SERENA

SERENA DASHBOARD

Installation and Configuration Guide

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Installation and Configuration

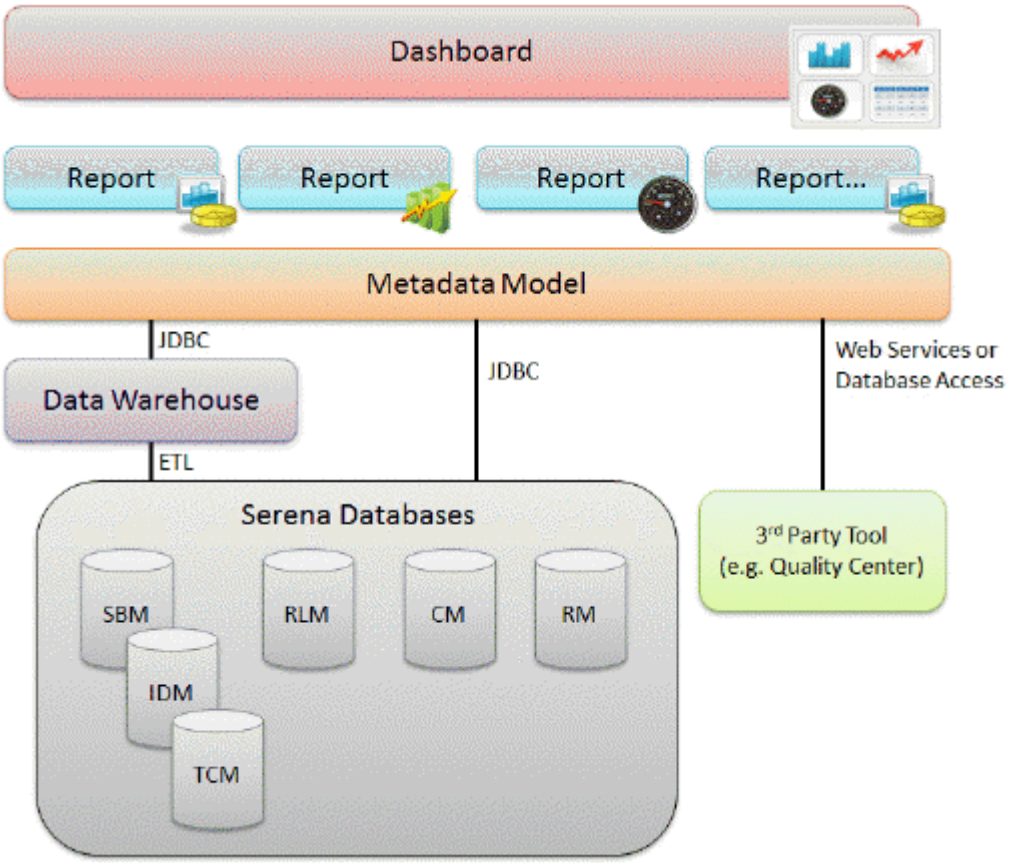
Serena Dashboard is a powerful reporting application that allows users at all levels of the organization to review project metrics that are most immediately relevant to them. Serena Dashboard runs on the Information Builders WebFOCUS platform, a rich business reporting tool that can aggregate key performance data from a variety of critical systems. Serena Dashboard presents data on your most essential key performance indicators (KPIs) with a fully configurable set of graphical charts, tabular data, and more.

Installation

These topics lead you through the installation of the components required to use Serena® Dashboard.

Overview

Serena® Dashboard enables graphical views to be produced from data across multiple applications, allowing you to make key business decisions. An overview of its architecture is shown below:



The Serena Dashboard enables you to produce comprehensive graphs, metrics, and views of your ALM processes from different data sources. It retrieves information from the ODBC data sources for SBM, Dimensions CM, or ChangeMan ZMF. It provides a set of out-of-box graphs and metrics and enables you to customize them or create your own.

IMPORTANT! You can not install the WebFOCUS Server and Serena Dashboard to the same system where the Serena Dimensions CM server is installed. You must install to a separate system.

Installation Sequence

You must install each of the following:

1. IBI WebFOCUS Server (also known as Serena Reporting Server)
2. IBI WebFOCUS Client
3. Serena Dashboard
4. Optionally, IBI WebFOCUS Developer Studio which you can use to build new metrics

Dashboard then requires some configuration steps to connect to the data sources and enable the metrics in order to display them in the dashboard. This is described in Serena Dashboard System Configuration [page 9].

Installation Prerequisites

Before installing any of the Serena® Dashboard components, please carry out the following steps.

1. Install the Java Development Kit (JDK) version 5 or higher. You must get the correct Java version for your Windows OS (32-bit or 64-bit).

2. Make sure you have set up the system variable JDK_HOME (for the JDK). To verify that this is defined, run the following command in a command-line window:
   `echo %JDK_HOME%`
   This should return the path to your JDK installation. It may look something like:
   C:\Program Files\Java\jdk1.7.0_01

IMPORTANT! You can not install the WebFOCUS Server and Serena Dashboard to the same system where the Serena Dimensions CM server is installed. You must install to a separate system.

Upgrading IBI WebFOCUS

If you have previously installed the IBI WebFOCUS / Serena Reporting Server, you may need to upgrade to the latest version. If you are upgrading from a previous version of Serena Dashboard to version 3.5 or later, you must upgrade the Serena Reporting Server to version 7.7.03m.

To verify whether you need to upgrade:

1. Open the WebFOCUS Web Console. You can open this from the following shortcut in the Start menu: All Programs | Information Builders | WebFOCUS77 Server | Web Console.

2. Select Help | Version. Version information appears under the General section. If the version is 7.7.03 or earlier and you are upgrading to Serena Dashboard 3.5 or later, you must upgrade the WebFOCUS server. For example, for Serena Dashboard 3.5, you must upgrade the server to version 7.7.03m (note the "m" in the version number).

To upgrade to a new version of WebFOCUS Server / Serena Reporting Server:

1. Stop the WebFOCUS server. If you are running it as a service, stop the WebFOCUS 77 Server service. You can also stop the server by selecting Stop under Information Builders | WebFOCUS 77 Server.

