL Server Data Mart Using DDL

If you ran the PMF installer and specified SQL server, PMF is already configured with a SQL Server database named pmf_base.

To create a new SQL Server data mart for PMF, perform the following steps:

1. Start your SQL tool for MS SQL Server. Most DB users typically use the Microsoft® provided SQL Server Management Studio. Make sure to log in to this tool using the Owner ID that has all proper rights to create, read, and drop tables, views and procedures.
2. Check your MS SQL Server owner name for the data mart. PMF currently requires the default, DBO.
3. Create the new database in your MS SQL Server environment using SQL Server Management Studio.
4. In the SQL Server Management Studio console, run the provided SQL DDL called sqlmss.sql. This script is located on the WebFOCUS Reporting Server in /ibi/apps/pmfdbms/Create_Database. The DDL script creates and populates the new data mart with the minimum amount of data required to start PMF.
5. Personally review the SQL output in SQL Server Management Studio from the DDL process and confirm all ran properly with no displayed errors. If there were errors, double-check that your DB Owner name has the proper rights to create, read, and drop tables, views and procedures, and that the physical connection from SQL Server Management Studio to your RDBMS is correct.
6. Double-check that you have any proper DB Client software installed on your WebFOCUS Reporting Server, as needed, and that the physical connection to the RDBMS server and database has been set up in that client.

7. Open the WebFOCUS Reporting Server Console for the Reporting Server(s) used for PMF. Double-check that an adapter connection called `pmf_system` has been set up for MS SQL database in the tenant profile. If you are in single tenant mode, this will be `pmf_base.prfl`. Test the connection and make sure that it is working before proceeding.
8. Log into PMF as an administrator. You should be prompted to resynch PMF. Perform the resynch. If there are any issues, check to make sure you followed every aspect of this procedure. If it was followed perfectly and there are still issues, see [Troubleshooting Common Issues](#) on page 129.
9. If needed, to provide sample data for PMF, or to restore your previous PMF data from another installation of PMF, restore a snapshot into the data mart. For more information, see [Working with Snapshots](#) on page 81.

Procedure: How to Build an Oracle Data Mart Using DDL

Note the following before performing the procedure:

- Sample DDL for creating the default databases and Oracle owner name (schema) and indexes can be found in the `sqlora_env_defaults.sql` file, which is located in the `\ibi\apps\pmfdbms\Create_Database` folder in the standard PMF installation.
- It is recommended that tablespaces and schema names be composed of uppercase standard ANSI characters. Doing so helps avoid problems that might occur while running the PMF scripts. The schema name cannot exceed 10 characters.
- For Oracle: Note that only one PMF datamart can be created per Oracle database, since PMF uses Oracle Public Synonyms. Each PMF schema must reside in a separate database. Also, make sure to run the DDL script using the Schema ID you created for PMF, and make sure the case used when logging in to your SQL tool matches that used for the PMF schema exactly.

To create a new Oracle data mart for PMF, perform the following steps:

1. Create the new database in your Oracle environment using your standard toolset.
2. Create table spaces for your tables and indexes. Depending on your requirements, you can either use the same tablespace for both your tables and indexes or you can use separate tablespaces for each.
3. Create your Oracle owner name for the data mart. We recommend using PMF for simplicity, but you can use a different name if required for your standards.
4. Set up the Oracle SID.
5. Edit the `sqlora.sql` file located in the `\ibi\apps\pmfdbms\Create_Database` directory and set the proper values for the three environmental variables. These values must be identical to those used in steps 2 and 3. It is recommended that you use uppercase standard ANSI characters only.

For details about variable settings, see [Settings for Data Mart Build and Upgrade](#) on page 42.

6. Start your Oracle interactive or GUI tool. For Oracle 11 and higher, we recommend using Oracle Developer. For earlier releases, you can use SQL*Plus.

7. In the Oracle session, run `sqlora.sql`.

The DDL script creates and populates the new data mart with the minimum amount of data required to start PMF.

8. Open the WebFOCUS Reporting Server Console for the Reporting Server(s) used for PMF. Double-check that an adapter connection called `pmf_system` has been set up for Oracle database in the tenant profile. If you are in single-tenant mode, this will be `pmf_base.prf`. Test the connection and make sure that it is working before proceeding.
9. Sign in to your PMF application using the supplied PMF administrator ID `pmfadmin`. A form similar to the following image prompts you for the Schema, Tablespace for tables, and Tablespace for Indexes (Indexspace).

PMF has detected a new database
RDBMS: Oracle
Datamart version: 8.0.3

The Oracle Schema, Tablespace Name, and Indexspace Name are required

Schema/Owner:

Tablespace:

Indexspace:

Resync PMF

Once the values are entered, the Oracle system settings will be verified for legitimacy in your database. You cannot continue with the installation or upgrade if any of these values are not legitimate.

Note:

- ❑ If you need to specify additional storage specifications, you can do so using the global parameters. The following is an example:

```
define PMF_DB_TABLESPACE = 'PMF_DATAMART_DATA'  
--define PMF_DB_TABLESPACE = 'PMF_DATAMART_DATA storage  
(initial 64K next 0K minextents 1 maxextents 2147483645 pctincrease 0  
freelists 1 freelist groups 1)'
```

- ❑ The scripts that are required to create the PMF data mart require specific settings for certain Oracle system parameters. In particular, NLS_DATE_FORMAT, NLS_TIMESTAMP_FORMAT, and NLS_LENGTH_SEMANTICS.

These settings will override your site standard settings for the duration of your Oracle session unless you specifically reset them after you have finished running the PMF scripts. Once you close your session, the settings will revert back to your site standards. For more information, consult your Oracle documentation.

- ❑ If you are re-creating the PMF datamart under a different schema, drop all existing PMF objects using Oracle tools first.

Procedure: How to Create a New DB2/UDB Data Mart

Establishing and maintaining a DB2/UDB database is a complex task that requires knowledge of DB2/UDB and of any site specific standards. The following procedure should be performed by an experienced database administrator.

1. You will need to attach your RDBMS query tool to your DB2/UDB system with an ID that has all necessary privileges to perform the following steps. This includes, but is not limited to, create database, schema, tables, views, indexes, procedures, and so on. Make sure that such an ID is available.
2. Create the new database and schema in your DB2/UDB environmental using your standard toolset.

It is recommended that you use PMF for the schema name but a different name can be used if required for your standards. The schema name cannot exceed 10 characters.

3. Create table spaces for your tables and indexes using your standard toolset.

It is recommended that you use PMF_DATAMART_DATA for the tablespace for the tables and PMF_DATAMART_INDEX for the tablespace for your indexes. Different names can be used if required for your standards.

Note: Sample code to create the database, schema, and table spaces is in the supplied script db2_env_defaults.sql which is located in the apps/pmfdbms/Create_Database folder.

4. You will be running the supplied script db2.sql, which is also in the apps/pmfdbms/Create_Database folder. Prior to running you must set the correct value for &PMF_DB_OWNER. In the script, after the instructions at the top of the script you will see these two lines:

```
set schema &PMF_DBOWNER;
set path &PMF_DB_OWNER ;
```

Change &PMF_DB_OWNER to the name of your schema, which is typically PMF. It is recommended that the schema name be uppercase, alphanumeric ANSI characters only. The schema name cannot exceed 10 characters.

In addition, if you are not using the recommended schema or tablespace names, you will have to first edit the db2.sql file and substitute the proper names wherever they are used. View the output listing and verify that all statements completed successfully.

NOTE: It is recommended that you use the standard DB2 GUI toolkit - DB2 Control Center and/or DB2 Command Editor - to interact with your DB2 database. Alternatively, you may run the supplied sample scripts after making any necessary changes in command line mode. Here is what a typical DB2 command line session looks like:

```
C:\>db2 connect to pmf user db2admin
Enter current password for db2admin:
Database Connection Information
Database server          = DB2/NT64 9.7.0
SQL authorization ID    = DB2ADMIN
Local database alias    = PMF
C:\> db2 -vf C:\ibi\apps\pmfdbms\Create_Database\db2.sql
-z C:\ibi\apps\pmfdbms\Create_Database\db2.out +o
```

The -z parameter along with the +o command effectively routes the session output to the file db2.out for inspection.

5. Using the WebFOCUS Server Administration Console, create and test your pmf_system connection to the database you just created.
6. Using the WebFOCUS Server Administration Console, open your Server Tenant Profile. If you are in single tenant mode (the default) the profile is pmf_base.prf. If you are in multi-tenant mode, see [Installing PMF for Multi-Tenancy](#) on page 56 for details on how to identify your profile.

Perform steps a and b:

- a. Ensure that the pmf_system connection is the default DB2 connection.
- b. Enter this code after your DB2 connection string:

```
-SET &&PMF_OWNER_FOR_INSTALL_UPGRADE = '<schema_name>' ;
```

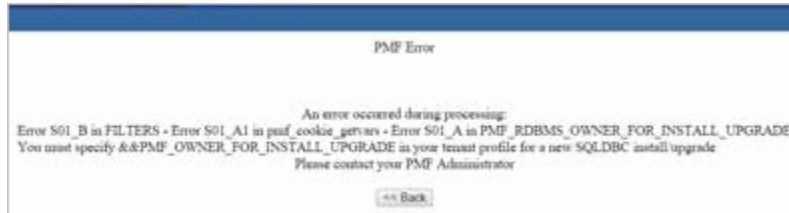
where:

schema_name

Is the name you chose in step 2.

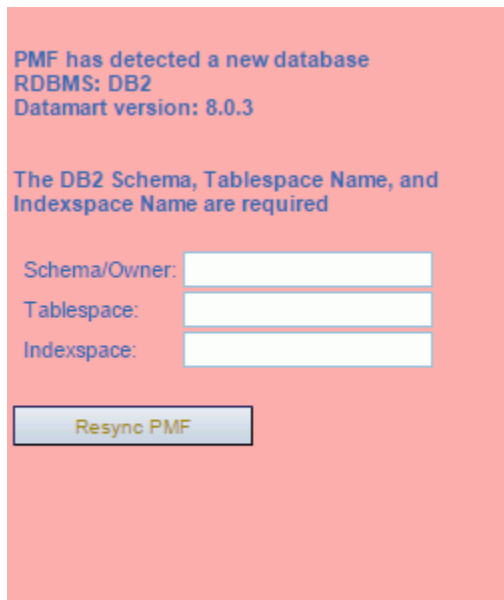
Note: The *schema_name* is case sensitive and must exactly match what was entered in step 4.

If this step is omitted, you will see the following image when you log into PMF for the first time.



Note: If you upgrade to a new PMF release, this line must also be in your tenant profile.

- c. Open up the WebFOCUS Reporting Server Console for the Reporting Server(s) used for PMF. Double-check that an adapter connection called *pmf_system* has been set up for DB2 database in the tenant profile. If you are in single-tenant mode, this will be *pmf_base.prf*. Test the connection and make sure that it is working before proceeding.
7. Sign in to your PMF application using the supplied PMF administrator ID *pmfadmin*. A form similar to the following image prompts you for the Schema, Tablespace for tables, and Table Space for Indexes (for example, *Indexspace*).



Enter the same values you used when running the db2.sql script in the previous step. You must enter proper values, otherwise PMF will not allow further processing

8. Remove the -SET statement from your tenant profile (used in step 6) to avoid interfering with other applications.

Procedure: How to Create a New DB2/zOS Data Mart

The procedures for creating a DB2/zOS database are similar to those in the previous procedure for DB2/UDB, but note the following:

1. The DB and tablespace creation must be run directly on the z/OS system. Sample SQL to do this is located in zosv8_env_defaults.sql in /apps/pmfdbs/Create_Database supplied with PMF.
2. The DDL must be run to create the stored procedures directly on the mainframe. The SQL to do this is located in zosv8_procedures.sql in /apps/pmfdbs/Create_Database supplied with PMF. The DB Owner ID needs select access to the SYSIBM.SYSTABLES catalog table.
3. The DB Owner ID must have full capabilities on objects owned by itself, for example, DBADM.
4. The DB Owner ID must have permissions to run the two stored procedures. Also, if the procedures are prepared as external SQL procedures (this is the only option in DB2 z/OS V8), then the id must also have access to the packages associated with the procedures. Refer to the CALL statement section in the DB2 z/OS SQL Reference for information on the authorization requirements.
5. To create and populate the PMF data mart, you must run the supplied script (zosv8.sql) from a DB2 client. The minimum client configuration is DB2 Connect.
 - If you are using DB2 Connect release 8.x, make sure you have applied FixPak 18 (also known as Version 8.2 FixPak 11) from IBM. You may obtain this at <http://www-01.ibm.com/support/docview.wss?rs=71&uid=swg24024075>.
 - If you connect to the z/OS database from the client using an ID other than the owner ID, then that ID must have OS privileges to impersonate that actual owner ID.
6. If you create the pmf_system connection using the DB Owner for authentication inside of WebFOCUS, you do not need to make any changes (temporary or otherwise) to edasprof.
7. If the WebFOCUS connection is *not* using the DB Owner to connect, you must apply z/OS permissions (for example, RACF) on the connect ID in order to:
 - Be able to use the attach ID.
 - Be able to use the stored procedures.

8. You may need to edit the lsdched.acx metadata files. lsdched is a cluster join used by PMF in the PMF interface to the Report Caster. The issue is that there can be multiple ReportCaster databases on any given LPAR, and there may be no way to point to a database without editing lsdched.acx to qualify the tables.

Procedure: How to Create a PMF Data Mart in MySQL

Note the following before performing the procedure:

- If you ran the PMF installer and specified MySQL, PMF is already configured with a MySQL database schema named pmf_base.
- MySQL schema names are case sensitive on Windows. It is recommended that you use only lower case ANSI characters for your MySQL schemas. The schema name cannot exceed 10 characters.

To create a new data mart for PMF, perform the following steps:

1. Start MySQL Workbench and connect to the RDBMS server.
2. In the MySQL Workbench session, create your MySQL schema for the data mart and, if not already done, the user that will be used to connect to the database. For the schema we recommend using pmf for simplicity, but you can use a different name if required for your standards, or if required for multi-tenancy. Sample DDL to accomplish these tasks can be found in the sqlmysql_env_defaults.sql file, which is located in the apps/pmfdbms/Create_Database folder in the standard PMF installation.
3. Create the new empty database with the defined schema name as the owner (recommended).
4. Open the DDL file for creating the default databases. This file is called sqlmysql.sql and is located in the apps/pmfdbms/Create_Database folder in the standard PMF installation. Per the instructions in the file, you must change the &PMF_DB_OWNER to the schema you have just created. Make sure to retain the back "tick marks" around your value. This script creates and populates the new data mart with the minimum amount of data required to start using PMF.
5. Once the changes are made, run the DDL SQL to create the database structures and ensure that no errors occurred. If you do encounter errors, the most likely cause is access. Make sure that the ID you are using to run the DDL can create and drop procedures, tables, and views for the schema you created.
6. Open the WebFOCUS Reporting Server Console for the Reporting Server(s) used for PMF. Double-check that an adapter connection called pmf_system has been set up for MySQL database in the tenant profile. If you are in single-tenant mode, this will be pmf_base.prf. Test the connection and make sure that it is working before proceeding.
7. Sign in to your PMF application using the supplied PMF administrator ID pmfadmin. A form prompts you for the schema.

Enter the schema name you created in the prior steps, along with the table and index tablespace names.

Procedure: How to Create a PMF Data Mart in Teradata

Note the following before performing the procedure:

- ❑ It is recommended that schema names be composed of uppercase standard ANSI characters. Doing so helps avoid problems that might occur while running the PMF scripts. The schema name cannot exceed 10 characters.

To create a new data mart for PMF, perform the following steps:

1. Create the new database in your Teradata environment using your standard toolset.
2. Start your Teradata console.
3. Create your Teradata owner name for the data mart. We recommend using PMF for simplicity, but you can use a different name if required for your standards.

Important: It is recommended that you use uppercase standard ANSI characters to name this only.

4. Open and edit the `sqldbc.sql` file located in the `approot/pmfdbs/Create_Database` folder on your system, and set the proper values for schema name variables. These values must be identical to those used in step 3. It is recommended that you use uppercase standard ANSI characters only.
5. In the Teradata console session, run `[ddl name]`.
6. After completing the edits, run the DDL SQL script. This script creates and populates the new data mart with the minimum amount of data required to start using PMF.
7. Using the WebFOCUS Server Administration Console, create and test your `pmf_system` connection to the database you just created.
8. Using the WebFOCUS Server Administration Console, open your Server Tenant Profile. If you are in single-tenant mode (the default) the profile is `pmf_base.prf`. If you are in multi-tenant mode, see [Installing PMF for Multi-Tenancy](#) on page 56 for details on how to identify your profile.

Perform steps a and b:

- a. Ensure that the `pmf_system` connection is the default Teradata connection.
- b. Enter this code after your Teradata connection string:

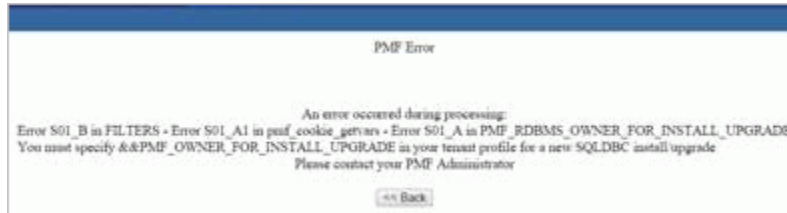
```
-SET &&PMF_OWNER_FOR_INSTALL_UPGRADE = '<schema_name>';
```

where:

schema_name

Is the name you chose in step 2.

If this step is omitted, you will see the following image when you log into PMF for the first time.



Note: If you upgrade to a new PMF release, this line must also be in your tenant profile.

- c. Finalize the connection setup for the adaptor needed in your User Profile on the WebFOCUS Reporting Server. This will be tenant-specific if you have a multi-tenant environment. It is recommended that you use the sample tenant profile delivered with PMF.
9. Sign in to your PMF application using the supplied PMF Administrator ID *pmfadmin*. You are prompted for the schema.
10. Enter the schema name you created in the prior steps.

Procedure: How to Create a PMF Data Mart in PostgreSQL

Note the following before performing the procedure:

Unless explicitly requested, PostgreSQL only uses lowercase schema names. If you specify a PostgreSQL schema using uppercase characters, they will be converted to lowercase. It is recommended that when you create your PostgreSQL schema you use only lowercase ANSI characters. You may create the PMF schema in an existing PostgreSQL database, but it is recommended that you use a dedicated database for better control and isolation. The schema name cannot exceed 10 characters.

To create a new data mart for PMF, perform the following steps:

1. Start your PostgreSQL client program and connect to the RDBMS server. DB users typically use either the pgAdmin GUI toolkit or the SQL Shell (psql) command line tool.

2. In the PostgreSQL session, if not already done, create your database/schema for the PMF data mart and the user that will be used to connect to the database. It is recommended you use pmf for the schema, but you can use a different name if required for your standards, or if required for Multi-Tenancy. Sample DDL to accomplish these tasks can be found in the `sqlpstgr_env_defaults.sql` file, which is located in the `apps/pmfdbms/Create_Database` folder in the standard PMF installation.
3. Using any standard text editor, open the DDL file for creating the default databases. This file is called `sqlpstgr.sql` and is located in the `apps/pmfdbms/Create_Database` folder in the standard PMF installation. Change the `&PMF_DB_OWNER` to the schema you have just created. This script creates and populates the new data mart with the minimum amount of data required to start using PMF.

Important: Do not put the schema name inside single or double quote marks.

4. Once the changes are made, run the DDL SQL to create the database structures and ensure that no errors occurred. Note that if you are using the pgAdmin GUI tool, you must copy and paste the full DDL into the SQL Editor tool; you cannot directly open the file in the SQL due to limitations of the SQL Editor. If you do encounter errors, the most likely cause is access. Make sure that the ID you are using to run the DDL can create and drop procedures, tables, and views for the schema you created.
5. Open the WebFOCUS Reporting Server Console for the Reporting Servers used for PMF. Double-check that an adapter connection called `pmf_system` has been set up for the PostgreSQL database in the tenant profile. If you are in single tenant mode, this will be `pmf_base.prf`. Test the connection and make sure that it is working before proceeding.
6. Sign in to your PMF application using the supplied PMF administrator ID `pmfadmin`. A form prompts you for the schema. Enter the schema name, and click the *Resynch PMF* button.