2. Run the Setup application from the new version.

3. The installer notifies you that a previous version is already installed. Click OK to continue and upgrade the installed version.

4. When setup is complete, a prompt appears that allows you to choose whether to start the server. Choose not to start the server at this time and click Finish.

5. Display the Windows Services. Start the WebFOCUS 77 Server service.

6. Open the Web Console from the following shortcut in the Start menu: All Programs | Information Builders | WebFOCUS77 Server | Web Console.

7. Select Help | Version and confirm that the new version is installed.

Upgrading Serena Dashboard

If you have a previous version of Serena Dashboard already installed, you must uninstall it before installing the new version.

Installing IBI WebFOCUS Components

The Serena Dashboard is built on the IBI WebFocus platform. You must install IBI WebFOCUS Server before you install Serena Dashboard. To guide you through installation of the server, download the IBI WebFOCUS server installation Guide, server_install.pdf, from Serena.

After installing Serena Dashboard, you will need to install the IBI WebFOCUS client. You can then optionally install WebFOCUS Developer Studio if you want to customize or build new metrics.

After you have installed the IBI WebFOCUS components, you can display many more documentation resources from shortcuts in your start menus. Please consult these resources to learn more. You can also view and download IBI documentation from the IBI web site at:

>http://documentation.informationbuilders.com/

Installing the IBI WebFOCUS components and accepting all defaults will support most basic configurations. Make sure to make a note of your administrative account as you will need it later. That said, we strongly recommend that you consult the installation documentation.

IMPORTANT! You can not install the WebFOCUS Server and Serena Dashboard to the same system where the Serena Dimensions CM server is installed. You must install to a separate system.

Installing IBI WebFOCUS Server

To install IBI WebFOCUS Server:

1. Make sure there are no existing servers running on your system like Tomcat, IBI WebFOCUS, etc.
2. Unzip the file corresponding to your operating system:
3. run setup.exe for the server and follow the InstallShield steps.
4. If this is a new installation, when prompted provide your WebFOCUS server license key.
5. Make sure to note essential details as you install the server, including:
   - Server Administrator ID and password
   - HTTP and TCP listener port numbers

Installing WebFOCUS Client / Serena Reporting Server

Once you have installed the WebFOCUS server, install the WebFOCUS client (also known as the Serena Reporting Server) to the same system.

To install the WebFOCUS client:

1. Run the client executable, such as WebFOCUS7703.exe.
2. Following the steps in the InstallShield wizard.
3. When prompted, enter your four digit WebFOCUS client license.
4. IMPORTANT! When you are presented with components to install, you must:
   - Deselect Apache Tomcat 6.0
   - Deselect Configure Apache Tomcat 6.0 stand-alone
3. Complete the Installation.
4. Restart the WebFOCUS server. You can stop and restart the server from the Windows Start menu items for Information Builders.

Optional: Installing WebFOCUS Developer Studio

Optionally install WebFOCUS Developer Studio if you want to customize and build your own metrics. Serena recommends that you install Developer Studio to a system other than the WebFOCUS server.

To install IBI WebFOCUS Developer Studio:

1. On the server on which you have installed the WebFOCUS server, download and run the Developer Studio setup executable.
2. When prompted, you must supply your license key.
3. When prompted to choose components to install, you must de-select Apache Tomcat.
4. Complete the Installation.

Installing Serena Dashboard

Once you have installed the IBI WebFOCUS components, you are ready to install Serena Dashboard.

To install Serena Dashboard:

1. Download and run the installer executable for your platform. The installer will detect that you have the IBI WebFOCUS server and client (also known as the Dashboard Reporting Server) installed, as well as Serena Business Manager, Dimensions CM, and the Serena Common Tomcat. The Serena Reporting Server is required to complete installation. If you do not already have the Serena Common Tomcat installed, the Dashboard installer will install it for you.

2. Click through the installer.

3. For most scenarios you can accept all of the default options. You may choose to customize the installation location, or opt out of installing the included sample metrics. We recommend that you install the sample metrics in order to see examples with data pulled from SBM and other sources.

4. Restart the Serena Common Tomcat (from the Windows Services dialog box, this is the Serena Common Tomcat service).

5. To verify that installation was successful, In a web browser, enter the following URL

   `http://localhost:8080/dashboard/login`

   and log in using the default user name admin with password serena. Make sure to change this user name as soon as possible once you have set up new users.

Serena Dashboard System Configuration

The following topics tell you how to configure your system after you have completed installing all of the components for Serena Dashboard. This enables the communication between your various sources of data and Serena Dashboard.

Overview

When you have completed installation, you will have the following files and folders by default:

- \webapps\metrics under the Tomcat installation (if you are using the Serena Tomcat instance, by default this resides under \Program Files\Serena\Common). This folder contains the data source definitions and out of box metrics for Serena Release Manager, Serena Development Manager, Serena Requirements Manager, and Serena ChangeMan ZMF. These .sdp files, when imported to Serena Dashboard, establish a connection to a supported data source, provide default out-of-box metrics on that data source, and supply a set of view that organize these metrics.

Configuring the IBI WebFOCUS Server

Complete the procedures in this section to configure the IBI WebFocus Server.

Ensure that JAVA_HOME is Set

Display the environment variables for your system and ensure that the JAVA_HOME variable is set to the root directory for your JRE installation.

Ensuring the JSCOM3 Listener is Enabled

JSCOM3 is a listener installed with the WebFOCUS Reporting Server that is used when the server creates Active Report Flash/Flex, graphics, accesses data sources through JDBC, or launches other Java processes. It normally uses the fourth port used by the server. By default, this is port 8123. Although not all WebFOCUS functionality requires JSCOM3, it is a good idea to ensure it is available.

To verify that the JSCOM3 listener is enabled:

1. Open the WebFOCUS Web console by opening the following URL in a browser: http://<servername>:8121.

2. Display Workspace | Configuration Monitor | Java Services | DEFAULT. Right click and select Properties, then display Version and Path - Java Version.