Procedure: How to Create a PMF Data Mart in Information Builders HyperStage

Note the following before performing the procedure:

- You will need to configure PMF for a split cube configuration. It is recommended you use HyperStage for the cube portion of PMF, and the underlying copy of MySQL on which HyperStage runs for the transactional component.
- It is recommended that schema names be composed of uppercase standard ANSI characters. Doing so helps avoid problems that might occur while running the PMF scripts. The schema name cannot exceed 10 characters.

To create a new data mart for PMF, perform the following steps:

1. Start MySQL Workbench and connect to the RDBMS server.
2. In the MySQL Workbench session, create your MySQL schema name for the data mart. We recommend using PMF for simplicity, but you can use a different name if required for your standards, or if required for multi-tenancy.

Important: It is recommended that you only use uppercase standard ANSI characters to name this schema. The schema name cannot exceed 10 characters.

3. Create the new empty database with the defined schema name as the owner (recommended).
4. Check over the DDL for creating the default databases and MySQL owner name (schema) can be found in the `sqlmysql.sql` file, which is located in the `aproot/pmfdbms/Create_Database` folder in the standard PMF installation. Make any edits necessary. For example, you might need to change the schema name variable to the actual setting for your schema.
5. Once changes are made, run the DDL SQL to create the database structure for the MySQL component. Ensure that no errors occur. If you do encounter errors, make sure your schema has DBO level access, or, at minimum, can create and destroy tables, views, and triggers for the database you created.
6. Configure the adapter for PMF to point to the MySQL database instance. Test and burn in PMF to ensure that it works with MySQL standalone. If you encounter any errors, debug and fix them before proceeding.
7. Start the HyperStage console, and connect to your HyperStage server.
8. Open and edit the `sqlhyp_cube.sql` file located in the `aproot/pmfdbms/Create_Database` folder on your system and set the proper values for the three environmental variables. It is recommended that you use upper standard ANSI characters only.
9. After completing the edits, run the DDL SQL script. This script creates and populates the new data mart with the minimum amount of data required to start using PMF.
10. Finalize the connection setup for the adapters needed in your User Profile on the WebFOCUS Reporting Server. This will be tenant specific if you have a multi-tenant environment. The typical configuration for the standard shipped PMF tenant in HyperStage split cube mode will look like the following:

```

-SET &&PM_TNT_NAME_PRF = 'pmf_base' ;
-SET &RDBMS_PRF      = 'sqlmysql' ;
-SET &RDBMS_CUBE_PRF = 'sqlhyp' ;
-SET &PMF_DB_SPLIT_MODE_PRF = 'ON' ;

APP MAP pmfdata          "C:\ibi\apps\pmf_tenants\pmfdata"
APP MAP pmfdata_tenant  "C:\ibi\apps\pmf_tenants\pmf_base\pmfdata_tenant"

APP MAP pmfdb_system    "C:\ibi\apps\pmfdbms\pmfdb_system\pmfdb_system_&RDBMS_PRF"
APP MAP pmfdb_system_tenant "C:\ibi\apps\pmf_tenants\pmf_base\pmfdb_system\pmfdb_system_&RDBMS_PRF"

APP MAP pmfdb_cube      "C:\ibi\apps\pmfdbms\pmfdb_cube\pmfdb_cube_&RDBMS_CUBE_PRF"
APP MAP pmfdb_cube_tenant "C:\ibi\apps\pmf_tenants\pmf_base\pmfdb_cube\pmfdb_cube_&RDBMS_CUBE_PRF"

APP MAP pmf_custom_tenant "C:\ibi\apps\pmf_tenants\pmf_base\pmfcustom"

-SET &APP_PATH_START = 'pmf_custom_tenant pmf_custom' ;
-SET &APP_PATH_CUBE  = IF (&PMF_DB_SPLIT_MODE_PRF EQ 'OFF') THEN ' '
ELSE 'pmfdb_cube_tenant pmfdb_cube' ;
-SET &APP_PATH_END   = 'pmfdata_tenant pmfdata pmfdb_system_tenant
pmfdb_system mainstreet' ;

APP PREPENDPATH &APP_PATH_START &APP_PATH_CUBE &APP_PATH_END

-* Followed by ENGINE statements
ENGINE SQLMYSQL SET CONNECTION_ATTRIBUTES [connection attributes]
ENGINE SQLHYP SET CONNECTION_ATTRIBUTES [connection attributes]

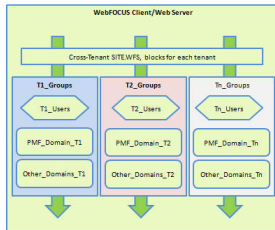
```

Installing PMF for Multi-Tenancy

The following procedure asserts some steps as best practices. Although it is possible to change them to meet your preferences, note that these best practices make follow-up work with a multi-tenant installation easier to do. For example, naming databases using a different schema (such as DB01 and DB02) works from a technical standpoint, but might result in confusion when updating the configuration at a later point. Following these steps ensures future confusion is reduced.

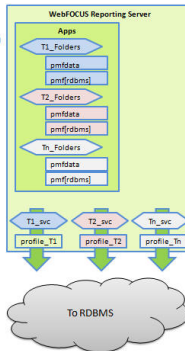
WebFOCUS & PMF Multi-Tenancy WebFOCUS Client & Web Server Setup

- Each tenant has:
- A PMF Domain
 - One or more report domains
 - One or more MR Groups
 - Block in SITE.WFS
 - One or more Domain Admins
- Host must set up these basics.



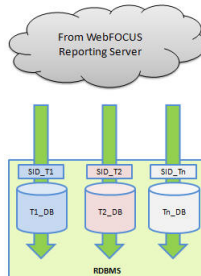
WebFOCUS & PMF Multi-Tenancy WebFOCUS Reporting Server Setup

- Each tenant has:
- A named Service.
 - A service Profile:
 - DB Connect String
 - Mapping for App folders
 - App path
 - An App sub-folder:
 - pmfdata
 - pmf[rdbms]
- Host must set these up.



WebFOCUS & PMF Multi-Tenancy RDBMS Setup

- Each tenant has:
- Its own separate Database
 - Cannot be Tablespace
 - If Oracle, an Oracle SID



Note: The following procedure has two sample tenants. ABC Manufacturing will be named ABC and DEF Logistics will be named DEF.

Procedure: How to Install PMF for Multi-Tenancy

Important: PMF 5.3.1 and higher are pre-configured to be the basis for a multi-tenant installation. No further changes need to be applied. For information on creating new tenants in PMF, see [Creating a New Tenant](#) on page 97.

Changing Language Display

Before changing the Display Language setting on the UI Settings panel, do the following:

- Change the WebFOCUS Server code page to display the correct character set for the target language.
- Verify that you have installed the appropriate language pack and that your user logons are configured to display the WebFOCUS user interface in the desired target language.
- You may have to change some server defaults, for example, CDN, to make the display of currency correct for the target language.

Procedure: How to Change Language Display

To change the PMF language display, perform the following steps:

1. Log on to PMF as an Administrator.
2. Click the *Manage* tab.
3. Click the *Settings* panel button.
The Settings menu displays.
4. On the UI panel, select one of the following two-character language codes from the Display Language drop-down list.
 - en - English
 - ar - Arabic (unsupported)
 - br - Brazilian Portuguese
 - ca - Catalan (unsupported)
 - de - German
 - es - Spanish

- fr - French
 - he - Hebrew (unsupported)
 - it - Italian
 - ja - Japanese (requires UTF-8)
 - ko - Korean (requires UTF-8)
 - nl - Dutch (unsupported)
 - zh - Chinese (requires UTF-8)
5. Click Save to save the changes.

PMF automatically changes the internal language code and display items. You must log off PMF and then log on again to see the changes.

Using the Unattended Install

As a system administrator, you can install PMF without having to step through the Setup program. Below are two example configuration files that show the unattended install commands for both a Windows and UNIX system.

Example: Installation Configuration file for Windows

The following configuration file shows the unattended install commands for a Windows system.

Note: This configuration file uses sample machine names. You must use parameters that are specific to your environment.

```
#Install
#-----
-fileOverwrite_C:\\Users\\bigscm\\AppData\\Local\\Temp\\1\\491390.tmp\\
\pmf_install.csv=Yes
-fileOverwrite_d:\\384\\ibi\\uninstall_pmf\\Uninstall_PMF\\
\Uninstall_PMF.lax=Yes
-fileOverwrite_d:\\384\\ibi\\uninstall_pmf\\Uninstall_PMF\\resource\\
\iawin32.dll=Yes
-fileOverwrite_d:\\384\\ibi\\uninstall_pmf\\Uninstall_PMF\\resource\\
\win64_32_x64.exe=Yes
-fileOverwrite_d:\\384\\ibi\\uninstall_pmf\\Uninstall_PMF\\resource\\
\remove.exe=Yes
```

```

#PLEASE DO NOT EDIT ABOVE THIS LINE.
#You CAN EDIT the VALUES of any NAME-VALUE pair from here on.

#-----
INSTALLER_LOCALE=en
PRODUCT_CODE=8888

#To install WebFOCUS Client Components, INSTALL_WF_COMP must be 'Y',
otherwise assign 'N'
#-----
INSTALL_WF_COMP=Y

#Enter WebFOCUS Client Configuration Directory(e.g., ibi/WebFOCUS/client/
wfc)
#-----
WF_CLIENT=d:\\384\\ibi\\WebFOCUS82\\client\\wfc

#Specify WebFOCUS Repository id and password
#also, to pass encrypted password use WF_REPOS_PWD_ENC,
#to pass plain password use WF_REPOS_PWD and either leave
# WF_REPOS_PWD_ENC blank or delete it
#-----
WF_REPOS_ID=admin
WF_REPOS_PWD_ENC=AFA6C5F3E6C0C5CB

#To install Reporting Server Components, INSTALL_SRV_COMP must be 'Y',
otherwise assign 'N'
#-----
INSTALL_SRV_COMP=Y

#Enter WebFOCUS Server EDACONF Directory(e.g., ibi/srv/wfs)
#-----
SRV_CONFIG=d:\\384\\ibi\\srv82\\wfs

#To specify database provide short name,
#e.g., SQLMSS for "Microsoft SQL Server",
#SQLORA for "Oracle", DB2 for "DB2",
#SQLMYSQL for "MySQL",
#SQLDBC for "Teradata", SQLHYP for "HyperStage"
#-----
DB_TYPE=SQLMSS

#Specify user database host, port, id and password
#also, to pass encrypted password use DB_PSWD_ENC,
#to pass plain password use DB_PSWD and either leave
#DB_PSWD_ENC blank or delete it
#-----
DB_HOST=bigscm57
DB_PORT=1433
DB_ID=bigscm07
DB_PSWD_ENC=AFF1D6DFE6DCA0F1FCFEFFCB

```

Example: **Installation Configuration file for UNIX**

The following configuration file shows the unattended install commands for a UNIX system.

Note: This configuration file uses sample machine names. You must use parameters that are specific to your environment.

```
#Install
#-----
-fileOverwrite_/bigscm/432/ibi/uninstall_pmf/Uninstall_PMF/
Uninstall_PMF.lax=Yes

#PLEASE DO NOT EDIT ABOVE THIS LINE.

#You CAN EDIT the VALUES of any NAME-VALUE pair from here on.

#-----
INSTALLER_LOCALE=en
PRODUCT_CODE=8888

#To install WebFOCUS Client Components, INSTALL_WF_COMP must be 'Y'
otherwise assign 'N'
#-----
INSTALL_WF_COMP=Y

#Enter WebFOCUS Client Configuration Directory(e.g., ibi/WebFOCUS/client/
wfc)
#-----
WF_CLIENT=/bigscm/432/ibi/WebFOCUS82/client/wfc

#Specify WebFOCUS Repository id and password
#also, to pass encrypted password use WF_REPOS_PWD_ENC,
#to pass plain password use WF_REPOS_PWD and either leave
# WF_REPOS_PWD_ENC blank or delete it
#-----
WF_REPOS_ID=admin
WF_REPOS_PWD_ENC=AFA6C5F3E6C0C5CB

#To install Reporting Server Components, INSTALL_SRV_COMP must be 'Y'
otherwise assign 'N'
#-----
INSTALL_SRV_COMP=Y

#Enter WebFOCUS Server EDACONF Directory(e.g., ibi/srv/wfs)
#-----
SRV_CONFIG=/bigscm/432/ibi/srv82/wfs
```

```

To specify database provide short name,
#e.g., SQLMSS for "Microsoft SQL Server",
#SQLORA for "Oracle", DB2 for "DB2",
#SQLMYSQL for "MySQL",
#SQLDBC for "Teradata", SQLHYP for "HyperStage"
#-----
DB_TYPE=SQLMYSQL

#Specify user database host, port, id and password
#also, to pass encrypted password, use DB_PSWD_ENC,
#to pass plain password use DB_PSWD and either leave
#DB_PSWD_ENC blank or delete it
#-----
DB_HOST=solsparc
DB_PORT=3307
DB_ID=bigscm01
DB_PSWD_ENC=AFD7D6DFE6DCA0F1FCFEFFCB

DB_HOST=unxrh5
DB_PORT=3306
DB_ID=bigscm03
DB_PSWD=bigscm03

#Silent install will continue if CONTINUE_ON_EXISTING_PMF is 'Y' otherwise
assign 'N'
#-----
CONTINUE_ON_EXISTING_PMF=N

```

MR External Security (Realm Security: Setting Up a Bootstrap User)

If you have WebFOCUS MR/CUS configured for external security, also known as AKA Realm security, you would typically have the default pmfadmin user ID set up within your security system of record when installing PMF. That user ID would be attached to the MR administrator group, which is linked to the Performance Management Framework MR Domain as the default group of PMF administrators. This enables you to log in to PMF and perform basic functions to complete setup of PMF at your site.

However, if you are unwilling to set up the pmfadmin user as advised in your security system of record, you will not be able to log in to PMF and perform activities such as “bootstrap” the system to set up other users.

In this situation you can run the `/apps/pmfdata/pmf_bootstrap_user.fex` procedure. It is recommended that you edit this procedure before it is executed.

Running the procedure will prompt you for the following four values:

PMF_OWNER_NAME
PMF_FIRST_NAME
PMF_LAST_NAME
PMF_OWNER_EMAIL

where:

PMF_OWNER_NAME

is the standard ID of the user.

Configuring PMF to Communicate With ReportCaster

The loader functionality in WebFOCUS PMF has the ability to schedule load jobs using WebFOCUS ReportCaster. PMF also lists existing ReportCaster schedules on the Manage tab.

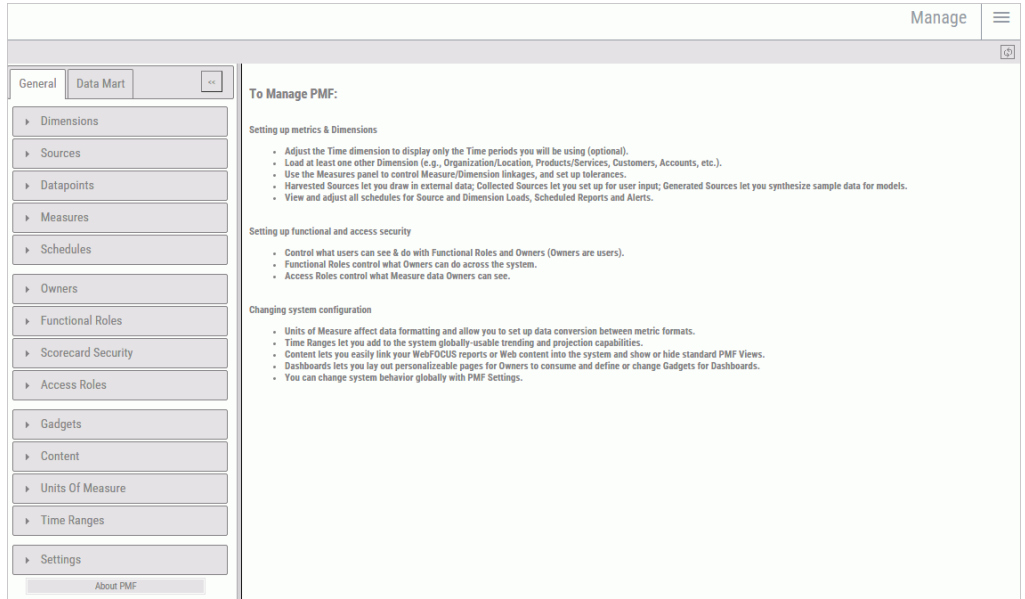
If you do not have the proper adapter connection to ReportCaster, PMF will be unable to display schedules and will instead display an error when you try to access the Manage tab. For an example of the error, see [Loader Page Error Example](#) on page 64.

Procedure: How to Configure a ReportCaster Adapter Connection for PMF

To get PMF connected and able to see ReportCaster schedules, you need to set up a connection in your WebFOCUS adapters. The adapter used depends on where your ReportCaster repository has been set up. The following example is typical for Microsoft SQL Server.

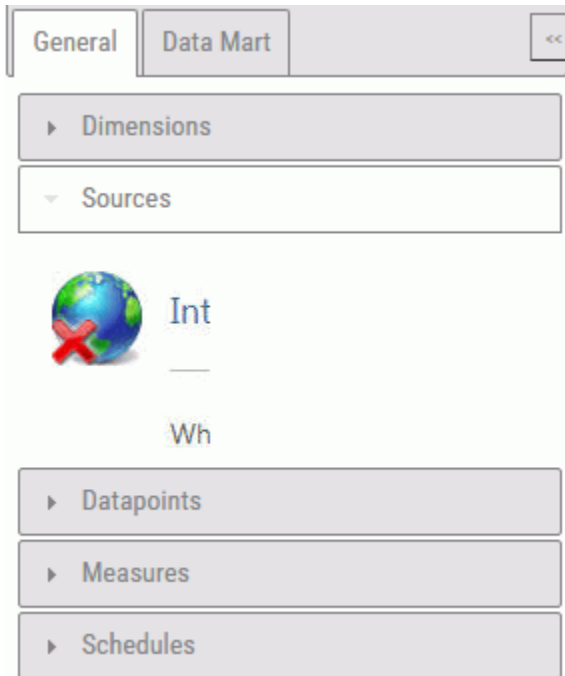
1. Go to your WebFOCUS Reporting Server Console, which is typically opened by navigating to port 8121 on your WebFOCUS server using the web. To do so, type *hostname:8121* into the address bar of your web browser, where *hostname* is the machine where the WebFOCUS Client is installed.
2. Click *Adapters*. The WebFOCUS Reporting Server Console displays the Data Adapters screen.
3. Find the data adapter where you have configured the ReportCaster repository. The adapter might have already been configured, or you might have to create a new adapter. If the adapter was already configured, right-click the folder for the adapter and click *Add Connection*. If the adapter needs to be added, find it in the Available folder, right-click the adapter, and click *Configure*.
4. Name the connection *reportcaster*. Configure it for the server and set up the correct security options for your RDBMS.
5. Test your connection.

6. Click *Configure* to complete the operation. If the Manage tab is working correctly, it should look similar to the following image.



Reference: Loader Page Error Example

If you do not configure WebFOCUS with an adapter connection to ReportCaster, the PMF Schedules panel in the Manage tab will either hang or display an error, similar to the following image.



Upgrading a PMF Installation

This chapter provides instructions on how to upgrade a PMF installation, as well as how to migrate data from the data mart.