3. If the Status displays Starting and is not active for more than 10 seconds, then verify that the correct Java Version is in place and restart the WebFOCUS Server service.

4. If you are planning to run Active Report Flash/Flex, ensure that enough memory for Java to compile Flash/Flex files is allocated to the JSCOM3 service. Perform the following steps to set the maximum Java heap size:

   a. Open the Web Console and navigate to Workspace Configuration.

   b. Right-click Java Services in the left pane and select Properties from the context menu.

   c. Click the JVM Settings tab.

   d. In the Maximum Java Heap Size field, enter an appropriate value in Megabytes (Mb).

      512 Mb should be a sufficient value, however this depends on how much memory is available on the machine that is hosting the server.

   e. Click Save and Restart Java Services.

Changing the Port Number for Serena Dashboard

Follow these steps to change the port number Serena Dashboard runs on, under its Tomcat installation, from the default of 8080.

To change the port number:

1. Open server.xml in a text or XML editor. By default, this file resides under C:\Program Files\Serena\Common\tomcat\6.0\conf. If you have installed the Serena Tomcat server elsewhere, locate the file in that directory.

2. Locate all instances of the following parameter:
   `port="8080"`
   And update it to the correct port number.

3. Save the server.xml file.

4. Restart the Serena Tomcat service.

5. Enter the Dashboard login URL with the new port number in a browser window and verify that the login screen appears correctly:
   `http://<servername>:<port>/dashboard/login`
   For example, if the server name is dashboard and the port number is 9090, enter:
   `http://dashboard:9090/dashboard/login`

Configuring Local Dashboard Data Storage and Logging

By default, Serena Dashboard saves all local data for a directory on the Dashboard server. You can change this location. You can also store dashboard data to an Oracle, SQL Server, or MySQL database. Storing the data in a database provides the following benefits:

- Better scalability for large amounts of data
- If the database is well-managed, backup and data recovery
- Only accessible to users with database access; therefore may be more secure

You can also choose whether to store information about changes to Dashboard in a local log file.

To configure local data storage and logging:

1. Log in to Serena Dashboard as an administrator.

2. Select Administration | Dashboard Data.

3. Before you change the location of the Dashboard data, considering the following:

- **IMPORTANT:** You will be logged out and Dashboard will reload the data from the new location.
- Dashboard will only use the new data location. It will not move or copy data from the existing location. If you have existing data that you want to move to a new location, manually move it before changing the location in Serena Dashboard.
- If necessary, Dashboard will initialize the new data location.

4. By default, Dashboard data is stored to a local directory on the server. You can modify the directory location as needed.
5. If you instead want to store dashboard data in a database, choose from the following options:
   - **Oracle**: Enter the TNS name, user, password. Click **Get schemas** to retrieve schemas and choose the schema where you will store Dashboard data. Click **Verify Server** to test the database connection.
   - **SQL Server**: Enter the server name, user name, and password. Click **Get Databases** to retrieve databases and choose the database where you will store Dashboard data. Click **Verify Server** to test the database connection.
   - **MySQL**: Enter the server name, user name, and password. Click **Get Schemas** to retrieve schemas and choose the schema where you will store Dashboard data. Click **Verify Server** to test the database connection.
4. To store information about Dashboard changes to a log file, select **Log changes to the Dashboard data**. You can then customize the location of the log file.
5. Click OK.

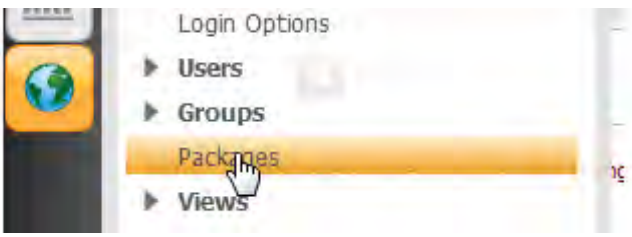
Adding Data Sources and Managing Metrics

Serena Dashboard uses data adapters in WebFOCUS to connect with supported data sources, such as Serena Release Manager, ChangeMan ZMF, and Serena Development Manager. The Serena Dashboard installer configures these data adapters for you, however you must log into Dashboard and define the correct connection information for Release Manager, Development Manager, or whichever applications you use. When you add a connection to one of the supported data sources, Dashboard also imports a collection of pre-defined, out-of-box metrics which you can then organize into packages. Dashboard also creates a set of default views that you can use to review the metrics.

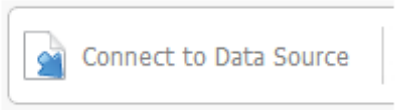
Adding Data Sources and Importing Out-of-Box Metrics

To add a data source and import out-of-box metrics for that data source:

1. Log into Serena Dashboard as an Administrator. To log in, enter the following URL in a supported browser:
   `http://<servername>:<port>/dashboard/login`
   For example, if the server name is dashboard and the port number is the default of 8080, enter:
   `http://dashboard:8080/dashboard/login`
2. If you have not yet logged in and created an administrative user, you can use the default user called admin with password serena.
3. Select Packages from the Administration menu.



4. Click the Connect to Data Source button.



5. Choose the type of data source you want to connect to. Your options include Development Manager, Release Manager, Requirements Manager, Sample Data, CIO Opps, and ZMF Server. Click Next.

6. Depending what type of data source you are adding, you must provide the relevant connection information.

   - If you select Release Manager, Development Manager, Requirements Manager, or CIO Ops, click Next to complete the following connection details:

     - Choose the database platform that SBM is running on. You can choose Oracle or SQL Server.

     - If you select Oracle, you must provide the following:

       - TNS Name: This must be in the format <server>:<port>/sbm
         For example: stl-dvm-orcla:1521/sbm

       - User: The user account for the ODBC data source.

       - Password: The password for the ODBC data source.

       - Schema Name: Schema name.

     - If you select SQL Server, you must provide the following:

       - Server Name: Name of the SQL Server.

       - User: The SQL user account.

       - Password: The password for the SQL user account.

       - Database Name: Click the Get Databases button to generate a list of available databases. Choose one.

     - If you are connecting to Requirements Manager or Development Manager, click Next to enter connection information either for the Dimensions RM database or the Dimensions CM database. Choose Oracle or SQL server, and enter the TNS or server name, database user and password, and schema or database name.

     - If you are connecting to Development Manager, click Next again to enter connection information for your HP Quality Center database. Choose Oracle or SQL server, and enter the TNS or server name, database user and password, and schema or database name.

   - If you select ZMF Instances, click Next and complete the following connection details:

     - Under ZMF Instances to connect to, enter the ZMF server name, subsystem name, and user name. The server name refers to the IP address and port number for the HTTP server for ChangeMan ZMF. The subsystem refers to the actual ChangeMan ZMF instance. Please note that the HTTP server is not enabled by default for ChangeMan ZMF. Click the Add Server button to add the server, and click the Verify Server button to test the connection. You can also double-click a server in the list to remove it.

     - Under Content Settings, choose whether to pull data ZMF package, promotion, or component data. This data is imported separately; if you need all three categories of data, select all three options. Promotion and component data may require more time to load. Enter a nickname - a name by which the server is best known within your organization.

- Under Cache Settings, choose how frequently you want to update cached ZMF data in the Dashboard. This data is stored in XML files on the Dashboard server. Storing the data locally in this form improves performance when generating metrics on ZMF data; Dashboard retrieves the data from this local cache rather than directly from ZMF itself. This setting determines the interval of time between refreshes of the data that Dashboard displays from ZMF. You can also manually refresh the cache at any time by editing a package from the Packages view and clicking Update Cache Now.

2. Click Next to display the Package Settings screen. Because you will import default out-of-box metrics as part defining a data source, you must choose how to organize those metrics into a package. A package is simply a collection, or category, or metrics. A package is useful, for example, to categorize all metrics that belong to a particular solution, project, or functional group. Define the following here:

   - Suffix: An uppercase text string the helps identify the package as belonging to a particular project, group, or other criteria. For example, Dev and QA teams might each have their own packages of metrics, and can use the suffix to classify them (such as DEV or QA).

   - A title, version, and description.

3. Click Next, then click Install Package to add the data source and import the out-of-box metrics for that data source. A confirmation screen appears that lists all of the metrics that have been installed, and all of the views that have been created. You can now click Views to see all of the out-of-box views and metrics for the data source you imported.

Importing Metrics to Serena Dashboard

You can import new, custom metrics files to Serena Dashboard. This is necessary if you have built new metrics using WebFOCUS. You can then organize imported metrics into packages to categorize them according to their purpose, project, or group ownership.

You can import metrics as a package (in a zip file) from the server, or add individual metrics files.

To import metrics files from the WebFOCUS server, the files must first be located under the root application directory (by default, c:\ibi\apps).

If you want to learn more about creating your own metrics in WebFOCUS Developer Studio, please see Basic Customization [page 36].

Importing Packages of Metrics to Serena Dashboard

To import a package:

1. Log in to Serena Dashboard as an administrator.
2. Display the Administration | Packages view.
3. Click the Import from Server button to display a list of packages that are available to import.
4. Select a package and click Import. For example, select the Development Manager package to import data on Serena Development Manager.
5. On the Package Settings screen, enter a title, version, and description, and select the access level. Click Install Package to complete the import.

Importing Individual Metrics

You can import individual metrics from the IBI WebFOCUS server. To do this, the metric (.fex) file must exist in on of the application directories on the WebFOCUS server (by default, under c:\ibi\apps). When you successfully import a metric, Serena Dashboard displays information about the WebFOCUS synonym and data adapter that the metric uses.

To import a metric:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Metrics.
3. Click the Add button.
4. Enter a title and description.
5. Optionally, choose a package to which to add the metric.
6. If there are any metadata fields, complete them as needed.
7. Under Source, select Metrics Server. This enables you to import metrics that reside under an application directory on the server.
8. Select an application. The Metric File list is populated with a list of all metrics available under the selected application directory.
9. Select a metric.
10. Select the Resizeable option if you want users to have the ability to expand the viewing size of the metric.
11. Click OK.
12. Select the Administration | Metrics view.
13. Confirm that the metric you just imported appears here.

Organizing Metrics into Packages

You can organize your metrics as needed into packages. For example, to create a collection of metrics related to build status, you may create a package called Builds and move your metrics into this package.

To organize metrics into packages:

1. You must first create the packages into which you want to organize your metric. To do this:
    a. Log into Serena Dashboard as an administrator.
    b. Select the Administration | Packages view.
    c. Click the Add button to create a new package, or select an existing package and click Edit to rename or otherwise modify a package.
    d. Enter a title, version number, and description.
    e. Choose an option under Access Level to determine who should have access to this package.
    f. Click OK.
7. Then, add a metric to the package:
    a. Select Administration | Metrics.
    b. Select a metric and click the Edit button.
    c. Select the package to which the metric should belong from the Package list.
    d. Click OK.

Displaying and Editing Metric Properties and Permissions

You can edit properties for metrics that do not belong to locked packages.

To display and edit metric properties and permissions:

1. Log into Serena Dashboard.
2. Select the Administration | Metrics view.
3. Select a metric and click the Edit button.
4. From here, you can:
   - Modify the metric title or description.
   - Assign the metric to a package.
   - Copy the direct URL to the metric, which you can then share with other users.
   - Display any attributes associated with the metric.
   - Review information about the metric file on the metric server, including the name of the metric file, and what data adapter and synonym the metric uses.
   - Under Access Level, set permissions for the metric. You can hide a metric, limit its view to administrators and owners, restrict access to members of specific user groups, or make it available to all users.
7. Click OK.

Defining Metric Attributes

You can define custom attributes that allow you to set metadata for your metrics. You can use these attributes to store important additional information about the metrics that is specifically relevant to your organization. Attributes may be text fields, selection lists, integers, or check-boxes.