In this chapter:

- [Upgrade the Application](#)
 - [Upgrading PMF Data](#)
-

Upgrade the Application

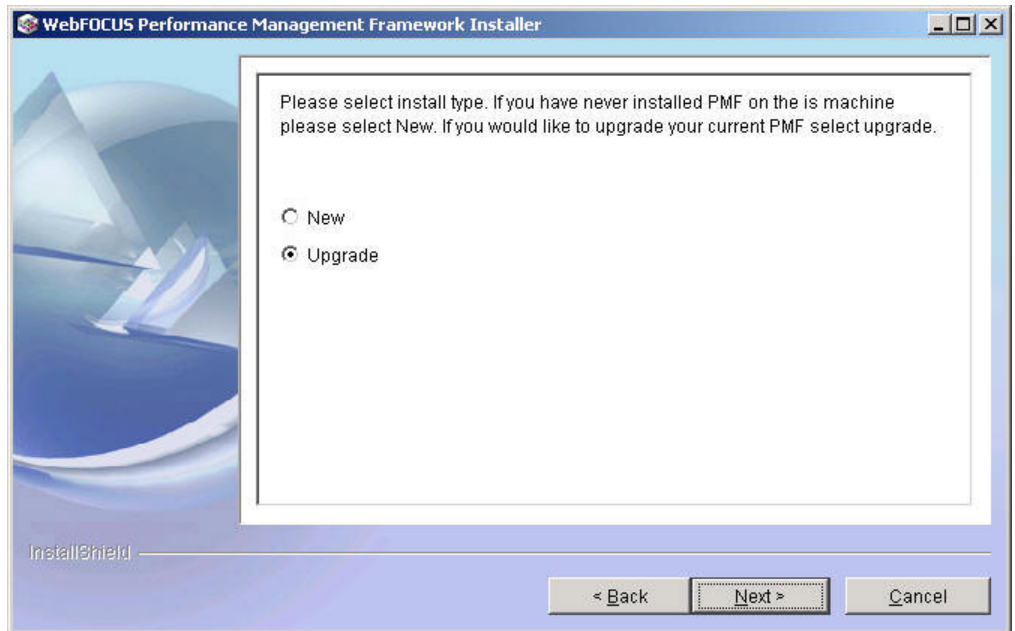
Upgrading PMF will let the installer decide how to install the new version based on what is found on your machine. You can upgrade PMF only if you already have an older version of PMF installed.

A PMF upgrade will affect all the components that were previously installed. When upgrading, be sure to back up any changes that were made. If you have customized files, you must remove the pmf_custom folder from the PMF APP PATH before proceeding to avoid upgrade issues.

Procedure: **How to Upgrade PMF**

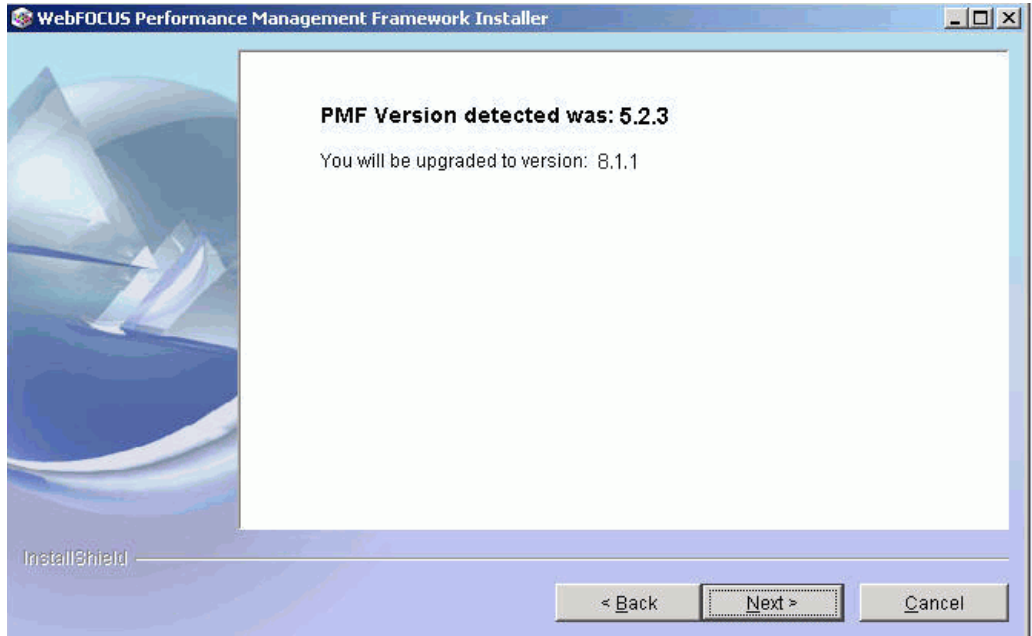
1. Insert the Performance Management Framework CD in your CD drive. The Setup program starts automatically.
Choose what language to run the Setup program in before proceeding.
2. A window opens that lists the prerequisites for installing PMF.
Click *Next* to continue.

3. Select *Upgrade* in the window that appears, as shown in the following image.

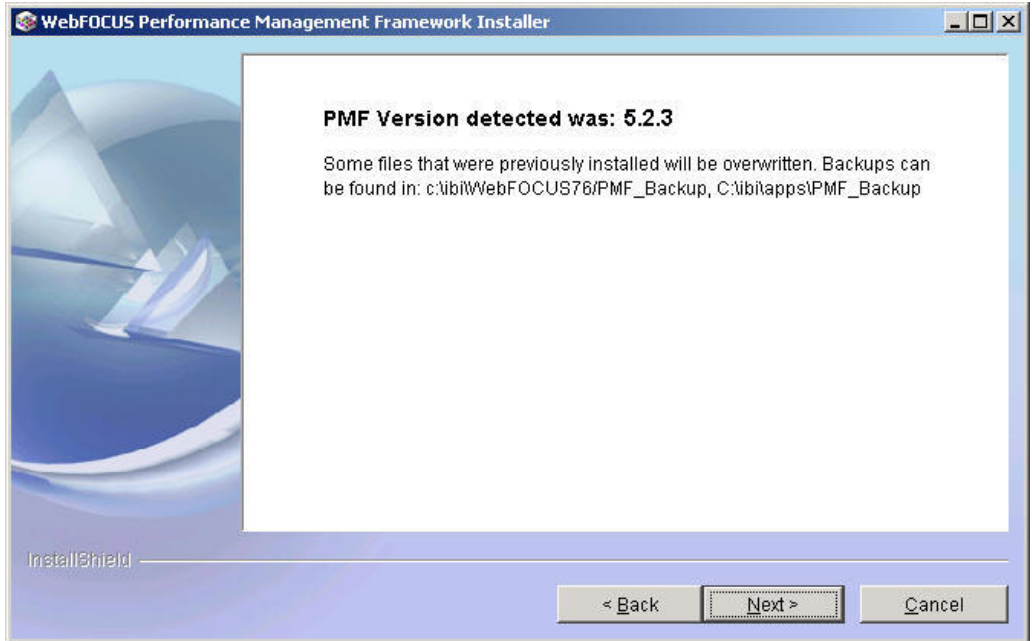


Click Next to continue.

4. If the PMF Setup program correctly found the previous installation, an upgrade confirmation message is displayed in the window that appears, as shown in the following image.

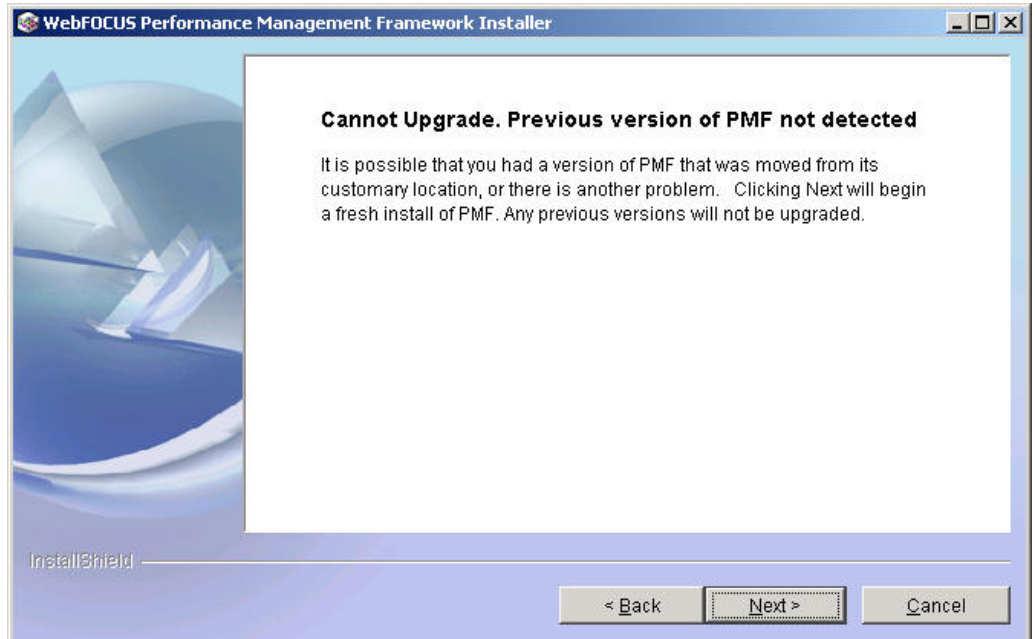


The installation files will be upgraded and when you login to PMF, the PMF administrator will resynchronize the database. A message stating that some previously written files are going to be overwritten appears, as shown in the following image.



Click *Next* to continue to step 6.

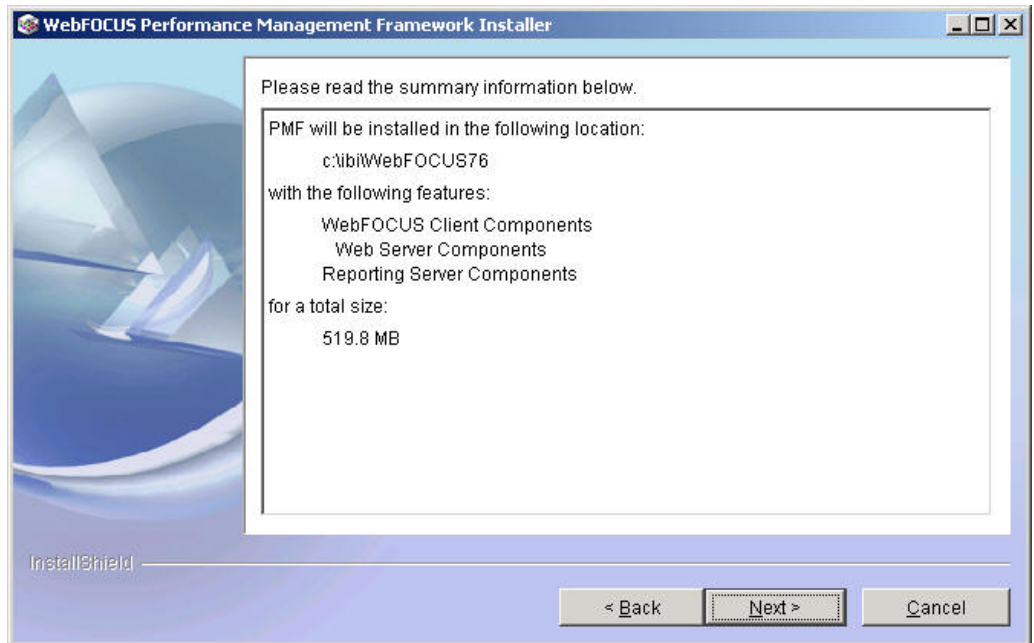
5. If either the previously installed version is earlier than PMF Release 5.0 or the PMF Setup program was unable to find the previous installation, an upgrade error message is displayed in the window that appears, as shown in the following image.



The PMF Setup program will upgrade the files in the installation, but the database will have to be manually upgraded utilizing the included DDL scripts.

Click **Next** to continue.

6. The summary information window appears, as shown in the following image.



Note: Up to this point, no changes have been made to your machine and you may cancel the install.

Click *Next* to continue.

7. The installation window appears, showing that the new version of PMF is being installed. When it finishes installing, click *Next* to continue.
8. The PMF Setup program copies all the files and configures PMF for operation. After the PMF Setup program is complete, a window will open prompting you to restart the web server and web application server.
Click *Next* to continue.
9. A final installation window will open, informing you that PMF was successfully upgraded.
Click *Finish* to exit the upgrader.

Procedure: How to Upgrade PMF in UNIX

1. Launch the Setup program, as shown in the following image.

```
$ ./install.sh -console

      Initializing InstallShield Wizard.....
      Launching InstallShield Wizard.....
```

Choose what language to run the setup in before proceeding.

```
-----
Select a language to be used for this wizard.

[X] 1 - English
[ ] 2 - French
[ ] 3 - German
[ ] 4 - Japanese
[ ] 5 - Spanish

To select an item enter its number, or 0 when you are finished: [0]
```

2. The prerequisites for installing PMF are listed, as shown in the following image.

```
-----  
This program installs and configures a working copy of the WebFOCUS Performance  
Management Framework as an application to WebFOCUS.  
  
Before continuing please make sure you have the following installed:  
  
WebFOCUS version 7.6.11 or higher.  
  
Select the Next option to continue the installation.  
  
Press 1 for Next, 3 to Cancel or 4 to Redisplay [1]
```

Enter 1 to continue.

3. Select Upgrade for the install type, as shown in the following image.

```
Please select install type. If you have never installed PMF on the is machine  
please select New. If you would like to upgrade your current PMF select  
upgrade.  
  
[ ] 1 - New  
[X] 2 - Upgrade  
  
To select an item enter its number, or 0 when you are finished: [0]  
  
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Enter 1 to continue.

4. Select the check boxes for the components that you want to install, as shown in the following image.

```
Select the features for "PMF" you would like to install:

PMF

To select/deselect a feature or to view its children, type its number:

  1. +[x] WebFOCUS Client Components
  2. [x] WF Update (installed)
  3. [x] Reporting Server Components

Other options:

  0. Continue installing

Enter command [0]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Enter 1 to continue.

5. Type the Web Home, WebFOCUS Client, and WebFOCUS Server file locations in the appropriate fields, as shown in the following image.

```
Please enter the following directories.

Enter WebFOCUS Client Configuration Directory:
( e.g. : ../ibi/WebFOCUS/client/wfc ) [c: /ibi/WebFOCUS76/client/wfc] /ibi/WebFOCUS76/client/wfc

Enter WebFOCUS Server EDRCONF:
( e.g. : ../ibi/srv76/wfs ) [c: /ibi/srv76/wfs] /ibi/srv76/wfs

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Note: The fields available in this window depend on what components were installed in step 4.

Enter 1 to continue.

6. If the Setup program correctly found the previous installation, an upgrade confirmation message is displayed.

The installation files will be upgraded and when you login to PMF, the PMF administrator will resynchronize the database. A message stating that some previously written files are going to be overwritten appears, as shown in the following image.

```
PMF Version detected was: 5.1.3
-----
d will be overwritten. Backups can be
found in: /qa/qcsljm/ibi/WebFOCUS76/PMF_Backup. /qa/qcsljm/ibi/apps\PMF Backup

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Enter 1 to continue.