To define a new metric attribute:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Attributes.
3. Click the Add button.
4. Enter a name and description for the attribute.
5. Select the attribute type:
   - Select Text to make it a simple text attribute, and enter a default value.
   - Select Integer to make it a numeric attribute, and enter a default value.
   - Select Selection List to make the attribute a list of values that users can choose from. Enter a comma separated list of options in the Valid Values field.
   - Select Checkbox to make the attribute a binary, on or off option represented by a checkbox. Select the Default Value checkbox if you want this attribute to be selected by default for all metrics.
5. Click OK.
6. To display and modify attribute values for a metric, select Administration | Metrics, select a metric, and click the Edit button. You can see and modify the attributes under Attributes.

Creating a Metric that Displays an External URL

You can create a metric directly in Serena Dashboard that is simply a container for displaying an external Web page.

To display an external URL in a metric:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Metrics.
3. Click the Add button to create a new metric.
4. Enter a title and description for the metric, and optionally add it to a package by choosing a package from the Package list.
5. Under Source, select the External URL option. Enter the URL to the external web page.
6. Set attribute values and access level as needed, and click OK.

Setting Up Login Sources

User names must come from a common source. You must define the source before you can add users to Serena Dashboard. Users can come from any of the following:

- Serena Single Sign-on: use Serena SSO if you have installed and configured SSO as part of your SBM implementation.
- LDAP Server: if your organization uses LDAP to centrally manage all users, you can connect to the LDAP server and then choose which users from the LDAP server to add to Dashboard.
- Dashboard user database: You can optionally choose to store all users locally in the Dashboard database.

You can choose the login source and define settings for each from the Administration view in Serena Dashboard.

Choosing a Login Source

To set up a login source:

1. Log into Serena Dashboard with an administrative account.
2. Click the Administration button and select Login Options.
3. Select Serena Single Sign-On to use a configured Serena Single Sign-On user database. Please see Configuring SBM Single-Sign-On for Serena Dashboard [page 18] for detailed instructions on configuring SSO.
4. Select LDAP Server to use a central LDAP server for user information. You must then specify the following:
   - Server Name. This is the network URL to the machine, in a format such as:
     `ldap://<host>:<port>`
     for example, if the machine name is users and the port number is 389:
     `ldap://users:389`
   - User Postfix: Virtual doman used for LDAP lookups. For example: `@serena.com`
   - Automatically Update User and Group Information: Choose this option to look up users in the LDAP server every time that user logs in, and refresh the user information in the Dashboard user pool. You can also manually refresh all user information.
4. Select Dashboard users database to store user information directly in Serena Dashboard.
5. Select Support a default administrator account to reserve the "admin" user account for all administrative purposes. The user name must be admin. You can enter a password here.
6. Select Support a generic user account to reserve the "guest" user account for general guest usage. The user name must be guest. You can enter a password here.
7. Select User names are case sensitive if you want user names to be case sensitive.

8. Automatically add new users: Choose this option to look up new user names in and, if they exist, add them to the Dashboard user pool.

9. Click OK.

Configuring SBM Single-Sign-On for Serena Dashboard

If you have enabled Single-Sign-On (SSO) for your Serena Business Manager implementation, you can take advantage of this feature for Serena Dashboard as well. This way, any users who have been defined for SBM will be able to log in to Serena Dashboard.

To configure single-sign-on for Serena Dashboard:

1. You must install the SBM SSO component on the Serena Dashboard server.

2. On the Dashboard server, open the following file in a text or XML editor: <tomcat directory>/conf/web.xml

3. Except for the opening and closing comments, remove all comment markup (<!-- and -->) from the following section:

```
<!-- ======== Start of Serena SSO Gatekeeper Filter Configuration ======== -->

<filter>
   <filter-name>ALFSSOGatekeeperFilter</filter-name>
   <filter-
class>org.eclipse.alf.security.sso.server.gatekeeper.filterloader.GatekeeperFilterLoader</filt
class>
   <init-param>
       <param-name>gatekeeper.enabled</param-name>
       <param-value>true</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.config.filename</param-name>
       <param-value>${catalina.home}/alfssogatekeeper/conf/gatekeeper-services-
config.xml</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.lib.dir</param-name>
       <param-value>${catalina.home}/alfssogatekeeper/lib</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.root.dir</param-name>
       <param-value>${catalina.home}/alfssogatekeeper</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.log4j.use-repo-selector</param-name>
       <param-value>true</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.log4j.create-new-repo</param-name>
       <param-value>true</param-value>
   </init-param>
   <init-param>
       <param-name>gatekeeper.log4j.properties.filename</param-name>
       <param-value>${catalina.home}/alfssogatekeeper/conf/
log4j.properties</param-value>
   </init-param>
</filter>
<filter-mapping>
   <filter-name>ALFSSOGatekeeperFilter</filter-name>
   <url-pattern>/*</url-pattern>
```

```
</filter-mapping>

<!-- ========= End of Serena SSO Gatekeeper Filter Configuration ========= -->
```

4. Save the web.xml file.
5. Open the following file in a text or XML editor:
   <tomcat directory>/alfssogatekeeper/conf/gatekeeper-global-core-config.xml
6. In the following sections, enter the URL to the single-sign-on server. For example, if the server is named SBM, then you would enter the following URL:
   `http://SBM:8085/TokenServer/services/Trust</parameter>`
   In the sections that follow, the places where you need to enter the URL are indicated by the variable `SSO_URL`.

```
<!-- ========================================
   End point reference for the Security Token Service (STS).
   @internal
======================================== -->
   <parameter name="SecurityTokenService" Type="xsd:anyURI">SSO_URL
<!-- ============================================
   End point reference for Security Token Service (STS) endpoint.
   @external
=============================================-->
   <parameter name="SecurityTokenServiceExternal" Type="xsd:anyURI">SSO_URL
<!-- ====================================
   Federation server (AKA, the ALF Login UI) entry point. This is an URL that is
passed to the user browser and consumed
   via HTTP 302 redirect (by default configuration). Be mindful how the user is
seeing this.
   @external
=======================================-->
   <parameter name="FederationServerURL" Type="xsd:anyURI">SSO_URL
```