7. The summary information appears, as shown in the following image.

```
PMF will be installed in the following location:
/ibi/WebFOCUS77

with the following features:
WebFOCUS Client Components
WF Update
Reporting Server Components

for a total size:

723.3 MB

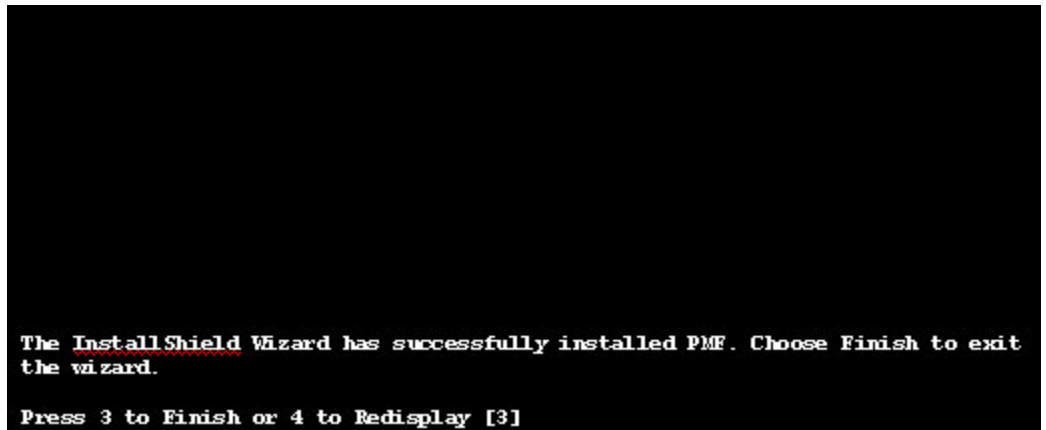
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Note: Up to this point, no changes have been made to your machine and you may cancel the setup.

Enter 1 to continue.

8. The Setup program copies all files and configures PMF for operation.

- The final installation information that appears, as shown in the following image, tells you that PMF has been successfully upgraded.



Enter 3 to finish and exit the installation.

Upgrading PMF Data

Whenever a new release of Performance Management Framework is introduced, refer to this section of the manual for special migration instructions.

Upgrade Prerequisites

Back up any existing data that you are currently using.

Note:

- It is important to back up existing data marts. If the migration procedure is not completed as expected, you will still have working copies.
- If you have customized files, you must remove the pmf_custom folder from the PMF APP PATH before an upgrade to avoid upgrade issues.

Migrating a PMF Data Mart From PMF 5 and Upward

If you are using a PMF data mart that is V5 level or higher, PMF will be able to autonomically upgrade its data mart. When logged in as an administrator, PMF will check to see if your data mart is current. If it is out of date, you will be prompted to allow it to be upgraded.

Chapter 5

Confirming a PMF Installation or Upgrade

This chapter provides instructions on how to validate that a new PMF installation, or upgrade, was done correctly.

In this chapter:

- [Verifying an Installation or Upgrade](#)
 - [Working with Snapshots](#)
-

Verifying an Installation or Upgrade

There are various ways to validate that a PMF installation or upgrade was done successfully.

To validate an installation when there is no PMF data you will:

- Log in to PMF as an administrator.
- Create a new scorecard.
- Verify the scorecard is an option in the Strategy Map tab.
- Delete the scorecard.

To validate an installation when PMF already contains data, you will:

- Log in to PMF as an administrator.
- Create a new scorecard.
- Verify the scorecard was created in a strategy map.
- Preview a measure load.
- Delete the scorecard.

You can also validate an installation or upgrade when using SQL Server or any other RDBMS.

Note that when verifying, demo alerts and schedules will not work due to the fact that they are there just for demonstration and are non-functional. Alerts and schedules that are created contain links to the ReportCaster system, and do not have valid links to the system they were installed on.

Procedure: How to Verify an Installation or Upgrade Without Data

After logging in to PMF as an administrator, the next step is to create a new scorecard.

1. In the Author tab, click *Scorecards* in the left pane.
2. Click the *Wizard* button.

The New Scorecard Wizard appears, as shown in the following image.

Complete the fields in the form, as described in the following table. For this example, name the new scorecard, *Our First Scorecard*.

Field	Description
Scorecard Name	Type a name for your new scorecard. The maximum number of characters is 50.
Scorecard Type	Select <i>Performance</i> or <i>Risk</i> .
Parent Scorecard	If the scorecard should be cascaded from a parent, select the desired parent scorecard. All scorecards that you have access to are shown in the drop-down list.

Field	Description
Owner	Select the user ID of the owner of the scorecard. By default, your owner ID is used.
Shared Scorecard (check box)	Select this check box to indicate that the scorecard can be shared, which makes it visible to all users. This option is not required if you use Scorecard-based Functional Access.
Objectives	Select the shape to use for Objectives in the Strategy Map.
Risks	Select the shape to use for Risks in the Strategy Map.
Mission Statement	Optionally, type text to describe the fundamental purpose of the new scorecard. This information is displayed in the Strategy Map and in some views.

3. Click *Next*.

The next page, used to add perspectives, is displayed in the New Scorecard Wizard.

Note: You can click *Previous* at any time before the Finish step to go back and make changes.

4. Select the *Use default Perspectives* check box or type a value in each of the four Perspective fields.
5. Click *Next*.

The next page, used to add objectives, is displayed in the New Scorecard Wizard, as shown in the following image.

scorecard wizard

<< Previous Finish

Add Objective Remove last Objective

Objective 1: Customer claims down <<

Objective 2: Decrease employee attrition <<

Objective 3: Fewer overall defects <<

All

- Fewer Disputed Invoices
- Fewer Errors in Checks
- Fewer findings
- Fewer incidents
- Fewer Incoming Voucher Error
- Fewer Invoice Errors
- Fewer Invoices Manually Keyed into GL
- Fewer Invoices Per Supplier
- Fewer late bioassays
- Fewer missing TLDs
- Fewer other incidents
- Fewer overall defects
- Fewer Patient Falls
- Fewer prevention activities overdue
- Fewer Vacancies
- Fewer Vendors per Product
- Financial Reporting
- Greater Disbursement Efficiency
- Grow Tax Base

- For each new objective that you want to add, select an objective category from the drop-down list (to the right of Objective 1), and double-click the desired item in the objective selection box, which is located below the objective category drop-down list.

You can also do any of the following:

- Replace an objective that was already selected. Highlight an item in the objective selection box and click the left-pointing arrow to the right of the existing objective.
 - Manually add an objective name. Click the *Add Objective* button and type the name of the desired objective in the blank objective field. Note that when you do this, you will have to also manually type a name for the associated measure.
 - Remove the last objective. Click the *Remove last Objective* button.
- Select the *Create standard metrics* check box to set up new standard measures for each objective as defined in the PMF standard metrics repository.

When *Create standard metrics* is not selected, the Scorecard Wizard creates objectives without creating new standard measures and bypasses the step, which means you will have to manually link each objective to an existing measure or a new measure that you will create.

- Click *Next* to review all of the corresponding measures for the objectives you selected on the previous page.
If the *Create standard metrics* check box was not selected, you will bypass this step.

9. If you have no further changes, click *Finish*, otherwise, click *Previous*.

When you click *Finish*, a summary page is displayed for the new scorecard you just created. You can click *Go to card* to view the new scorecard or click *Another new* to create another new scorecard.

10. After creating the scorecard, click on the *Strategy* tab to view the Strategy Map area.
11. From the Card drop-down menu located on the top left, verify that Our First Scorecard is listed as an option. If it is, it was successfully created and the installation was successful.
12. To delete the scorecard, right-click the folder in the scorecard tree that represents the scorecard and select *Edit*.

The Edit Scorecard form opens.

13. Click *Delete*.

A dialog box will open asking you to confirm the deletion. Click *OK*.

Procedure: How to Verify an Installation or Upgrade With Data

After logging in to PMF as an administrator, create a new scorecard using the New Scorecard Wizard. Follow steps 1-9 in [How to Verify an Installation or Upgrade Without Data](#) on page 78 for more details on how this is done.

1. After creating the scorecard, click on the *Strategy* tab to view the Strategy Map area.
2. From the Card drop-down menu located on the top left, verify that Our First Scorecard is listed as an option. If it is, it was successfully created.
3. Next, you will preview a measure load.
4. To delete the scorecard, right-click the folder in the scorecard tree that represents the scorecard and select *Edit*.

The Edit Scorecard form opens.

5. Click *Delete*.

A dialog box will open asking you to confirm the deletion. Click *OK*.

Working with Snapshots

PMF includes a snapshot and restore feature. Taking a Snapshot serializes the entire content of the PMF data mart to a set of files in a folder located on your server file system. These files can then be restored to another data mart on any platform or RDBMS that PMF supports.

A Snapshot or Template captures an entire PMF Data Mart. This includes all Scorecards and their components, all pooled Metrics, all Content links, any saved content references (including Analysis Designer views), and any Dashboards you have designed

You can use Snapshots to:

- Make a copy of your PMF data mart for use in another installed copy of PMF.
- Transfer the PMF data mart from the source RDBMS to the target when moving your RDBMS system from one to another.
- Preserve temporary or permanent work while you work on something else.

Snapshot Manager lets you more easily work with Snapshots, and automates many functions that used to require manual work. You no longer have to manually copy and move Snapshots from one location to another by accessing the various server file systems. With Snapshot Manager, you can easily move a Snapshot from one PMF environment to another.

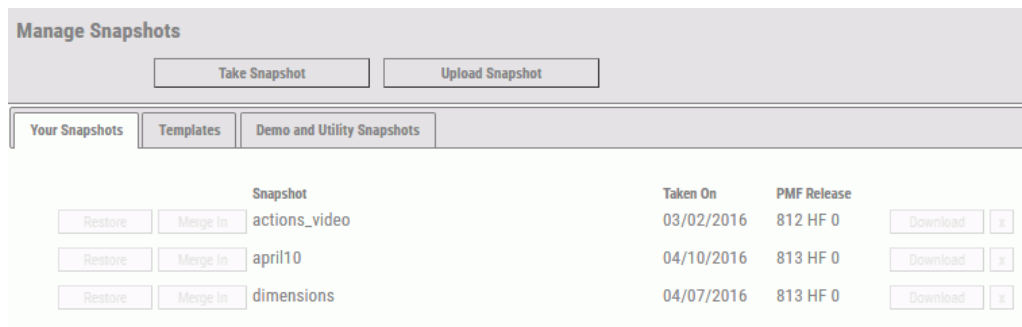
Note: If you are moving Snapshots from one environment to another, note the following:

- Both the source environment and the target environments need to have a fully-working copy of PMF installed.
- If the versions of PMF between environments do not match, newer copies of PMF can restore older Snapshots, but older ones cannot see newer-versioned Snapshots.

Common Tasks in Snapshot Manager

To access the Snapshot Manager, click the *Manage* tab and then click the *Data Mart* subtab. Then, click *Manage Snapshots*.

The Manage Snapshots panel opens, as shown in the following image.



From the Snapshot Manager, you can:

- Take a Snapshot.** Copies all content from the PMF Data Mart into a portable file, which can be restored on any PMF environment.
- Restore a Snapshot.** Replaces all content in the current PMF Data Mart with the exact state of the Snapshot when it was taken.

- ❑ **Merge in a Template.** Lets you incorporate the exact state of a distributed Solution Template from Information Builders or another vendor into your existing PMF Data Mart.
- ❑ **Upload a Snapshot.** Lets you move a Snapshot in compressed (ZIP) format stored in a file-accessible location to a new PMF environment.
- ❑ **Download a Snapshot.** Lets you obtain a Snapshot file in compressed (ZIP) format from a PMF environment and copy it to a folder on a file-accessible machine, from which it can be uploaded in the future.
- ❑ **Merge a Snapshot.** Lets you incorporate the exact state of a Snapshot into your existing PMF Data Mart, allowing you to add objects from multiple Snapshots together. This feature is in Beta.

Procedure: How to Take a Snapshot

When you Take a Snapshot, all content from the PMF Data Mart is copied into a portable file, which can later be Restored to any PMF environment (including the same one).

To take a snapshot:

1. From the Manage Snapshot pane, click *Take Snapshot*.

The Take Snapshot dialog box opens.

2. Enter a name for the Snapshot, or select the text box if you want to use and overwrite a previous snapshot, as shown in the following image.

Tips:

- ❑ As you type, if a previous and similar name was used, the dialog will display a list of matches, and you can click one of these matches if you want to replace it.
- ❑ Only alphanumeric characters are accepted since this will become a folder and file name. Any spaces or special characters will be edited out.

3. Click *Take*. The Snapshot Manager creates the snapshot. Once it is complete, it will appear in the list on the User Snapshots tab.

Procedure: How to Restore a Snapshot

When you restore a Snapshot, all content in the current PMF Data Mart is replaced with the exact state of the Snapshot you select, at the time it was taken. Restoring Snapshots let you preserve the exact state of PMF, including all models, data and content. Snapshots are good for:

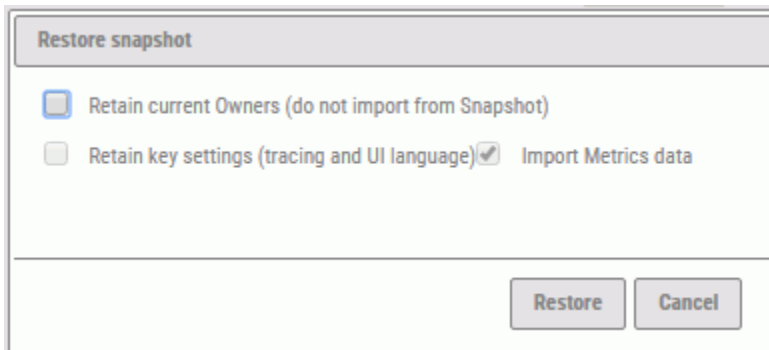
- PMF Data Mart backups.
- Situations where you want to experiment or create new models and want to be able to preserve them.
- Moving a PMF Data Mart to a new PMF environment.

To restore a Snapshot:

1. From the Manage Snapshot pane, click the *Restore* button next to the Snapshot you want to restore, as shown in the following image.

Restore	Merge In	banking	11/09/2015	811 HF 0
Restore	Merge In	highered	11/09/2015	811 HF 0
Restore	Merge In	hr	11/09/2015	811 HF 0

The Restore Snapshot dialog box opens, as shown in the following image.



2. Click *Restore*. Snapshot Manager will restore the Snapshot and notify you when the process is complete.

Note: Depending on the size of the metrics warehouse in the Snapshot, a restore can take some time.

3. Refresh the browser once the process is complete.

Procedure: How to Download a Snapshot

You can download a Snapshot to your browser Downloads folder. This lets you upload it to another compatible PMF environment, where it can be restored at will.

To download a Snapshot:

From the Manage Snapshot pane, click the *Download* button next to the Snapshot you want to download.

Snapshot Manager compresses the Snapshot to a single ZIP file, and downloads it to your browser Downloads folder.

You can now upload the Snapshot to another PMF environment, either now or at a future time.

Note: If you periodically clean up your browser Downloads folder, and accidentally delete the Snapshot ZIP file, return to the PMF environment with the Snapshot you want, and download it again.

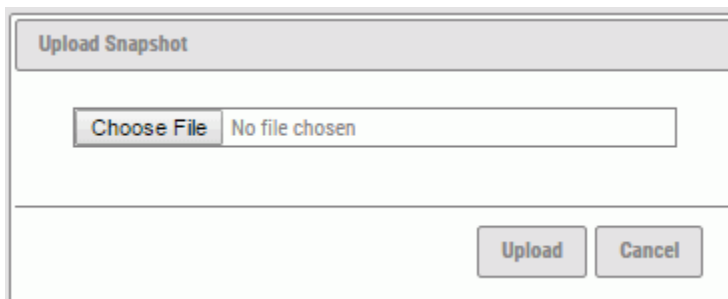
Procedure: How to Upload a Snapshot

You can upload a Snapshot from your browser Downloads folder to any compatible PMF environment. Any uploaded Snapshots are stored in the PMF environment, and can be Restored at any future time.

To upload a Snapshot:

1. From the Manage Snapshot pane, click the *Upload a Snapshot* button.

The Upload Snapshot dialog box opens, as shown in the following image.



2. Click *Choose File* to select the file to be uploaded.
Your browser Downloads folder opens.
3. Click the compressed (ZIP) PMF Snapshot you want to upload and click *Open*.

Note: The dialog box varies depending on your local operating system.

4. The file name is shown in the Upload Snapshot dialog box. Click *Upload*.

Snapshot Manager uploads the file to the PMF environment. The snapshot then appears in the Users Snapshots tab, where you can restore it at will. For more information on restoring snapshots, see [Working with Snapshots](#) on page 81.

Working with Templates

PMF ships with a set of pre-defined Templates that represent complete PMF Data Marts for various vertical and horizontal business cases, which you can restore to your PMF environment. You can restore these Templates at any time.

Note:

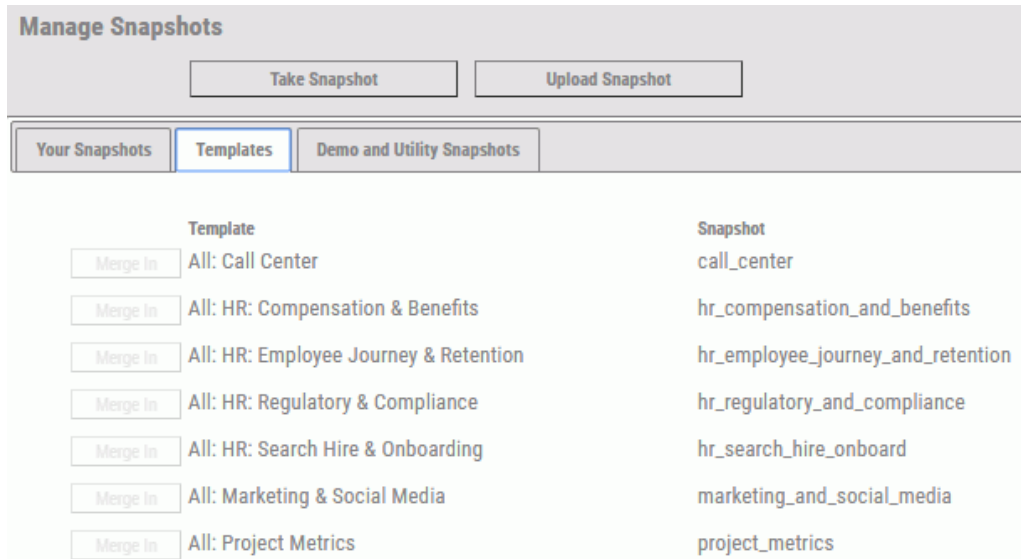
- When you merge in a Template, you will incorporate its exact state into the currently-configured PMF Data Mart. If you want to preserve anything in your PMF environment, make sure to take a Snapshot so it can be restored again.
- The list of available Templates can increase from release to release, so your list might have more items than is shown in these examples.

Procedure: How to Merge In a Template

To merge in a Template:

1. From the Manage Snapshots pane, click the *Templates* tab.

A list of available Templates is displayed, as shown in the following image.



2. Find the Template you want to restore and click the *Merge In* button next to it.
The Merge In dialog box opens.
3. Click Yes, *merge it*. Snapshot Manager will merge in the Template and notify you when the process is complete.
Note: Depending on the size of the metrics warehouse in the Template, a merge can take some time.
4. Refresh the browser once the process is complete.

Reference: Considerations for Moving a PMF Snapshot to Another Server

Take the following into consideration before moving a PMF Snapshot to another server:

- You must have the data mart already built using the standard PMF DDL SQL for the target RDBMS. The data mart must be for the same version as the Snapshot that you took.
- Restoring a Snapshot will destroy the data in the PMF data mart that is currently being used. This is especially true on Oracle systems; there can only be one PMF data mart in a given database since PMF data definitions use global synonyms. It is advised that you make a backup of the existing data mart.

- ❑ If you are using FTP or similar software to move the Snapshot to another physical server, make sure to use ASCII mode for the file transfer. Binary mode will corrupt the file set.

Maintaining a PMF Installation

The topics in this chapter provide details about maintaining a PMF installation.

In this chapter:

- [Installing Hotfixes](#)
 - [Upgrading WebFOCUS Server and Client on an Active PMF Environment](#)
 - [Synchronizing IBFS Security Users With PMF](#)
 - [Manually Creating Users](#)
 - [PMF Font Format Issue](#)
 - [Optimizing PMF Performance](#)
 - [Accessibility Capabilities](#)
-

Installing Hotfixes

A PMF hotfix is a distributed set of fixes and will not upgrade a previous release of PMF to the current release. Before applying a hotfix, you should have a version of PMF full installed.

If PMF is not installed at your site, a complete PMF install, with this hotfix already installed, can be obtained from the IBI product download site.

In general, hotfix files are distributed in file archives. Sub-folders within these archives are arranged in the exact locations where they should be placed in the IBI application paths.

The only exception to this are for files that are located in the `/basedir/pmf/app` folder, which should be placed on the web server under the `/ibi_apps/basedir` directory, as configured for the web server.

The remaining files should be placed in their corresponding apps in `/ibi/apps`.

Note: In general, you should overlay files of the same name.

Upgrading WebFOCUS Server and Client on an Active PMF Environment

The information in this section is for anyone that needs to upgrade the version of WebFOCUS on which PMF is running.

Considerations for Upgrading PMF in an Active WebFOCUS Environment

PMF is designed to run in an operational WebFOCUS environment. The PMF application has many dependencies in the WebFOCUS environment, and a WebFOCUS upgrade that does not take these dependencies into account can cause PMF to stop working. The many capabilities of PMF are built on top of WebFOCUS core features.

The various components of PMF and their ties into your WebFOCUS environment are as follows.

Component of PMF...	Controlled By...
<p>Authorization of PMF Owners (users)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> MR/CUS authentication mode. <input type="checkbox"/> Pass-through of MR/CUS authenticated user information using SITE.WFS. <input type="checkbox"/> Consistency of security between pre-upgrade and post-upgrade environments. <input type="checkbox"/> Web server configuration for secure sockets (HTTPS).
<p>Chart output that produces PNG and similar chart formats for Dashboard Gadgets, report drills, and inline graphics, such as sparklines.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> JSCOM3 configuration on WebFOCUS Reporting Server. <input type="checkbox"/> WebFOCUS Client graphsrvurl parameter. <input type="checkbox"/> Presence of shared output folder on WebFOCUS Client or web server.
<p>Report output formats including active report, PDF, Excel2K, SVG, and XML.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> MIME type settings in WebFOCUS Client and web server configuration. <input type="checkbox"/> Installation of any needed plug-ins in users browsers. <input type="checkbox"/> License if needed (for Active Technologies)

Component of PMF...	Controlled By...
<p>International settings controlling display of non-Western characters, currency symbols, and date formats.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Web server character encoding code pages. <input type="checkbox"/> WebFOCUS Client configured code pages. <input type="checkbox"/> WebFOCUS Reporting Server configured code pages. <p>Note: Generally, any requests coming through the WebFOCUS Client control the Reporting Server code page settings. However, in Reporting Server-only debugging scenarios, the WebFOCUS Server would need the same code page configured as the WebFOCUS Client, or you would get different results while debugging.</p> <ul style="list-style-type: none"> <input type="checkbox"/> WebFOCUS Reporting Server configured currency settings and default date formats.
<p>WebFOCUS Client configuration and security (including MR/CUS Security).</p>	<p>Installation and correct operation of PMF WebFOCUS MR API modules on the current WebFOCUS Client. These are generally stored under the webapps folder on the WebFOCUS Client machines.</p>
<p>ReportCaster scheduling and integration.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Installation and correct operation of PMF ReportCaster API modules on the current WebFOCUS Client. These are generally stored under the webapps folder on the WebFOCUS Client machines. <input type="checkbox"/> Installation and configuration of correct Java integration components required to let ReportCaster communicate with your RDBMS.

Component of PMF...	Controlled By...
<p>PMF IBFS Domain and content.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Presence of any application folders referenced for the Performance Management Framework domain as configured in your WebFOCUS Client. <input type="checkbox"/> Presence of any custom content contained in the Performance Management Framework domain as configured in your WebFOCUS Client – though this would be non-standard.
<p>Connections to current source data used for PMF Measure and Dimension loads and operational reports.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Adapter connections and security information as configured on the current WebFOCUS Reporting Server. <input type="checkbox"/> RDBMS Client to enable the physical connection to the source RDBMS, as installed on your current WebFOCUS Reporting Server systems. <input type="checkbox"/> Metadata contained in folders in your WebFOCUS applications. Check your WebFOCUS application path on your current Reporting Server to obtain these.
<p>Connection to the PMF Data Mart.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The pmf_system adapter connection configuration on your current WebFOCUS Reporting Server. <input type="checkbox"/> RDBMS Client to enable the physical connection to the RDBMS, as installed on your current WebFOCUS Reporting Server systems.

Component of PMF...	Controlled By...
<p>PMF customizations, as performed by consultants and your own developers.</p>	<ul style="list-style-type: none"> <li data-bbox="753 275 1289 516">❑ Presence of additional WebFOCUS application folders on the WebFOCUS Reporting Server and, separately, the WebFOCUS Client (if your installation is multi-tier). Both the folder names and their content must be present on the upgraded system. <li data-bbox="753 544 1289 749">❑ Presence of additional Gadgets and modules in the PMFGADGET application folder on your WebFOCUS Reporting Server and WebFOCUS Client machines. See <i>Tips</i> on page 95 for information on how to transport these to your new environment. <li data-bbox="753 777 1289 910">❑ Presence of a PMFCUSTOM application folder. Both the folder names and their content must be present on the upgraded system. <li data-bbox="753 939 1289 1107">❑ Presence of any application folders and content referenced in the default WebFOCUS Reporting Server application path, which would be needed to run operational reports in PMF after the upgrade.

Recommended WebFOCUS Upgrade Process for Active PMF Installations

Upgrading WebFOCUS on an environment where PMF is already installed requires a careful process. It is important, before you upgrade WebFOCUS, to always confirm what working applications are installed and operational, so that the upgrade process does not cause any applications to stop working properly.

You should always check the minimum version of PMF required to run in any new versions of WebFOCUS. Note that although current versions of PMF are routinely certified on each new release of WebFOCUS to ensure PMF works properly, older versions of PMF might not be so certified. In some cases, if you are running older versions of PMF, you might need to consider upgrading PMF after upgrading WebFOCUS, since your older version of PMF might not be certified to run on that newer version of WebFOCUS.

If you have any questions about this, please consult your Information Builders support representative to understand if, and when, an upgrade to PMF might be required.

***Procedure:* How to Upgrade WebFOCUS**

The guidelines to follow when you are going to upgrade WebFOCUS are:

1. Before starting to perform the WebFOCUS upgrade, assess the current WebFOCUS environment to make sure running applications, including PMF, will continue to operate:
 - Check the table above to make sure you collect the full and complete current configuration for the WebFOCUS environment that is currently installed, as to how any changes to that environment (for example, installing a new version of WebFOCUS) would affect PMF.
 - Check to make sure the version of PMF you are running is certified with the version of WebFOCUS to which you are planning to upgrade. If it is not, you will also need to upgrade PMF after upgrading WebFOCUS.
 - Take note of all current production and in-development applications besides PMF that are working in the environment, and gather up the aspects of the WebFOCUS configuration needed to continue to allow these to function properly.
2. Collect any specific configuration settings and files needed for PMF and any other running applications, to prepare for migration after upgrading WebFOCUS. Consult the table above to be able to list these, and then collect them.
3. After checking on all the above, perform the WebFOCUS upgrade.
4. To speed up the recertification process, take advantage of any in-built migration utilities available on the WebFOCUS Reporting Server and the WebFOCUS Client. This could, through automation, make the final step in this process faster.
5. Re-integrate and apply any missing components, from the settings and files you collected in step 2.
6. Test and confirm PMF operation in the upgraded and migrated environment. It is strongly recommended that you test all common functions, and log in to PMF with various trusted user IDs, to ensure all works correctly.

Tips

1. All metadata and connections that would affect PMF source loads must be consistent between the initial state of the WebFOCUS Reporting Server and its new state after the WebFOCUS upgrade. The automatic migration facility in the Reporting Server upgrade will frequently be of help here, to ensure the connections are consistent. However:
 - Additional software and network connections (for example, drivers and RDBMS client software) might be needed to enable the migrated machines to access the source data for PMF loads and any operational reports.
 - If you are installing the upgrade to a different physical set of machines, the migration tools will not know about the configuration of the original server, so you must apply the adapter connections manually.
2. If the PMF data mart is being moved to a different RDBMS as part of the upgrade, you can use the PMF Snapshot and Restore technology to transport the PMF data mart between the two RDBMS systems. For more information, see [Working with Snapshots](#) on page 81.
3. If you have custom PMF Flex Gadgets or other custom PMF Gadget content installed in your PMF environment, note that any files needed to run these are not automatically deployed if you re-install PMF. This is because frequently the PMF installer has no way to see the custom files of your current environment (for example, you might be installing the upgrade to a new or different environment.). You can take advantage of the PMF export and register capability to move these components. For more information, see the *PMF Administrator Guide*.

Upgraded WebFOCUS and PMF No Longer Works?

Here are some tips if you upgraded WebFOCUS and now PMF is no longer working.

- Check the Troubleshooting chapter in this guide and see if the errors or issues you are having with PMF match any of these. If they do, try the debugging and remedy steps as documented in [Troubleshooting Common Issues](#) on page 129.
- Check the general WebFOCUS documentation and release notes.
- Check the PMF documentation and release notes.
- Contact your Information Builders support representative to assist you. This is the best way to remedy any issues you might have that are not covered in the current Troubleshooting section.

Synchronizing IBFS Security Users With PMF

PMF is designed to work for identified users only, and authenticates each of its users with WebFOCUS IBFS security. You can set up users for PMF in IBFS and import them into the PMF internal security authorization table to allow authorization for PMF for your users.

As detailed earlier in this documentation, all PMF users must be identified and authenticated as IBFS users. IBFS also contains authorization information that permits users to access the various Domains and/or Folders in the MR Repository.

PMF also maintains a separate but connected set of authorization parameters within the PMF Data Mart, for each PMF user (an Owner in PMF jargon). This is necessary, since PMF has many application-specific security extensions that enable such things as:

- Access to various Scorecards using PMF Scorecard security.
- Level of authorization to perform tasks in PMF using PMF Functional Roles.
- Storage of user preferences.
- Access to viewable rows of Measure data within the PMF Measures and Dimensions using PMF Access Security.

In conclusion, all current PMF users must be:

- Authenticated through IBFS security.
- Granted access to a Group and Group View in IBFS that has been granted access to the Performance Management Framework Domain within IBFS.
- Registered in the PMF authorization tables.

For more information, please see [Understanding Security and PMF](#) on page 16.

Synchronization Capabilities in PMF

To enable consistency between the IBFS security, PMF includes a facility called the User Sync tool, which enables an administrator to manually synchronize users from the IBFS environment into the PMF authorization table. This tool allows you to speed up the process of:

- Setting up the user ID as a PMF Owner so that it is able to be authorized for PMF.
- Pre-determining the Functional Role of the user.
- Pre-determining the Scorecard Access of the user.

The User Sync tool is available from the Manage tab in PMF, and is fully documented in the section *Importing Users (Owners)* in the *PMF Administrator's Guide*.

Allowing for Automatic Synchronization of Users between Systems

If your IBFS environment is configured to allow access to WebFOCUS using an external system of record such as an RDBMS repository, LDAP repository, MS ActiveDirectory, or another similar system, it is possible to automate the synchronization between the IBFS environment authorized user table and PMF.

In addition, your users might be granted access to various levels of operational data, as used in their WebFOCUS reports and applications. There could be parallelisms in what PMF Measure data they are permitted to view and what data they are allowed to view in your various operational reporting systems and applications. It is possible also to automate this synchronization.

Since your systems of record, IBFS environment, and PMF authorization tables are so different in architecture and logic, the process of setting up automatic synchronization would currently entail some development work to allow ETL transfer of information to the target WebFOCUS and PMF tables. This customization and ETL can be performed either by your own developers, or by an Information Builders consultant or partner.

For more information on how to enable an automated synchronization capability for your users from a system of record, please consult the *PMF Developer's Guide*, and/or contact your Information Builders support representative.

Creating a New Tenant

To create a new Tenant in PMF, you need to copy the template files that are set up in the default tenant template `pmf_base`, which is created when you install PMF. Then, set up the WebFOCUS Server and WebFOCUS Client to access that tenant exclusively whenever a user from that tenant logs in.

If you have shared client and server instances, you need to create only one set of folders. If you have a split-tier configuration, you will create separate sets of folders on both the client and the server.

For example, assuming this is a shared client or server configuration and are using SQL Server as host RDBMS for the PMF Data Mart, you will create tenant folders under the application root and then make one copy of the [proper master folders] (with content) under each the new tenant name folder.

Procedure: How to Create a New Tenant

1. In the WebFOCUS Reporting Server, set up the user in admin.cfg.
2. Create a database in the RDBMS for your new tenant by following the standard build and DDL process for PMF. Typically, you would do this in your RDBMS server console. You will need to:
 - a. Create a new database with schema [tenant_name]. Make sure [tenant_name] schema has all access levels required for PMF (read/write/create and destroy tables/create and destroy views/create and destroy triggers).
 - b. Run the PMF SQL DDL for that RDBMS to set up the database framing. In the case of SQL Server, you would run approot/pmfdbms/Create_Database/sqlmss.sql.

Tips:

- ❑ For ultimate security purposes, you could also configure the data mart using OS security to only allow the local OS user for each tenant to access this database.
 - ❑ If you are using Oracle or DB2 to house your data marts, your procedure can vary. Contact your IB Support representative for more information.
3. Set up the user profile by copying pmf_base.prf to a profile that uses your tenant name. The following example shows pmf_base.prf:

```
-SET &&PM_TNT_NAME_PRF = '[tenant_name]' ;
-SET &RDBMS_PRF      = '[SQLrdbms]' ;
-SET &RDBMS_CUBE_PRF = 'sqlhyp' ;
-SET &PMF_DB_SPLIT_MODE_PRF = 'OFF' ;
APP MAP pmfdata      "C:\ibi\apps\pmf_tenants\pmfdata"
APP MAP pmfdata_tenant "C:\ibi\apps\pmf_tenants\pmf_base
\pmfdata_tenant"
APP MAP pmfdb_system "C:\ibi\apps\pmfdbms\pmfdb_system
\pmfdb_system_&RDBMS_PRF"
APP MAP pmfdb_system_tenant "C:\ibi\apps\pmf_tenants\pmf_base
\pmfdb_system\pmfdb_system_&RDBMS_PRF"
APP MAP pmfdb_cube    "C:\ibi\apps\pmfdbms\pmfdb_cube
\pmfdb_cube_&RDBMS_CUBE_PRF"
APP MAP pmfdb_cube_tenant "C:\ibi\apps\pmf_tenants\pmf_base
\pmfdb_cube\pmfdb_cube_&RDBMS_CUBE_PRF"
APP MAP pmf_custom_tenant "C:\ibi\apps\pmf_tenants\pmf_base
\pmfcustom"
-SET &APP_PATH_START = 'pmf_custom_tenant pmf_custom' ;
-SET &APP_PATH_CUBE = IF (&PMF_DB_SPLIT_MODE_PRF EQ 'OFF') THEN ' '
ELSE 'pmfdb_cube_tenant pmfdb_cube' ;
-SET &APP_PATH_END = 'pmfdata_tenant pmfdata pmfdb_system_tenant
pmfdb_system mainstreet' ;
APP PREPENDPATH &APP_PATH_START &APP_PATH_CUBE &APP_PATH_END
-* Followed by ENGINE statements
ENGINE [RDBMS_ENGINE] SET CONNECTION_ATTRIBUTES pmf_system [machine]/
[uid],[password];[tenant_dbschema]
```

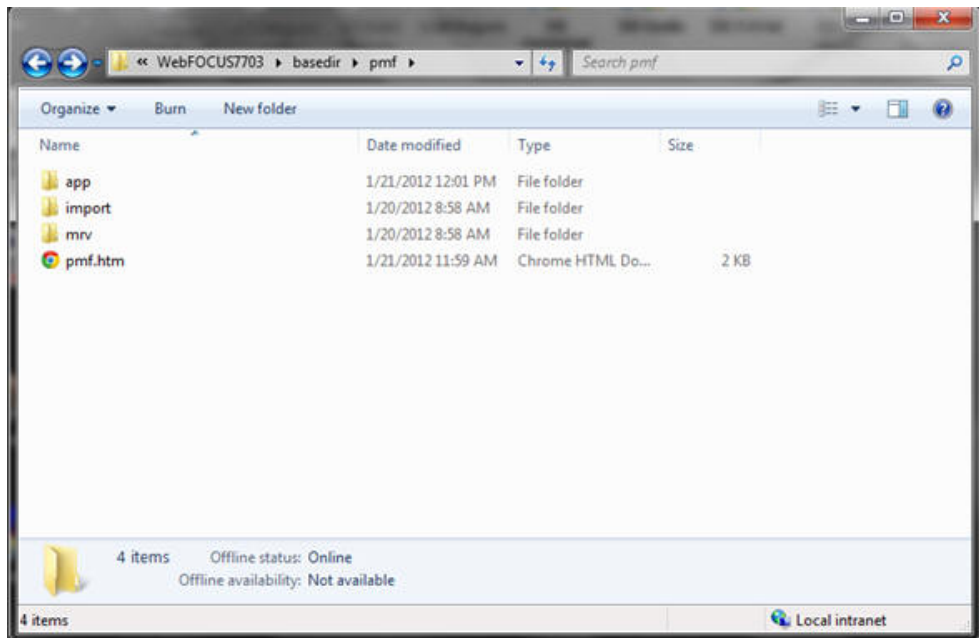
4. Edit the server connect string at the bottom of the file to point to the [tenant_name] database:

```
ENGINE SQLMYSQL SET CONNECTION_ATTRIBUTES pmf_system
my_server/abcdefg,longxpassword;pmf_tenant01
```

5. Edit the TENANT_NAME parameter at the top of the script:

```
-SET &&PM_TNT_NAME_PRF = 'pmf_tenant01' ;
```

6. On the WebFOCUS Client, copy the pmf_base MR Domain folder. Rename the root folder and [tenant_name].html files for the MR Domain short name of the new tenant, as shown in the following image.



7. Copy and rename the root app folder of pmf_base under pmf_tenants.
8. Add the following tenant support block to site.wfs:

```
<IF> IBIMR_domain EQ "[tenant_name]/[tenant_name].htm"
IBIF_wfdescribe = OFF
IBIC_server=PMF_BASE
<SET>IBIC_user(PASS)
<SET>IBIC_pass(PASS)
_site_profile = -INCLUDE FILTERS
<ENDIF>
```

- Set up the service node block for the tenant under Reporting Servers, Remote Services, as shown in the following image.

WebFOCUS Administration Console

WebFOCUS Info Clear Cache Login As Logout Help

Remote Services - Modify Settings

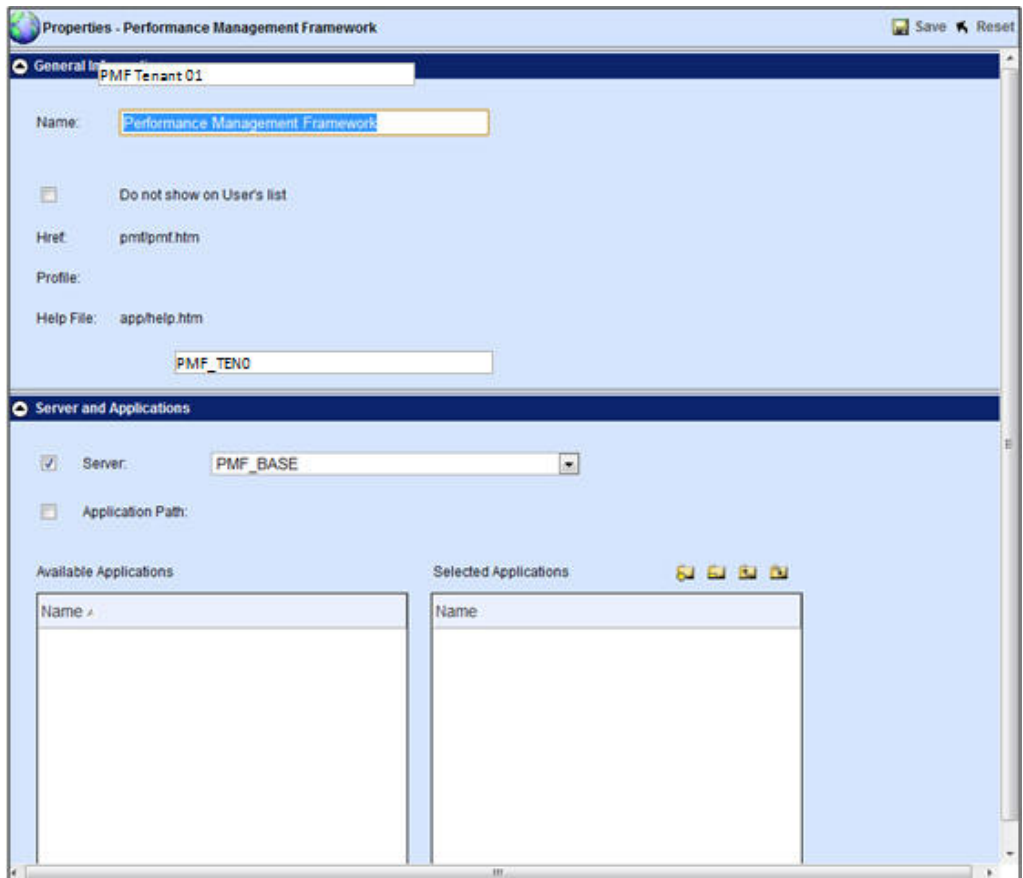
Variable	Usage
NODE	PMF_TEN0
PROTOCOL	TCP
HOST	ferrante3
PORT	8120
CLASS	CLIENT ()
SECURITY	<input type="radio"/> Default <input type="radio"/> HTTP Basic <input type="radio"/> Kerberos <input type="radio"/> SAP Ticket <input checked="" type="radio"/> Service Account User ID: pmf_tenant01 Password: <input type="radio"/> Trusted
SECURITY OBJECT	COOKIE: <input type="text"/> HEADER: <input type="text"/>
HTTP_SSL	<input type="checkbox"/> Use Secure Sockets Layer
COMPRESSION	<input checked="" type="radio"/> 0 <input type="radio"/> 1
ENCRYPTION	0
CONNECT_LIMIT	-1
MAXWAIT	-1
HTTP_PORT	<input type="text"/>
DESCRIPTION	<input type="text"/>

Rename Save As... Cancel Set as Default Server Node

10. In WebFOCUS 7.7. and earlier, please follow these additional steps to create the tenant's Domain and Group View folders:
 - a. Copy the pmf_base domain in the MR basedir folder, and change the name to [tenant_name] using lowercase characters. Rename the folder and HTML File, then add this entry to mrrepos.htm.
 - b. Create new MR groups for this tenant and create new Group Views in View Builder([tenant_name]\PMF Admin, [tenant_name] \PMF Author). Additional groups to be added in standard PMF installations are Analyst and Consumer.
 - c. Open the group view folder in worp_user folder and copy the xml files from pmf_adm_gbv (Admin) and pmf_aut_gbv (Author) and from pmf_aut_gbv(Analyst) and pmf_cns_gbv (Consumer).

Note: Group Views can also be created for any additional Functional Roles you might have to configure for your users. For more information, see the *Performance Management Framework* manual.
 - d. Open the layout.xml and replace pmf/pmf.htm with [tenant_name].

11. In Managed Reporting Administration, connect the MR Domain panel of the tenant with the node block used, as shown in the following image.



12. For testing purposes, In MR Administration, create at least one sample user for each tenant in MR, or in the system of record used for CUS security, and assign them to the proper group for the new tenant. It is recommended that you add the standard pmfadmin ID to each MR Domain as a bootstrap. Once you have logged in as that user and set up additional users, you can delete the pmfadmin ID from PMF and from the MR Domain.

Note: If you are using SSO technology and would prefer not to use the standard bootstrap ID, contact IB Customer Support for PMF installation help.

13. Test the tenant by starting PMF, logging on using the sample admin user, and performing a Resync.
14. Restore a Snapshot. For more information, see [Working with Snapshots](#) on page 81.
15. Fully test all tabs in PMF and ensure they are working properly.

Manually Creating Users

You can manually set up individual users for PMF in a few steps. Typically, you would not need to do this since the Owner Sync tool in PMF does permit synchronization of users between PMF and MR/CUS security. However, here is the overall process, intended more as an overview between the moving parts than as an actual procedure.

Procedure: How to Manually Create Users

1. Create the MR/CUS authentication record for a new user.
2. Grant the MR user authorization to the basic WebFOCUS facilities needed (for example, scheduling in ReportCaster, and access to any ad hoc tools needed for report development, depending on their overall role in your enterprise).
3. Grant the MR/CUS user access to the Performance Management Framework domain in MR/CUS.
4. From the Manage tab, create the users Owner record in PMF. Grant the user access to the following:
 - Access to various Scorecards. For more information, please see the *PMF Administrator's Guide* section, *Working With Scorecard Security*.
 - Level of authorization to perform tasks in PMF. For more information, please see the *PMF Administrator's Guide* section, *Working With Functional Roles*.
 - If you are using PMF Dimensional security, specify which Dimensional data nodes the user will be able to view within PMF Measures and Dimensions. For more information, please see the *PMF Administrator's Guide* section, *Working With Access Roles*.
 - Storage of user preferences for Dashboards and Saved Views and Reports.

For more information on specific procedures, please see the *PMF Administrator's Guide*.

PMF Font Format Issue

Until further notice, if you install PMF onto a WebFOCUS server 7.7.01 or higher, some standard fonts distributed with PMF to display indicators (for example, red, yellow, and green dots) on PDF format reports are no longer defined for the server.

Typically the PMF installer writes these font definitions to your WebFOCUS Reporting Server's font configuration files. In 7.7.01 and higher, however, the format for these files has changed to XML, and has become more complex. As a result the installer cannot determine where in the current files to define the fonts.

The problem symptom is the display of text characters rather than indicator dots on PMF reports when output to PDF or PPT formats. The incorrect output looks like the following image.

Financial	Blended Profit Goal	-	Profit up 20 Pct	↓
			Margin up 10 Pct	-
	Margin up 10 Pct	-	Decrease COGS by 10 Pct	-
			Shipping costs down 5 Pct	-
			High customer renewal rate	↓
	Profit up 20 Pct	↓	Sales up 15 Pct	+
			Margin up 10 Pct	-
			Customer returns down	↓
			Customer claims down	+
			Sales up 15 Pct	+
Customer	Customer claims down	+	Improve product quality	↓
			Improve product quality	↓
	Customer returns down	↓	Customer claims down	+
			High customer renewal rate	↓
Internal process	High customer renewal rate	↓	Improve product quality	↓
			Customer returns down	↓
	Decrease COGS by 10 Pct	-	Product assembly time down	-
	Delisting from Stock Market	+	Internal Fraud	↓
		Programmed errors in systems	+	

The proper output should look similar to the following image, depending on the indicator font set you have selected:

Financial	Blended Profit Goal	●	Profit up 20 Pct	●
			Margin up 10 Pct	●
	Margin up 10 Pct	●	Decrease COGS by 10 Pct	●
			Shipping costs down 5 Pct	●
			High customer renewal rate	●
	Profit up 20 Pct	●	Sales up 15 Pct	●
			Margin up 10 Pct	●
			Customer returns down	●
			Customer claims down	●
			Sales up 15 Pct	●
Customer	Customer claims down	●	Improve product quality	●
			Improve product quality	●
	Customer returns down	●	Customer claims down	●
			High customer renewal rate	●
Internal process	High customer renewal rate	●	Improve product quality	●
			Customer returns down	●
	Decrease COGS by 10 Pct	●	Product assembly time down	●
	Delisting from Stock Market	●	Internal Fraud	●
		Programmed errors in systems	●	

Procedure: How to Fix the PMF Font Format Issue

This issue can be fixed by following instructions from the *Adding and Configuring Fonts* section in the *Creating Reports With WebFOCUS Language* manual. Insert the following XML code into the file `/ibi/srvnn/home/nls/ fontmap.xml` using a standard ANSI text editor, such as Notepad or TextPad.

1. Insert the following code in the `<when format="dhtml">` section.