7. Save the gatekeeper-global-core-config.xml file.
8. On the Serena Dashboard server, open the following file in a text or XML editor:
   <tomcat directory>/alfssogatekeeper/conf/gatekeeper-services-config.xml
9. Add the following line to the the `<GatekeeperProtextionControl>` section:
   `<URIMatcher requestURI=”/dashboard/*” />`
10. Add the following line to the `<ServiceEntryPointes><BrowserRequests>` section:
    `<URIMatcher requestURI=”/dashboard/*” />`
11. Save the gatekeep-services-config.xml file.
12. Restart the tomcat service.
13. Open a supported browser and enter the URL for Serena Dashboard:
    `http://<servername>:<port>/dashboard/login`
    For example, if the server name is dashboard and the port number is the default of 8080, enter:
    `http://dashboard:8080/dashboard/login`
    You should be prompted for a valid SSO login account. Provide valid SSO login credentials.
14. On the Serena Dashboard login screen, log in to Dashboard as the default admin user. The user name is "admin" and the default password is "serena".
15. Select Users from the Administration view.
16. Ensure that at least one user with a valid SSO login has administrative rights. If necessary, add a new user corresponding to an SSO user account, and grant that user administrator rights. The login name must exactly match the SSO account name.

17. Select Login Options from the Administration view.
18. Under Validate user access with, select Serena Single Sign-On.
19. Click OK.
20. Log out of Serena Dashboard and quit the browser.
21. Reopen the browser and open the Serena Dashboard URL. When prompted to log in, enter a valid Serena Single Sign-On account. If the configuration is successful, you are logged into Serena Dashboard without having to enter additional Dashboard user credentials.

Configuring Single-Sign-On for Dimensions CM Web Client

If you have installed the WebFOCUS Developer Studio using the Serena Common Tomcat installation (the recommended option) you will need to add some information to the Tomcat web.xml to configure SSO to work with the Dimensions CM web clients.

Locate the web.xml file, for example:

C:\Program Files\Serena\Dimensions 12.1\Common Tools\tomcat\6.0\conf\web.xml

Add the following section:

```
<!-- ==== Start of Serena SSO Gatekeeper Filter Configuration ==== -->

<filter>

<filter-name>ALFSSOGatekeeperFilter</filter-name>

<filter-class>org.eclipse.alf.security.sso.server.gatekeeper.

filterloader.GatekeeperFilterLoader</filter-class>

<init-param>

<param-name>gatekeeper.enabled</param-name>

<param-value>true</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.config.filename</param-name>

<param-value>${catalina.home}/alfssogatekeeper/conf/gatekeeper-services-
config.xml</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.lib.dir</param-name>

<param-value>${catalina.home}/alfssogatekeeper/lib</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.root.dir</param-name>

<param-value>${catalina.home}/alfssogatekeeper</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.log4j.use-repo-selector</param-name>

<param-value>true</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.log4j.create-new-repo</param-name>

<param-value>true</param-value>

</init-param>

<init-param>

<param-name>gatekeeper.log4j.properties.filename</param-name>
```

```
<param-value>${catalina.home}/alfssogatekeeper/conf/
log4j.properties</param-value>

</init-param>

</filter>

<filter-mapping>

<filter-name>ALFSSOGatekeeperFilter</filter-name>

<url-pattern>/*</url-pattern>

</filter-mapping>

<!-- ===== End of Serena SSO Gatekeeper Filter Configuration =====->
```

Logging in and Updating WebFOCUS Server Information

Ensure that Serena Dashboard refers to the correct location and URL for your IBI WebFOCUS server.

To configure WebFOCUS server access:

1. Log into Serena Dashboard as an Administrator. To log in, enter the following URL in a supported browser:
   `http://<servername>:<port>/dashboard/login`
   For example, if the servername is dashboard and the port number is the default of 8080, enter:
   `http://dashboard:8080/dashboard/login`
2. If you have not yet logged in and created an administrative user, you can use the default user called admin with password serena.
3. Display the Administration | Metrics Server view. Verify that the directory path, application name, and Server URL for the IBI WebFOCUS server are all correct. Update them as needed.
4. Click OK.

Managing Users

Complete the procedures in this section to set up and manage your user pool, including adding users from LDAP, setting up the default view for your users, and organizing users into groups according to their roles.

Setting the Default View for Users

Complete this procedure to set the default view for all users when they log in. Individual users can override this in their own user settings.

To set the default view for users:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Default User Settings.
3. Here, set the default view that users should see when logging in.

Adding Users from LDAP

If you are managing users centrally using LDAP, you can add new users to Serena Dashboard by choosing them from a list of all users in LDAP.

To add users from LDAP:

1. Log in to Serena Dashboard as an administrator.
2. Select Administration | Users | Import Users From LDAP.
3. The list of available users is loaded. You can refresh at any time by clicking the Refresh List.
4. Choose the users you want to add and add them.

Adding and Editing Users

You can manually add users directly to the Serena Dashboard user pool.

To add a user:

1. Log in to Serena Dashboard as an administrator.
2. Select Administration | Users.
3. To add a new user, click Add. To edit an existing user, select the user and click Edit.
4. Enter the user's login name, actual first and last name, and email address.
5. Select Admin Rights to grant this user access to the Administration view.
6. Select Disabled to disable this user account. You can always enable the account later.
7. If this is an existing user, you can review group membership under Group Membership.
8. If this is an existing user, you can reset the user's password under Change User's Dashboard Password.
9. Click OK.

Organizing Users into Groups

You can organize existing users into groups, or load group definitions from LDAP and import them to Dashboard. You can use groups to control access to views. See Restricting Access to Views [page 23] for details.

To add or edit groups:

1. Log into Serena Dashboard as an administrative user.
2. Select Administration | Groups.
3. Do one of the following:
   - Click the Add button to add a new group. Enter a name, optionally select Disabled to disable the group, and choose group members from the Available Users / Groups list. Click OK when you are done.
   - Click Import from LDAP Server to display a list of LDAP groups that you can add to Dashboard. Select any LDAP groups you want to add, and click Import Selected Groups. You can then edit the imported groups if you want to disable or enable them.
   - Select a group and click the Edit button to change a groups name, enable or disable it, or modify its members. You cannot modify the name and members of a group from LDAP.

Restricting Access to Views

You can restrict access to views to specific groups.

To restrict access to views:

1. Log in into Serena Dashboard as an administrator.

2. Set up groups based on the access level you want to grant to the groups. See Organizing Users into Groups [page 23].
3. Select Administration | Views.
4. Select the view to which you want to restrict access and click Edit.
5. For the Access Level option, select Restricted, then select the groups to which you want to grant access, and move them to the Groups with Access column.
6. Click OK.

Setting Up Notification

Serena Dashboard can generate notifications on certain events. You must define email server information and choose which notifications users should receive.

To set up notification:

1. Log in to Serena Dashboard as an administrator.
2. Display the Administration | Email Options view.
3. To enable email notification for all users, select the Enable Email Notification option.
4. Enter the SMTP address, and the reply-to address.
5. Choose which notifications to send:
   - Notify admins when a new user logs in
   - Notify admins when a new view is created
3. Click OK.

Managing Views

Views display custom arrangements of specific metrics on a page. Create a view to logically organize metrics in a way that Dashboard users should see them. In addition to choosing which metrics to display on a view, you can choose layout options such a placement on the page, and size. You can limit access to views based on user group membership. For example, you may choose to create a view targeted toward executive staff; you would select metrics that best indicate overall project health, and then restrict the view so that only members of an Executive user group can see it.

Setting Up New Views

To create and configure a new view:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Views.
3. Click the Add button, or to modify an existing view, select the view and click the Edit button.
4. Enter a title and description for the view.
5. Under Attributes, set the correct values for any view attributes. See Defining and Managing View Attributes [page 25] for more information.
6. Under Metrics in View, you can see an empty pane representing the view. You need to add metrics to this pane to start laying out the view. click the Add button. A box appears representing the placement of a metric on the page.
7. Click and drag on the box in order to move the metric to a different location in the view.
8. Click on the walls of the metric and drag to resize it.

9. Under Selected Metric, Select the metric you want to display in this box. Optionally enter a title, or leave the Title field blank to use the default title as defined in the metric.
10. Repeat these steps until you have chosen and arranged all of the metrics you want for this view.
11. Under Access Level, choose who will be able to see this view. You can hide it, limit access to users with Administration privileges, restrict it to members of a specific group, or make it visible to all users.
12. Click OK.

Defining and Managing View Attributes

You can define custom attributes that allow you to set metadata for your views. You can use these attributes to store important additional information about the views that is specifically relevant to your organization. Attributes may be text fields, selection lists, integers, or checkboxes.

To define a new view attribute:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Views | View Attributes.
3. Click the Add button.
4. Enter a name and description for the attribute.
5. Select the attribute type:
   - Select Text to make it a simple text attribute, and enter a default value.
   - Select Integer to make it a numeric attribute, and enter a default value.
   - Select Selection List to make the attribute a list of values that users can choose from. Enter a comma separated list of options in the Valid Values field.
   - Select Checkbox to make the attribute a binary, on or off option represented by a checkbox. Select the Default Value checkbox if you want this attribute to be selected by default for all views.
5. Click OK.
6. To display and modify attribute values for a view, select Administration | Views, select a view, and click the Edit button. You can see and modify the attributes under View Settings. If no attributes are defined, then no attributes will be visible. You can also view and modify attributes for your favorite views, by selecting the view from My Favorites and then selecting Edit View from the Actions button.

Backing Up Dashboard Files

Back up Serena Dashboard files to save a copy of all metric and view definitions to a backup location. If anything happens to the Serena Dashboard installation, you can restore your views and metrics from the backup files. You can optionally choose to back up all of the server files as well as the view and metric files.

To back up your dashboard files:

1. Log into Serena Dashboard as an administrator.
2. Select Administration | Backups.
3. Set the target directory for the backup files in the backup root field.
4. Click Backup Dashboard Files Now to start the backup.

Enabling and Configuring Mobile Access to Dashboard Metrics

Serena Dashboard provides a mobile application that you can install to an Apple iPad, and that allows you to review current metrics on your dashboard server. To connect the iPad app, which you can download from the Apple Store, you must first complete the following steps on the Dashboard Server.

Enabling Mobile Access

To enable mobile access to Dashboard metrics:

1. In Serena Dashboard, display the Administrator | Mobile Content view.
2. If you have not already entered a license key for Serena Dashboard mobile content, you are prompted to enter a key before you can continue. Click the link to open the following URL:
   `http://localhost:8080/ibi_apps`
   This is the WebFOCUS Administration Console.
3. Under WebFOCUS Site Administration, click WebFOCUS Administration Console.
4. From here, you must login as an administrator. By default, the user ID and password combination serena / admin will allow you to modify administration settings.
5. Expand Utilities from the navigation on the left, and select WebFOCUS Client.
6. Enter your mobile license key into the Mobile Favorites field.
7. Click Save.

Publishing Metrics for Mobile Access

When you publish packages of metrics for mobile access, you make those metrics available to any user who logs into this Serena Dashboard server using the Serena Dashboard app on a compatible mobile device. Packages must include at least one shared view before they can be published for mobile access. You may first want to create views and packages specifically for Mobile users. See Organizing Metrics into Packages [page 15] and Managing Views [page 24].

NOTE Default views and views created by administrators can be published. Views that are set to Private can not be published.

To publish metrics for mobile access:

1. Set up views to contain the metrics you want to publish for mobile users. See Managing Views [page 24].
2. When you publish content for mobile access, you choose packages to publish. You must therefore organize the views you want to publish into packages. See Organizing Metrics into Packages [page 15].
3. Select Administration | Mobile content. A list of packages that are eligible to publish appears. If no packages appear here, you may need to configure the license for mobile access, or there are no packages eligible to publish. Remember that metrics that are set to Private cannot be published.
4. Select a package.
5. Choose a domain to categorize the metrics, for example if the metrics are specific to a particular functional group such as QA, choose the QA domain. In this way, users of the Mobile Dashboard app can display only those metrics that are relevant to them.
6. Select the user whose account information mobile users must provide in order to display the metrics.
7. Click Add Content.