```

<!-- PMF font ----->
<family name="pmf01">
  <font style="normal"      metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
</family>
<family name="pmf02">
  <font style="normal"      metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
</family>
<family name="pmf03">
  <font style="normal"      metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
</family>
<family name="pmf04">
  <font style="normal"      metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />

```

```

</family>
<family name="pmf05">
  <font style="normal"      metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
</family>
<family name="pmf06">
  <font style="normal"      metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
</family>
<family name="pmf07">
  <font style="normal"      metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
</family>
<family name="pmf08">
  <font style="normal"      metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
</family>

```

2. Insert the following code in the <when format="pdf"> section:

```

<!-- PMF font ----->
<family name="pmf01">
  <font style="normal"      metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf01" fontfile="pmf01"
fonttype="PFB" />
</family>
<family name="pmf02">
  <font style="normal"      metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf02" fontfile="pmf02"
fonttype="PFB" />
</family>
<family name="pmf03">
  <font style="normal"      metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf03" fontfile="pmf03"
fonttype="PFB" />
</family>
<family name="pmf04">
  <font style="normal"      metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="bold"       metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="italic"     metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />
  <font style="bold+italic" metricsfile="pmf04" fontfile="pmf04"
fonttype="PFB" />

```

```

</family>
<family name="pmf05">
  <font style="normal"      metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf05"  fontfile="pmf05"
fonttype="PFB"  />
</family>
<family name="pmf06">
  <font style="normal"      metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf06"  fontfile="pmf06"
fonttype="PFB"  />
</family>
<family name="pmf07">
  <font style="normal"      metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf07"  fontfile="pmf07"
fonttype="PFB"  />
</family>
<family name="pmf08">
  <font style="normal"      metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="bold"       metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="italic"     metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
  <font style="bold+italic" metricsfile="pmf08"  fontfile="pmf08"
fonttype="PFB"  />
</family>

```

3. Save the fontmap.xml file, restart your WebFOCUS Reporting Server, and test to make sure PMF output is correct.

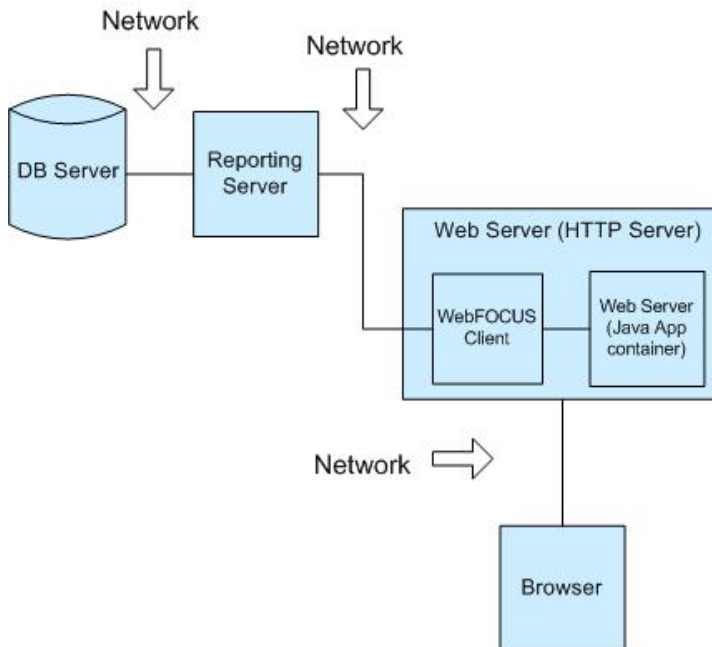
Note:

- If you have any custom indicator fonts used with PMF, you will need to add these to your font map file as well.

- ❑ The referenced font files themselves, PMF01.PFM and PMF01.PFB, and so on, are shipped with PMF and installed onto your WebFOCUS Reporting Server when you install PMF. You should make sure these font files have been correctly installed to the proper location (/ibi/srvnn/home/etc/) before attempting to edit and test these changes, or you might encounter undesired behavior.
- ❑ After a WebFOCUS Reporting Server upgrade, you might need to reapply these changes. Make sure to store a backup copy of the font map file with these changes applied.

Optimizing PMF Performance

The PMF data mart and application are pre-tuned for optimal reporting and update performance, so further tuning of the application itself is not of concern for our customers. On the application side, every process entering and extracting data from the data mart has been already optimized to take advantage of enhancements possible in database construction, SQL performance with WebFOCUS, and optimal use of resources from your environment.



In looking at performance you must look at the entire chain of connected processes that are involved when running PMF. The factors that can affect performance of the PMF application are listed below, from back-end to front-end:

1. RDBMS configuration.

2. WebFOCUS Application Server configuration.
3. WebFOCUS Client configuration.
4. Web server configuration.
5. Network, Web access, and connectivity speed.
6. Web speed.
7. Browser version and configuration.
8. Other processes running on the actual PC that is running the browser.

RDBMS Configuration

In some cases, customers may notice suboptimal performance doing RDBMS query in PMF. These are most likely due to the demand placed by other applications on the machine. This can occur when a customer configures the PMF data mart in a busy application environment with other reporting applications and other transactional applications in the same RDBMS context.

To diagnose this issue, examine the configuration of your RDBMS server machine and determine if enough resources are allocated for the RDBMS to run at optimal speed. In some cases, an RDBMS server might be running on a multi-use machine that also runs other applications besides the RDBMS. Your RDBMS server might be sharing a machine with RDBMS or other application servers used by other parts of your organization.

Other things that should be considered are:

- ❑ The RDBMS server machine might be running multiple versions of Oracle, both Oracle and MS SQL Server, or other RDBMS servers. If this is the case, make sure the RDBMS process used for the PMF data mart has sufficient processor, memory, and disk priority to enable it to run as fast as possible. If the processes are not granted real-time access, that would entail a slow-down that will interfere with performance.
- ❑ The RDBMS server machine might be running other application processes. For example, it might be doubling as a Java application server, web server, or performing other application-specific tasks, either for PMF or for other applications run onsite.

To test for optimization as you tune, perform queries of PMF data using SQL direct against the RDBMS server, using RDBMS tools. Also, perform queries of other data on the server. There are utilities included with PMF to simplify this testing for Oracle. They are located in C:\jibi\apps\pmfdbms\db_utils. Make sure to test this in isolation, outside of the WebFOCUS environment or PMF application.

The best practice for this configuration is a number of customers using PMF have a database exclusively configured for use with PMF, since this type of environment permits faster performance.

Diagnosing RDBMS

Review the following performance settings to diagnose application performance:

- DB version.
- Processor cores.
- Available memory.

Note: PMF asks the RDBMS to perform the summarization of your metrics, since transferring many millions of rows of metric data over to WebFOCUS for summarization would cause very slow performance. The SQL issued from PMF is optimized to request summaries from the RDBMS on the dimensional intersections used for the metrics.

You can check the timings for your RDBMS query by running a PMF report, or looking at the View Source in your browser, and reviewing the traces as shown below the final `</html>` tag.

To help determine if the RDBMS should be optimized, look for the following line:

```
-* ++++++ Run time for Step(s) Extract
Normal Measure Data: nn.nnn seconds
```

If `nn.nnn` is more than 3 seconds, the RDBMS should be optimized.

Note that if you set Application Tracing to ON in the PMF Settings section in the Manage tab, you will see a very detailed trace of RDBMS queries from PMF.

Optimizing RDBMS

We recommend you:

- Use a 64-bit version of the RDBMS and OS on the RDBMS machine.
- Maximize the available memory on the box to permit in-memory processing of the core tables. Use the base row space calculation to determine the amount of memory needed. You can find this calculation in [Estimating PMF Database Size](#) on page 123.
- Check for long-running jobs running during hours when high performance is expected. Consider scheduling long-running jobs for non-peak hours.

- ❑ Use Materialized Views (Oracle or DB2) or Indexed Views (SQL Server), which provide a 10x improvement in response time for queries. These will require some planning to implement, as they must be optimized for common access. They also require processing, as they must be dropped before any changes to PMF Dimension structure are made and then rebuilt.

WebFOCUS Application Server Configuration

Customers that install PMF into a WebFOCUS configuration with other WebFOCUS high-demand reporting and multiple transactional applications might find that these other applications can place a stress on PMF that causes less than optimal performance. PMF Dashboards typically use multiple server agents at run time.

Some best practices for this configuration are:

- ❑ **Maximize ready agents.** If you cannot dedicate the WebFOCUS Reporting Server to PMF use only, dedicate a high number of pre-started server agents and a separate service for PMF. You can configure this using the WebFOCUS Client and MR Domain. Set the number of agents ready to a factor of 10 x the number of runtime-concurrent users (for example, users hitting Enter at the same time) you plan to support.
- ❑ **Offload transaction-heavy processes.** PMF data loads and snapshot restores can also demand large system resources. These processes are better run during hours of low demand, and you can schedule these processes to do so.
- ❑ **Use 64-bit access.** WebFOCUS 64-bit server uses memory more efficiently and the 64-bit data drivers access and transfer more data with less paging. Note that if you use this configuration, the entire path from RDBMS to WebFOCUS Server must be 64-bit. The RDBMS must support 64-bit access, the RDBMS client must be 64-bit, and you must use a 64-bit WebFOCUS Reporting Server.

Diagnosing Reporting Server Performance

Review the following performance settings to diagnose application performance:

- ❑ WebFOCUS version.
- ❑ Processor cores.
- ❑ Available memory.
- ❑ Number of pre-started agents.
- ❑ Max agents.

- Is the tracing turned on?

Optimizing the Reporting Server

We recommend you:

- Use a 64-bit version of both the WebFOCUS Reporting Server and the underlying OS on the WebFOCUS Server machine, if possible.
- Maximize the available memory on the box. Use the following average per-agent server load calculation to determine how much memory you will need.

For prestarted agents, use the following calculation:

total users * total estimated concurrency factor * total expected simultaneous demand * 8

This determines the number of pre-started agents that you will need to support PMF concurrency with limited latency,

- Maximize available and ready agents to the maximum available processor and memory that it can handle.

To calculate the real memory needed for agents, assume that an average memory footprint is 7MB/agent. The calculation would be pre-started agent count x 7MB. For example, if the max total users is 300, the concurrency factor is 50%, and the demand factor is 10%, you get $(300 * 0.5 * 0.1)$ or 7.5. Multiply this by 8 agents and get 60. $60 * 7MB = 420MB$ of memory to support agents.

- Make sure that the maximum limit for the maximum allowed agents is identical with the number allowed by your license. If it is unlimited, use 50% above the minimum concurrency requirements.
- Ensure that WebFOCUS Server and Client tracing are *disabled*.
- If WebFOCUS is being used heavily for other purposes on the same box, such as running batch jobs, consider the following:
 - Scheduling long-running jobs for non-peak hours.
 - Moving any high-demand batch or non-real time jobs to another machine.
 - Configuring PMF with a dedicated running service and maximize the number of ready agents for this service. You can also increase the priority of PMF and other real-time applications and decrease the priority of the batch jobs and any other job that may be running.

WebFOCUS Client and Web Server Configuration

WebFOCUS Client Configuration

Some best practices for this configuration are:

- Allocate enough heap.** The recommended heap size is currently a minimum of 1GB of real memory, which is enough to support hundreds of users. It is possible to support thousands of users by using a 64-bit JVM for your Application Server, and gaining the ability to allocate more than 1.5GB of heap space. You could also be experiencing slow performance with chart delivery in WebFOCUS if you have not allocated enough heap size and for your Java Application container.
- Check your permsize.** You should also maximize the permsize of the JVM. For more information about this setting, please see the documentation for your Application Server.

Web Server Configuration

If your web server has been configured in a multi-server load-balanced environment, allowing shared disk space between those multiple servers to enable all clients to receive web-server resident resources (such as pre-run charts or cached data), make sure the access to the shared network folder is as fast as possible, and that the shared folder is resident on the fastest-responding machine possible.

Diagnosing the Web Server Box

Review the following performance settings to diagnose application performance:

- Processor cores and available memory.
- Web server. Version, configuration.
- Is it running HTTPS or HTTP?
- Is HTTP compression turned on?
- App server (usually Tomcat). Configured heap size. Is tracing turned on?

Optimizing the Web Server/App Server Machine and the WebFOCUS Client

We recommend you:

- Use a 64-bit version of the OS on the WebFOCUS Server machine.
- Maximize the available memory on the box.
- Enable HTTP Compression for the following document MIME types: HTML, HTM, XML, SVG, and JS.

- ❑ Increase available Java Heap size to the maximum that is possible for allocated memory on the box, Java Heap size alone can make a huge difference for Web App Server performance. For a 32-bit OS, the maximum is 1.5GB. For a 64-bit OS, you can double the maximum to 3GB.

Network, Web Access, and Connectivity Speed

Slow network connections between your RDBMS server and your RDBMS Client (which feeds data over the adapter to the WebFOCUS Reporting Server), or slow network connections between your WebFOCUS Reporting Server and your WebFOCUS Client machine (which enables transmission of data to and from your web server) can adversely affect performance. It is best to ensure that you keep the fastest network connection between these machines, as the connections make up the heart of your PMF and WebFOCUS environment.

Diagnosing the Network and Browser

Review the following performance settings to diagnose application performance:

Network. What is the speed of pipes between each choke point? Are there any special items to take note of? For example, are you logging on through a security bridge or a switch that might be slowing down traffic? How is the user conducting the test accessing the application? Are they using a T1 line, 10baseT, 100baseT, gigabit, or wifi B/G/N?

Browser. What is the browser type and version? Is the site configured to the browser as a local Intranet? Is caching turned on? Is Flex caching turned on if Flex is being tested?

Optimizing Browsers

We recommend you:

- ❑ Use a recent browser release. IE10 performs much faster than older versions, and allows up to 10 simultaneous HTTP threads to run on an Intranet configured application. Note that IE6, IE7, and IE8 are no longer supported by Microsoft, and is not recommended for use.
- ❑ In IE, configuring caching to *Automatic* permits as many files as possible to be cached. You can configure caching across your site by using a Policy. If you are running an *Internet* version of PMF, advise your users to turn on the browser caching feature.
- ❑ Turn on Flex caching. A number of PMF Gadgets use Adobe Flex (Flash) technology, and they are clearly marked in the Gadget catalog. If any of the Dashboards you use have Adobe Flex compounds, your users must activate and expand their Adobe Flash caching. For more information, see the Adobe website.

Web Speed Capabilities

PMF has the capability to run faster over slower Internet connections using:

- ❑ **Minified and optimized JavaScript files.** These files have been code-optimized for speed and compressed to the absolute minimum size needed to run with full quality.
- ❑ **Graphics now implemented as CSS sprites.** This reduces the number of HTTP requests that are needed to load the graphical elements of the PMF user interface.
- ❑ **Enabled caching.** This allows large parts of the application to run from the browser cache.

Ensuring Web Speed

PMF is a complex application with many dependencies on your RDBMS, WebFOCUS Server, WebFOCUS Client, web server, and browser. For optimal performance, and to operate PMF at full speed capacity, you need to tune your environment so it performs optimally. This is especially important if you are running the application on the Internet or in the cloud.

It is not possible for any application to speed up your network, optimize the standard web servers of your company, or increase the processing capacity of your provisioned server hardware.

Diagnosing Application Performance

Application performance is never automatic. It must be designed into the application and then enforced in the environment. Depending on the performance and response time expected, optimizing application performance might require you to review every possible choke point.

The first thing that must be determined is what is the expected performance of the application in seconds. Once you know the expected speed, you should review the entire setup of the environment in order to explore all of the possible performance choke points.

Getting Optimal Application Speed

The following is a set of guidelines to maximize the response capability of your WebFOCUS environment in order to allow optimum performance of any real-time applications, including PMF.

Disabling Minification

If you need to disable minification for any reason, you can find the setting to enable or disable minification by going to the *Manage* tab, selecting *Settings* and then *System*. Setting *Run Minimized* to OFF will disable minification. The default is ON and should be left ON for the best web performance.

Changing AJAX Timeout

If your system is not optimized for performance, your PMF Dashboards or other operational parts of the application might run more slowly than expected. If this situation occurs, you may see a semaphore timeout message from PMF, which indicates that AJAX processes have taken longer than expected.

You can extend the amount of time PMF waits for AJAX processes to complete by changing the AJAX Timeout setting. In the *Manage* tab, select *Settings* and then *System*. Set the number of seconds PMF should wait for AJAX processes to complete and return in the *Ajax Timeout* field. 30 seconds is the default.

Browser Version and Configuration

The browser version you use can slow down performance, and speed tests conducted on more recent browsers show performance increase. For example, JavaScript and HTML rendering speed differences between MS Internet Explorer 6 and MS Internet Explorer 10 reveal a speed increase by a factor of 50.

Another aspect to take into consideration is browser configuration. If PMF is loading very slowly after a fast display of the portal, make sure the website from which you are accessing PMF has been configured in Internet Explorer as an intranet site. The security status of the current site can typically be seen on the Internet Explorer status bar.

If the Internet Explorer status bar says the PMF Website is *Internet*, then the PMF JavaScript components are being examined by Internet Explorer every time you access the site, which considerably slows down PMF runtime.

If you certify the site in your browser as *Local Intranet*, you will skip the extra examination steps and PMF will run considerably faster. Since the PMF server is already an intranet site by definition, this action simply confirms this.

As of MS Internet Explorer 8, and with all previous versions, you certify this by clicking *Tools*, selecting *Internet Options*, and then clicking the *Security* tab. Then, click *Local Intranet Site* or *Trusted Site*, click *Sites* and then *Advanced*. Make sure the web server root of your site is listed there. If it is not, add it.

If the procedure above does not match your version of Internet Explorer, consult the Internet Explorer Help for more information.

Note: If you have a lot of PMF users at your site, you can configure a Site Policy to mass-configure this for all your users. For more information on how to set up a Site Policy, please consult your Microsoft Windows administration documentation.

Browser Support

Microsoft Internet Explorer

PMF Release 8.1.1 supports MS Internet Explorer 10 and 11 only. Internet Explorer 6, 7, 8, 9, and earlier are not supported. PMF end users using Internet Explorer 8 or 9 need the latest Adobe SVG plug-in for PMF to run correctly.

Note: Although Internet Explorer 9 and higher have native SVG and HTML5 support, these capabilities are not available if PMF is running within WebFOCUS BID or WebFOCUS 8 Portal and the Adobe SVG plug-in must be installed. If you upgraded from Internet Explorer 8 and you previously had the plug-in installed, you must reinstall it.

Mozilla Firefox, Google Chrome, and Apple Safari

PMF Release 8.1.1 supports full operation in Mozilla Firefox, Google Chrome, and Apple Safari browsers on Mac or iOS only. No SVG plug-in is required for these browsers, and it is recommended that you run the latest versions of each browser.

General Browser Note

The latest version of Adobe Flash must be installed so that PMF's Adobe Flex Gadgets work correctly.

PC Running the Browser

If the PC running the browser has a lot of resident applications and not enough memory to run them, browser performance can be adversely affected. Make sure your machine is configured with enough real memory to enable fast performance.

Also, ensure that any anti-virus software is not checking needed browser application components at run time. Certain anti-virus applications can be configured to examine JavaScript resources and other components indiscriminately.

Accessibility Capabilities

PMF now explicitly states when content is accessible and enables automated accessibility. The available accessibility options in PMF include:

- Accessibility automation
- Accessibility-specific Indicator sets
- Accessibility-capable Chart Color Schemes
- Accessibility-specific Content, Gadgets, and Dashboards

Accessibility Automation

The available accessibility options in PMF have been automated to integrate with the accessibility settings of WebFOCUS. This enables central control of accessibility for all users requiring it, and also allows users to manually select if they want to take advantage of accessibility capabilities, without requesting any configuration changes from the Administrator.

All PMF grid content on Dashboards and in Reports or Views automatically activate the WebFOCUS ACCESSIBILITY=508 settings. This means that your reports have embedded capabilities that enable them to work better with screen readers just as JAWS and Microsoft Narrator.

Accessibility-Capable Indicator Sets

In order to support the widest range of customer choice, not all indicator sets are accessible. Those that are optimized for accessibility include:

- Set 1: ISO Shapes
- Set 2: ISO Signs
- Set 4: Few - No Green
- Set 5: Glass - No Green
- Set 7: Huebgen

Note: When accessibility mode is active, PMF will have Set 4: Few - No green as the default Indicator Set. This allows you to have your users that do not require accessibility to have a different default Indicator Set. You can change the default used for accessible users by editing `/aproot/mainstreet/pmf_environment.fex`. Standard user defaults are set in the Look panel, which can be found by going to the Manage tab and selecting Settings.

Accessibility-Capable Chart Color Schemes

In order to support the widest range of customer choice, not all color schemes are accessible. The chart color schemes that are optimized for accessibility include:

- BLUES_GREYS
- TANS_BROWNS

Note: When accessibility mode is active, PMF will have BLUES_GREYS as the default Chart Color Set. This allows you to have your users that do not require accessibility to have a different default Chart Color Set. You can change the default used for accessible users by editing `/aproot/mainstreet/pmf_environment.fex`. Standard user defaults are set in the Look panel, which can be found by going to the Manage tab and selecting Settings.

Accessibility-Capable Content, Gadgets, and Dashboards

In order to support the widest range of customer choice, not all Content, Gadgets, and Dashboards are accessible.

The Dashboards that are optimized for accessibility include:

- Metric Dashboard (508) - 01-05
- Strategic Dashboard (508) - 01-03

You can also create your own Dashboards using all 508-capable Gadget components as listed from the Gadgets that are optimized for accessibility. These include:

- Metric - Across Dim by Perspective Grid (508)
- Metric - Across Dimension Grid (508)
- Metric - Actual Target Prior Lines
- Metric - Actual Target YTD & Prior Bars
- Metric - Actual vs. Flattened Target Lines
- Metric - Dimensional Crosstab Across Measure Grid
- Metric - Dimensional Crosstab Grid (508)
- Metric - Measure Crosstab Across Dimension Grid
- Metric - Pct Reached for Perspective
- Metric - Performance Trend Bars
- Metric - Performance Trend Grid
- Metric - Performance Trend Lines & Bars
- Metric - Properties
- Metric - Related Properties

- Objectives - By Perspective Across Time
- Objectives - By Perspective Grid (508)
- Objectives - Dimensional Crosstab (508)
- Objectives - Objective Crosstab By Dimension
- Perspective - Compact Overview Grid
- Perspective - Compare Performance - Horz Bars
- Perspective - Compare Performance - Vert Bars
- Perspective - Objectives Summary Grid
- Scorecard - Dimension Overview Grid
- Utility - Action block

The 508 capable Managed Content is the following:

- Analysis Designer
- Correlation
- Executive Briefing Booklet - PDF
- Executive Briefing Booklet - PPT
- Launch Pages
- Measure Breakout Booklet - PDF
- Measures - Previous vs. Current
- Measures - Prior vs. Current
- Measures Load
- Measures Metadata
- Objectives - Previous vs. Current
- Objectives Performance
- Objectives Summary
- Process Summary

- Processes - Objectives
- Project Impact
- Project Summary
- Projects - Objectives
- Scorecard - Quadrants
- Scorecard Dimensional Breakout
- Scorecard Matrix
- Scorecard Report
- Scorecards Overview
- Stop Light
- Strategy Relationships
- Tasks - Measures
- Tasks - Objectives
- Units of Measure Information

Reference

The topics in this section describe how to estimate PMF database size, as well as how to point PMF to a different data mart.

In this appendix:

- [Estimating PMF Database Size](#)
 - [Pointing PMF to a Different Data Mart](#)
-

Estimating PMF Database Size

In nearly every real life situation, the database size needed for PMF is determined by the size of the core MEASURES table in the PMF Data Mart. In PMF, the MEASURES table stores the basic facts about your Measures. The actual formula for determining the size of the MEASURES table is:

SIZE in bytes = (average number of bytes per row) * (count of rows)

Determining Average Number of Bytes Per Row

To determine the size of a row in the Measures table requires some deep knowledge about your particular RDBMS. The most simplistic method is to add up the number of bytes used by each column in the table and any indexes, and then add a few more bytes for overhead.

As of PMF 5.2.2, if you allow 4 bytes per Integer field and 8 bytes per floating point field, the MEASURES table is slightly over 200 bytes per row. Additionally:

- Modern RDBMSs incorporate sophisticated compression techniques for storing data, so your actual size could be less.
- There are many database tuning techniques for optimizing space usage, such as adjusting the block size of your underlying tablespaces. You will need to consult your RDBMS documentation to determine your average expected row size.

How Much Data Is Stored (Number of Rows)

The number of rows in the PMF MEASURES table in the Data Mart is determined by your business requirements. For some requirements, a few thousand rows of data is sufficient; other business requirements may require millions of rows.

If you are unsure of your business requirements at the time you are performing an estimate, the recommended approach would be to:

1. Load several time periods of Measure data. If you are not ready to load all of your Measures, you could load a sample cross section of Measures.
2. Determine how many Measure entries you are loading per time period.
3. Multiply the rows for one time period by the total number of time periods you anticipate storing in your PMF system. If you have loaded a cross section of Measures, you must also multiply to adjust for the total number of Measures.

Example: Estimating Rows

Suppose you are measuring your metrics at the monthly level. You have a total of 100 Measures, you want to store three years of data, and you are loading a sample cross section of 20 Measures. After your initial loads, you can run this query on your PMF Data Mart from a SQL tool or from WebFOCUS:

```
TABLE FILE PMF_CUBE_VW
  WRITE CNT.MEASURE_ID
  BY TIME_LEVEL01_VALUE
  BY TIME_LEVEL02_VALUE
  BY TIME_LEVEL03_VALUE
END
```

Your results would look something like this:

Year	Quarter	Month	MEASURE_ID COUNT
2010	1	03	101817
	2	04	111662

This indicates that you are loading an average of 105K rows per month. Since your sample cross section was 20% of the total Measure population, multiply that result by 5 to get the total average number of rows per month.

You would then multiply that by 36 since you are planning to store three years worth of data. This yields $105K * 5 * 36 = 18900K$ rows of data - or 18 million rows.

Allocating Enough Space for Data Loads

You need to make sure that enough disc storage space is allocated on your WebFOCUS server to allow PMF data loads. Typically, you need to make sure there are about 32GB of free storage space to avoid having any problems. If you want to calculate the amount of storage space needed more precisely, use the following formula:

```
[MAX Number of rows for Measure] x [MAX Number of linked Dimensions] x  
[MAX levels] x 30 x 4 bytes
```

For example, if the largest Measure load is 2 million rows, linked to 16 Dimensions that each have 16 levels:

$[2M] \times [16] \times [16] \times 30 \times 4 \text{ bytes} = 62\text{GB bytes of temp space needed}$

Note: After each load, the WebFOCUS Server clears this temporary space so you do not need to multiply by the number of measures.

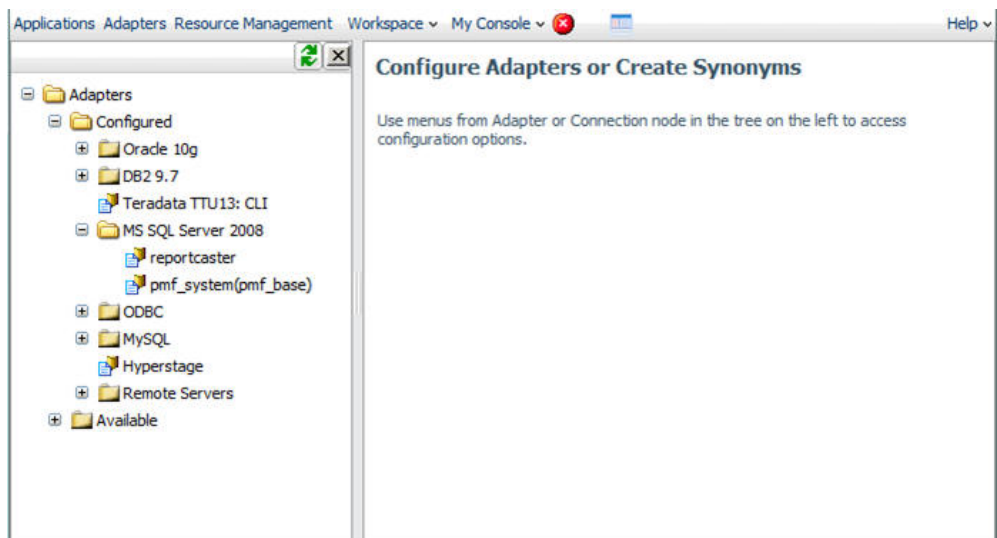
Pointing PMF to a Different Data Mart

Before making the switch to a different data mart, you must switch to the data mart of the demo. Make sure that the backup has been restored. If it has not, use the RDBMS tools to restore the backup to a DB of the same name.

Next, point PMF at the demo by changing the SQL Server Adapter connection, called `pmf_system`, to point to the restored database.

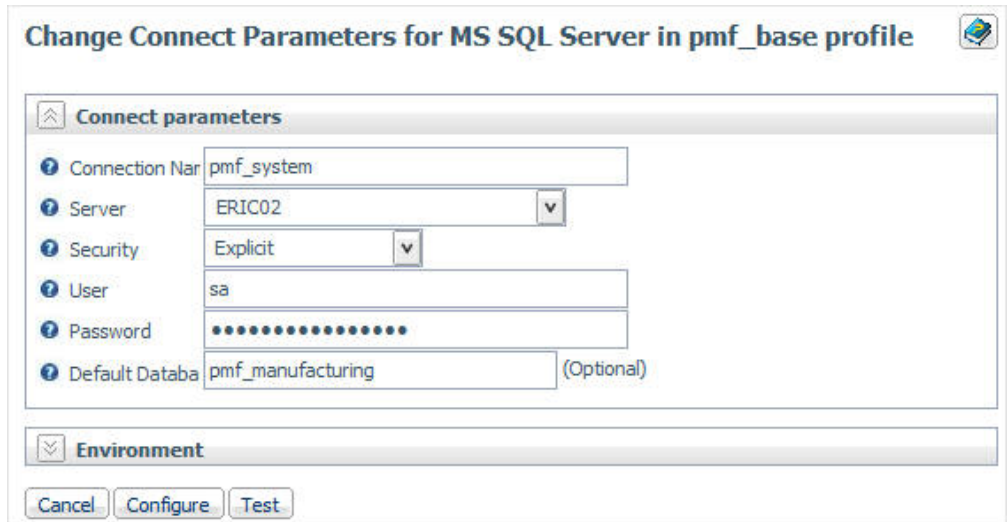
Procedure: How to Switch to a Particular Data Mart

1. Open the WebFOCUS Reporting Server Console. This is usually located at `http://[machine-name]:8121`.
2. Click *Adapters* in the top-left corner. This opens a list of installed adapters that is displayed in the menu on the left, as shown in the following image. For PMF, there should be two adapters configured and one should be named `pmf_system`.



Note: All of the images in this section will vary depending on the version of WebFOCUS that you have installed.

3. Double-click *pmf_system*. The Change Connect Parameters window, which displays all of the connection properties, opens in the main window, as shown in the following image.



4. In the Default Database field, type in the name of the data mart you want to use with PMF. Click *Configure*.

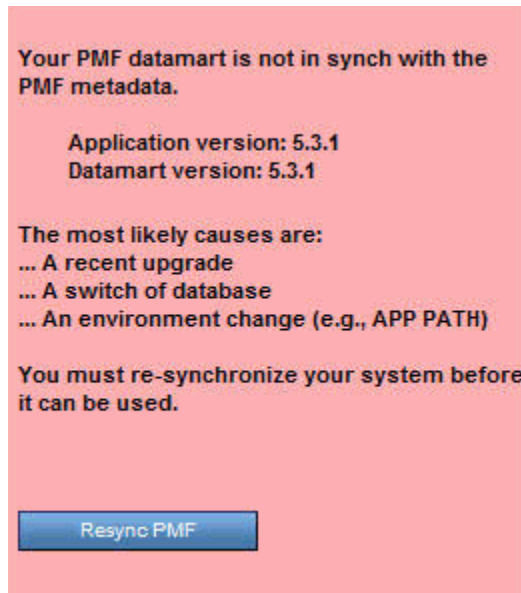
The Configuring Data Adapters page opens confirming that the connection was changed, as shown in the following image.



The database that PMF reports off of has now been changed.

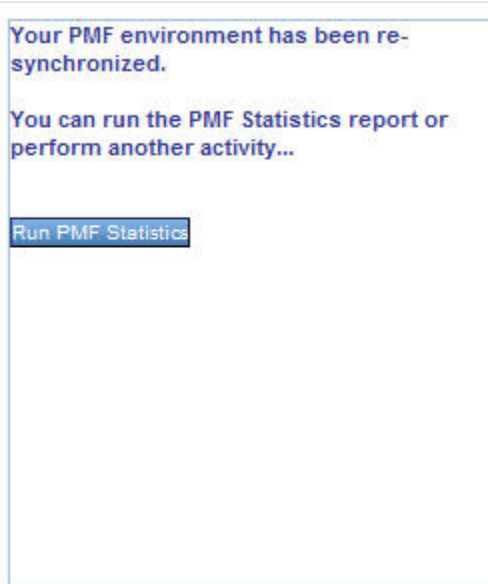
5. The application must be resynched to the database for the switch to be complete. Log on to PMF using *pmfadmin* in order to re-sync the application.

6. After logging in, the resynch message will appear automatically, as shown in the following image.



Click *Resync PMF* to start the resynching process.

7. Once the application is in sync with the data mart, you will see a message stating that PMF has been resynchronized, as seen in the following image.



Troubleshooting Common Issues

The topics in this section describe common PMF errors, and provide instructions on how to fix them.

In this appendix:

- ❑ [Common PMF Errors](#)
 - ❑ [Troubleshooting and Debugging Aids](#)
-

Common PMF Errors

This topic describes common PMF errors and error messages that point to issues with your PMF configuration and installation. Common remedies for these issues are also recommended.

Users See an X Mark Where a Graphic Is Expected

If a user is reporting X marks in their browsers when running visual or charting components, the following could be wrong:

- ❑ **The WebFOCUS JSCOM3 service might not be configured.** If the JSCOM3 service is not up and running on your WebFOCUS Reporting Server, your WebFOCUS Client might not be able to obtain streamed content such as graphics from the WebFOCUS Reporting Server. For more information on configuring JSCOM3, please see the *WebFOCUS Server Installation and Configuration Guide*.
- ❑ **The Web server farm does not have shared disk space.** You might be using multiple web servers in a farm and your administrator might not have configured WebFOCUS to allow for shared storage space between the various web servers in your farm. Because PMF is a non-persistent application, users might be connecting to multiple web servers in your farm for each request for content while running PMF. You need to define and configure your WebFOCUS Clients and web servers for shared storage space.
- ❑ **The Visual Discovery license is not configured.** Your user might be requesting a page with Visual Discovery components, and these might not be licensed for your WebFOCUS Client. If you already have a deployment license for Visual Discovery, see the Visual Discovery documentation for more information on how to set up these licenses. If you do not have a license for Visual Discovery, please contact your Information Builders Representative.

Users Encounter a HTTP 404 Error From a Dashboard

If your users encounter an error in a PMF Dashboard that results in an HTTP 404 error, it can be resolved by adding the following to the Tomcat server.xml configuration file:

```
relaxedQueryChars="^"
```

For example:

```
<Connector connectionTimeout="20000" port="8080" protocol="HTTP/1.1"
redirectPort="8443" relaxedQueryChars="^">
```

Strategy Map, Tolerance Sliders, or Menu Buttons Do Not Display

If SVG components such as the Strategy Map, Tolerance Sliders, and the Menu buttons in the Author, Strategy, and Manage tab trees do not display, and you receive a JavaScript error, the following could be wrong:

- ❑ If using MS Internet Information Services (with or without SharePoint), note that IIS does not by default configure the MIME-TYPE for SVG or WSP documents. You must configure these manually on IIS by accessing the MIME-TYPE table of the web server (most typically found in root properties for the IIS server) and define MIME-TYPEs as follows:

file type: **SVG**

mime string: **image/svg+xml**

file type: **WSP**

mime string: **text/html**

JavaScript Errors When Running the Today Page

If users get a JavaScript error when first running the PMF Today page, the following could be wrong:

- ❑ **Mixed logical server names, ports or protocols.** This could be caused by mixed HTTPS and HTTP protocols, access ports, or logical server names. You might have separate Application Server (for example, Tomcat or BEA) and web servers set up in your server farm. Web-based components such as fixed graphics and JavaScript files might be set up to come from your secure web server (HTTPS protocol), and WebFOCUS generated components might be coming through your non-secure environment, or vice-versa (HTTP protocol). If this is the case, you will get what is called a cross-site scripting error when trying to use PMF.

To prevent this issue from happening, make sure that all components deployed with PMF are coming from the secure (HTTPS) alias for your web server farm, and that the user is always accessing it using the same root URL. This avoids cross-site scripting errors.

- ❑ **A WebFOCUS upgrade might have been done without restoring PMF configuration.** Configuration information for PMF is missing from SITE.WFS, EDASPROF.PRF, or ODIN.CFG. If you upgrade WebFOCUS using a full installation on a server environment where PMF is already installed, and you select *full install* rather than *binary refresh* and/or *upgrade* for WebFOCUS, the WebFOCUS installer can delete PMF configuration data from the WebFOCUS configuration files. You can easily remedy this by reinstalling PMF. You might also be able to restore the data to the WebFOCUS configuration files by using the WebFOCUS migration tools.
- ❑ **The user might not be configured for a working Scorecard.** One of your Scorecard administrators might have deleted a Scorecard which was set up as the default for the user in question. Any PMF administrator can change that user's default Scorecard by going to the Manage tab, selecting *Owners*, and changing the default from there to remedy the issue.
- ❑ **The WebFOCUS Client, Web server, and/or WebFOCUS Reporting are pointing to different aproot.** The aproot settings in WebFOCUS denote a mapping between the physical disks on the servers and the logical root where WebFOCUS applications are stored. Note the following:
 - ❑ Your WebFOCUS Server has its own aproot setting which is set up using the WebFOCUS Reporting Server Console.
 - ❑ Your WebFOCUS Client has its own aproot setting which is set up using the WebFOCUS Administration Console.
 - ❑ Your web server has an alias or virtual folder called aproot configured, which is set up in the administration console for your web server (for example, Apache Tomcat or another web server).

The redundancy in aproot settings is normal since WebFOCUS tends to be installed across multiple physical machines and web servers in your WebFOCUS environment. Regardless of how WebFOCUS is configured, the same version of PMF must be installed to all physical WebFOCUS aproot locations. If these locations are configured to different physical disks, you can either cause a conflict between multiple installed versions of PMF or the PMF app might not be installed on one of the disks involved.

Receive an Error With Oracle

When running PMF with a data mart stored on Oracle, you may receive the following error:

```
(FOC295) A VALUE IS MISSING FOR &TIME_LEVEL01_ABBR
```

Typically this happens because Oracle is configured for UTF-8 operation. Until version 5.2.3, PMF does not support operating with a UTF-8 data mart. Please reconfigure the data mart for PMF to use a single-byte or double-byte code page. For more information on how to do this, please refer to your Oracle RDBMS documentation.

If this is not possible and you are running on Unix, you can edit the WebFOCUS Server profile (edasprof.prf) and export a single-byte or double-byte NLS_LANG parameter. For example:

```
export NLS_LANG=AMERICAN_AMERICA.WE8MSWIN1252
```

This will insure that only standard characters are entered into the PMF database.

This error signifies that the file a_defaults.fex in /apps/pmfdata has been corrupted. To restore this, you need to copy file a_defaults_do_not_edit.fex to a_defaults.fex. Then, log off and log back into PMF with an administrator ID and run the Resynch when prompted.

Errors While Creating an Oracle Database

While running the sqlora.sql script you may receive an error that tables cannot be deleted, or rows are not being properly inserted. A likely cause for this error is that you may have specified the PMF owner ID in lowercase. To verify that this is the issue, look at the sqlora.sql file that you are running. If, for example, you see the following:

```
define PMF_DB_OWNER = 'my_pmf_id'
```

You need to change the owner ID in the code to uppercase, as seen in the following example.

```
define PMF_DB_OWNER = 'MY_PMF_ID'
```

Once the change has been made, run the script again.

Note: You may need to clear your database of any objects that were created with the owner ID in lowercase.

Snapshot Restore Fails With Oracle RDBMS

This scenario can occur due to improper Oracle public synonyms. PMF creates and uses Oracle public synonyms for all PMF tables, views, and stored procedures. This allows the application a high degree of independence from the underlying physical database. However, it is possible for the connections between Oracle public synonyms and its underlying objects to get out of sync, which can result in public synonyms pointing to incorrect or non-existent objects. This typically happens when proper protocols or procedures are not followed for setting up and/or configuring the PMF Oracle database. The most common manifestation of this will be a failure during a PMF release upgrade or resynch, during a Snapshot Import, or while adding, changing, or deleting Dimensions. If this occurs, you will need to analyze the situation to see what has happened and then take appropriate corrective measures.

To detect incorrect synonyms in the base PMF data structures in PMF release 5.2.2, run the following SQL through the standard SQL*Plus query tool.

```
select * from DBA_SYNONYMS
where SYNONYM_NAME in
(
-- List of 5.2.2 tables
'ALERTS'
, 'DIMENSIONS'
, 'DIMENSIONS_SOURCE'
, 'DIMENSIONS_TYPE'
, 'FEEDBACK'
, 'FUNC_ROLES'
, 'FUNC_ROLES_ACCESS'
, 'FUNC_ROLES_OBJECTS'
, 'GADGET_CLASS_PARMS'
, 'GADGET_INSTANCES'
, 'GADGET_INSTANCE_OWNERS'
, 'GADGET_INSTANCE_PARMS'
, 'GADGET_PAGE_BLOCKS'
, 'LAUNCH_PAGES'
, 'MEASURES'
, 'MEASURES_ENTRY'
, 'MEASURES_HISTORY'
, 'OBJECTIVES'
, 'OBJECTIVES_LINKAGES_CR'
, 'OWNERS'
, 'PERSPECTIVES'
, 'PERSPECTIVES_OBJECTIVES_CR'
, 'PM_DIM01_DISPLAY'
, 'PM_DIMS_W_SRC'
, 'PM_DIMS_W_SRC01'
, 'PM_DIMS_W_SRC02'
, 'PM_DIMS_W_SRC03'
, 'PM_DIMS_W_SRC04'
, 'PM_DIMS_W_SRC05'
, 'PM_DIMS_W_SRC06'
, 'PM_GADG_CLSS'
, 'PM_GADG_PG'
, 'PM_GADG_PG_GUIDE'
, 'PM_LAUNCH_PAGES_TYPES'
```

```
, 'PM_MEAS_SRC'  
, 'PM_MEAS_SRC_BRKPNT_VALS'  
, 'PM_MEAS_SRC_DIMNSN_TYP_CR'  
, 'PM_MEAS_SRC_FLDS'  
, 'PM_MEAS_SRC_LOADFILTS'  
, 'PM_MEAS_SRC_LOADFLDMAPS'  
, 'PM_MEAS_SRC_LOADPARMS'  
, 'PM_MEAS_SRC_OBJ_CR'  
, 'PM_MEAS_SRC_TLRNCS_BENCHMARK'  
, 'PM_MEAS_SRC_TLRNCS_FORECAST'  
, 'PM_MEAS_SRC_TLRNCS_STRETCH'  
, 'PM_MEAS_SRC_TLRNCS_TARGET'  
, 'PM_OBJECTS'  
, 'PM_SCENARIOS'  
, 'PM_SCENARIO_PARMS'  
, 'PM_SYS_MEASRS_FLDS'  
, 'PM_SYS_MEASRS_FLDS_TLRNC_CR'  
, 'PM_SYS_TLRNC'  
, 'PM_SYS_TLRNC_LVLLS'  
, 'PM_TASKS'  
, 'PROCESSES'  
, 'PROCESSES_OBJECTIVES_CR'  
, 'PROJECTS'  
, 'PROJECTS_MEASURES_SOURCE_CR'  
, 'PROJECTS_OBJECTIVES_CR'  
, 'ROW_LVL_SEC_FILTERS'  
, 'ROW_LVL_SEC_ROLES'  
, 'SCHEDULES'  
, 'SCORECARDS'  
, 'SCORECARD_SECURITY'  
, 'STRATEGIES'  
, 'SYSTEM_SETTINGS'  
, 'THEMES'  
, 'THEMES_OBJECTIVES_CR'  
, 'TIME'  
, 'TIME_RANGES'  
, 'UNITS'  
, 'UNITS_CONVERSION'  
, 'UNITS_CONVERSION_CR'
```

```
-- List of 5.2.2 views
, 'DIMENSIONS_SOURCE_FLAT'
, 'DIMENSIONS_W_SOURCE'
, 'DIMENSIONS_W_SOURCE01'
, 'DIMENSIONS_W_SOURCE02'
, 'DIMENSIONS_W_SOURCE03'
, 'DIMENSIONS_W_SOURCE04'
, 'DIMENSIONS_W_SOURCE05'
, 'DIMENSIONS_W_SOURCE06'
, 'PM_STRTGY_OBJ_COMPOUND'
, 'PM_STRTGY_OBJ_SIMPLE'
, 'ROW_LVL_SEC_TREE'
, 'SCHEDULES_ALERTS'
-- List of 5.2.2 stored procedures
, 'PMF_DROP_TABLE'
, 'PMF_DROP_VIEW'
, 'PMF_SEQUENCE_TRIGGER_CREATE'
, 'PMF_SEQUENCE_TRIGGER_RESET'
)
and TABLE_OWNER <> '&PMF_DB_OWNER_CHECK'
order by SYNONYM_NAME
/
undefine PMF_DB_OWNER_CHECK
```

where:

&PMF_DB_OWNER_CHECK

Is the name of your schema/owner ID. If this query returns no rows, then all of your base PMF objects have the correct synonyms.

To verify that your dimensions were correctly formed, run the following query:

```
select * from DBA_SYNONYMS
where
(
SYNONYM_NAME in
(select trim(upper(DIMENSION_TYPE_NAME)) || '_TREE' from DIMENSIONS_TYPE)
or SYNONYM_NAME in
(select trim(upper(DIMENSION_TYPE_NAME)) || '_TREE_ALTT' from
DIMENSIONS_TYPE)
or SYNONYM_NAME in
(select trim(upper(DIMENSION_TYPE_NAME)) || '_TREE_ALTW' from
DIMENSIONS_TYPE)
)
and TABLE_OWNER <> '&PMF_DB_OWNER_CHECK'
order by SYNONYM_NAME
/
undefine PMF_DB_OWNER_CHECK
```

where:

&PMF_DB_OWNER_CHECK

Is the name of your schema/owner ID. As with the previous query, if this query returns no rows, then your synonyms are correctly formed.

Note: Neither of these queries will detect missing synonyms. For more information on this, please see your Oracle RDBMS documentation.

Fixing Stored Procedures

If a stored procedure has an incorrect synonym, first verify that the underlying stored procedure has the correct owner. If so, drop and re-create the public synonym. If the underlying stored procedure has an incorrect owner, you must drop both the synonym and the stored procedure. Then, locate the DDL for the stored procedure in the file `sqlora.sql`, including the final create of the public synonym, copy the DDL into a separate location, and only run that DDL.

Fixing Views

If a view has an incorrect synonym, the correction process is basically the same as for stored procedures. If the underlying view has the correct owner, then drop and recreate the public synonym. Otherwise, locate the proper view DDL in the file `sqlora.sql`, copy this out, and only run the view DDL (including the final create of the public synonym).

Fixing Tables

If a table has an incorrect synonym, you will need to determine if your PMF application has been using the incorrect synonym for data storage. If you are configuring a base PMF database, the recommended approach is to simply clear the database of all objects and rerun the base DDL/SQL script. If the synonym is pointing to a non-existent table, drop and recreate the synonym to point to the correct table. Otherwise, if you have two possible tables, you will need to determine which table has been used by the application. For example, suppose you have two DIMENSIONS tables, `ABC.DIMENSIONS` and `XYZ.DIMENSIONS`, and the public synonym is pointing to `ABC`, but your application schema is `XYZ`. You must look at the underlying data in each of these two tables and determine which has your correct application data. If the `XYZ` table has your correct data, drop and recreate the public synonym to point to `XYZ`. Otherwise, if `ABC` mistakenly has your application data, transfer your application data from `ABC.DIMENSIONS` to `XYZ.DIMENSIONS`.

Note: Exercise caution when doing this since many PMF tables have triggers to generate one up sequence numbers for the key values. If this is the case, as it is with the `DIMENSIONS` table, you must disable the trigger before transferring over the data from the `ABC` to the `XYZ` table.

Once the data transfer is complete, you must re-enable the trigger, delete and recreate the public synonym to point to the `XYZ` table, and drop the `ABC` table. Fortunately, this last situation is quite rare.

Data Looks Incorrect or Is Missing

If you ever run a PMF view or gadget and do not see the expected data, here is a list of potential issues to investigate to confirm that you have taken all of the steps necessary to publish your measure data:

- Is the measure linked to any objectives on the scorecard you are displaying? Click the Measure panel in the Manage or Author tabs and click the Link/Unlink to Objectives button to make sure the measure has been linked to the Scorecard.
- Have you weighted the measure so its data contributes to the objective? Click the Measure panel in the Manage or Author tabs and click the Link/Unlink to Objectives button to make sure the measure has a positive weight assigned to it for the objective on the scorecard.
- Have you loaded data for the measure? Check the Measure Loader Preview screen to confirm that there is data loaded. Was the data loaded to include data for the currently set Time period from which you are reporting?
- Is Current Time set up right? Check the Time period on the view. If your view does not display a Time breakout, check the attribute history in the footing to see what period is being used. If you still cannot determine the issue, check the PMF current time setting in the Settings panel on the Manage tab.

Microsoft SQL Server Log Files Grow to Huge Size

If you use Microsoft SQL Server as the host for your PMF Data Mart, please note that you must manage Microsoft SQL Server configuration regarding log file growth. This is a known issue when using Microsoft SQL Server.

If the log file growth is unmanaged, it is quite possible that the log file can grow to 50GB in size or more.

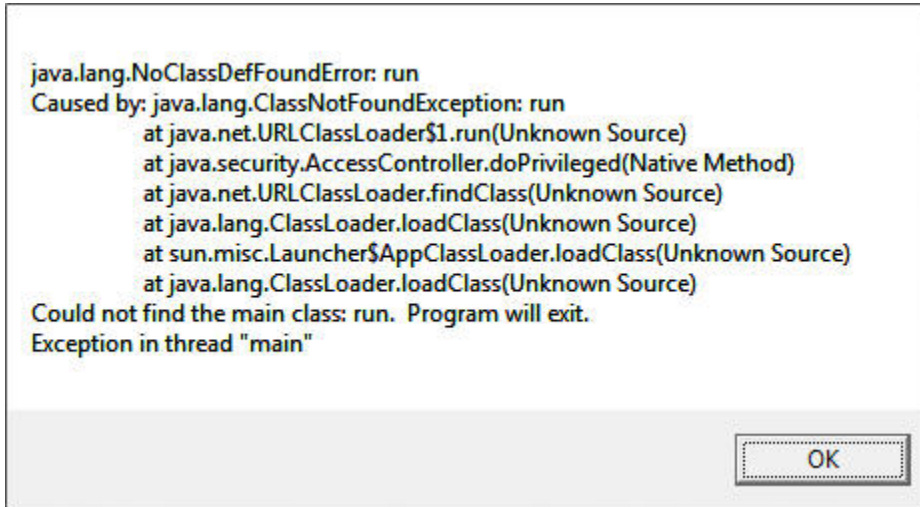
Typically you manage this by configuring properties for log files on your master database in Microsoft SQL Server's administration management console.

Please consult your Microsoft SQL Server documentation for more information and exact procedures.

Setup Program Crashes Immediately When Started

This issue normally occurs because the installer is being forced to use the wrong JVM, which results in it crashing. The PMF Setup program is packaged and launches its own JVM to prevent problems, but this problem can still happen if the users PC has a hardcoded JVM in their classpath or in their Windows system path. This typically happens if they have, for example, an old Oracle client installed on their machine.

The error message that opens when this occurs can be seen in the following image.



To remedy this issue, temporarily remove the hardcoded CLASSPATH and/or JVM execution path from the Windows system environment configuration, then restart the PMF Setup program.

Troubleshooting and Debugging Aids

Because all software applications occasionally have issues, PMF includes built-in utilities that allow you or your administrator to troubleshoot and resolve potential issues.

Procedure: How to Use Application Tracing

If you receive an error that you do not understand, you can enable Application Tracing, then re-run the request that generated the error. If you are proficient in WebFOCUS, you can examine the trace yourself to determine the cause of the issue. If you are not proficient in WebFOCUS, you can forward the trace to either your local support representative or your Information Builders support specialist.

To activate Application Tracing:

1. In the Manage tab, click the *Settings* panel button.
The Settings menu opens.
2. On the Debugging form, select one of the following values from the Application Tracing drop-down list.
 - OFF**. Disables tracing, which is the default value.

- ON.** Trace WebFOCUS code without showing a full trace of the Dialogue Manager pre-processing code. This is the most typical setting for tracing.
 - ALL.** Trace WebFOCUS code and show all steps in the Dialogue Manager pre-processing code. This generates the most detailed trace.
3. Click Save.

If you selected ON or ALL, tracing is now active. You can re-run any process that has an error message and display the underlying HTML source code containing the error trace by right-clicking the page and clicking the View Source option specific to your browser. Traces are present at the bottom of the HTML file, after the closing `</HTML>` tag.

Note: Turning on tracing can slightly lower PMF performance speed because more HTML is downloaded to the browser. It is recommended that you turn off tracing after you resolve the issue you are investigating.

Getting SLP to Work With Your WebFOCUS Installation

This appendix provides the steps that you can follow to configure Simple Lightweight Page (SLP) manager, a context switcher for PMF, to work with your WebFOCUS installation.

Note that the PMF installer configures SLP for you automatically on a new install.

In this appendix:

- [Install SLP](#)
 - [Configure the SLP Service](#)
 - [Using SLP With PMF](#)
 - [Using SLP For Any IBFS Folder](#)
-

Install SLP

To install SLP:

1. On your WebFOCUS Client system, navigate to the following location:

`drive:/ibi/WebFOCUSnn/webapps/webfocus`

where:

`nn`

Is the WebFOCUS version number.

2. Create a new folder named `slp`. The name must be all lower case letters.
3. Copy the `slp.jsp` file into the new folder.

Configure the SLP Service

To configure the SLP service:

1. Navigate to the following location:

`drive:/ibi/WebFOCUSnn/webapps/webfocus/WEB-INF`

2. Make a backup copy of the `web.xml` file and name it `web-beforezip.xml`.
3. Open the `web.xml` file in a text editor.

4. Paste the following text at the end of the file, above the `</web-app>` tag:

```
<!-- SLP added by PMF install -->
<servlet>
  <servlet-name>slp</servlet-name>
  <jsp-file>/slp/slp.jsp</jsp-file>
</servlet>
<!-- SLP added by PMF install -->

<servlet-mapping>
  <servlet-name>slp</servlet-name>
  <url-pattern>/slp/*</url-pattern>
  <url-pattern>/p/*</url-pattern>
  <url-pattern>/pmf</url-pattern>
  <url-pattern>/PMF</url-pattern>
</servlet-mapping>
```

The following image shows the file with the additional text added.

A screenshot of a code editor window showing XML configuration code. The code is as follows:

```
</taglib-location>/WEB-INF/tlds/worp/client/toolbar/help/w
</taglib>
</jsp-config>

<!-- SLP added by PMF install -->
<servlet>
  <servlet-name>slp</servlet-name>
  <jsp-file>/slp/slp.jsp</jsp-file>
</servlet>

<servlet-mapping>
  <servlet-name>slp</servlet-name>
  <url-pattern>/slp/*</url-pattern>
  <url-pattern>/p/*</url-pattern>
  <url-pattern>/pmf</url-pattern>
  <url-pattern>/PMF</url-pattern>
</servlet-mapping>

</web-app>
```

5. Save the file.
6. Restart your web app container service, such as Apache Tomcat.

Using SLP With PMF

The standard SLP configuration creates a shortcut to start PMF.

To start PMF, use:

`http(s)://server:port/ibi apps folder name/pmf`

For example:

`http://myserver:8080/ibi_apps/pmf`

Using SLP For Any IBFS Folder

You can now navigate to any folder using SLP by using the following path:

`WebFOCUS client name:port/ibi apps folder name/slp/IBFS folder name`

where:

`WebFOCUS client name`

Is the name of your WebFOCUS client.

`port`

Is the port number.

`ibi apps folder name`

Is the name of your IBI apps folder.

`IBFS folder name`

Is the name of the IBFS folder you wish to use.

A typical web path would be:

`http://server name:8080/ibi_apps/slp/reports`

The following image shows a list of WebFOCUS reports in SLP.



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WebFOCUS

/ Performance Management Framework
Installation and Configuration Guide
Release 8.2