Displaying Metrics from an Apple iPad

Once metrics on the server have been made available to mobile devices, you must complete the following steps to display them on an Apply iPad.

To display metrics from an Apple iPad:

1. Download the Serena Dashboard app from the Apple Store on to your iPad.
2. Install the app.
3. Launch the app.
4. On the main screen, touch Add Server.
5. Enter the server information, including host name and port, and login username and password. If the server uses secure HTTP, set HTTPS to On.
6. Touch Save.
7. You can edit any server definition by touching the Edit button and then selecting the server profile you want to change.
8. To see the metrics that have been enabled for mobile display, touch the new server in the server list. A list of metrics appears. Touch any metric to display it.
9. At any time, to return to the list of metrics, touch the arrow in the upper left corner.

Configuring Metric Exports

Users can download metrics from the Dashboard server in a variety of formats. As an administrator, you can determine which formats are available to users. Users can then click the Download As... button beside any chart that they would like to export.

To define available download formats:

1. Select Administration | Metrics Server.
2. Select the Support downloading metrics in alternate formats option, then select the formats that you want to be available to users. This includes PDF, Excel, Doc, and more.
3. Click OK.

Diagnosing and Troubleshooting Issues

Serena Dashboard provides a series of diagnostic tests that allow you to verify that all components are running successfully. This includes validating that all of the servers and services are installed and running, and that all licenses are set up correctly.

To test and diagnose Dashboard components:

1. Log in to Serena Dashboard as an administrator.
2. Select Diagnostics | Metrics Server to validate that the WebFOCUS server is behaving as expected, and select any of the following specific tests:
   - Metrics Server Exists to test that the WebFOCUS server is installed on this system.
   - Metrics Server has a valid license to verify that the WebFOCUS server has a valid license key. You should have received a license when you purchased Serena Dashboard, and entered it during installation of the WebFOCUS server. If this test fails, uninstall and reinstall the WebFOCUS server and enter the license.
   - Metrics Server service is running to verify that the WebFOCUS server service is running on this system. If this fails, verify that the WebFOCUS 77 Server service is running from Windows Services.

- Metrics Server service is set to security model OFF to verify that the WebFOCUS server service has no security enabled. If security is running, Serena Dashboard will not be able to interact with WebFOCUS. If this test fails, add a new environment variable called EDAEXTSEC, and set the value to OFF. Once you have done this, restart the WebFOCUS service.

- Metrics Server edaserve.cfg has correct path to verify that the edaserve.cfg file has the correct paths set to its own location as well as other locations in the WebFOCUS installation locations. If this test fails, open edaserve.cfg from <WebFOCUS installation location>\SRV77\wfs\bin in a text editor and ensure that all path definitions refer to the correct installation location. By default, these are all under C:\ibi. If you save changes to this file, restart the WebFOCUS service.

- Metrics Server is responding to verify that the WebFOCUS server is responding to requests from Serena Dashboard. A successful test returns a response with "WebFOCUS" in the title. You can see the response in the Comment column. There are a number of potential issues that may prevent a response from the server. Serena recommends contacting your support representative in this case.

7. Select Diagnostics | Metrics Publisher to validate that the WebFOCUS client is behaving as expected. Select any of the following specific tests:

   - Metrics Publisher exists to verify that the WebFOCUS client is installed to this system. If this fails, install the Reporting Server.

   - Catalina configuration points to Metrics Publisher files to verify that the Serena Common Tomcat server is able to interact with the WebFOCUS client, as defined by the Tomcat configuration files. These catalina configuration files must refer to the correct location of the WebFOCUS client. If this fails, first open the following folder under your Serena Common Tomcat installation: conf / catalina / localhost. From this folder, open each of the catalilna configuration files in turn and update the path for each. By default, the files that the cataline configuration files refer to reside under C:\ibi\WebFocus<version>. Search your WebFOCUS installation for the files, such as ibi_apps.xml, ibi_help.xml, and ibi_html.xml. Save the files and restart the Serena Common Tomcat.

   - Metrics Publisher is responding to verify that the WebFOCUS client is responding to requests from Serena Dashboard. You can see the response in the Comment column. There are a number of potential issues that may prevent a response from the server. Serena recommends contacting your support representative in this case.

   - Mobile Content is licensed to verify that a valid license has been entered for mobile content enablement. If this fails, see Enabling Mobile Access [page 26].

   - Metrics Publisher has users other than admin or public to verify that you have specific users to publish content for mobile. The default user called public cannot publish for mobile, and it is not advisable to publish as the admin user as this requires giving the admin password to any user of a mobile Dashboard client. Serena recommends that you create a special user just for publishing purposes. This should be a user whose name and password can be shared with anyone who will view metrics on a mobile device.

6. Once you have selected the tests you want to run, click Run Selected Tests. The results and comments on the results appear as the tests are completed.

7. Click the Text Version button to display a text version of the results that you can copy and paste into an email or other document.

Setting Up the ZMF Sernet HTTP Server

SERSERVC Prerequisites

SERSERVC has the following general requirements:

- A dedicated TCP/IP port ID must be assigned to the HTTP server.
- A version of ChangeMan ZMF that supports Serena Dashboard must be installed.

NOTE SERSERVC works with versions of ChangeMan ZMF that may not be certified to work with Serena Dashboard and may be installed independently of Serena Dashboard.

SERNET User ID

To run the SERSERVC HTTP server under z/OS Unix System Services (USS), SERNET requires a RACF userid with the following features:

- *OMVS segment* Establish this segment to manage USS privileges in RACF.
- *User privileges* In the OMVS segment assigned to the SERNET user ID, set the Unix user ID number to a value that will give SERNET the highest user privilege level allowable in your shop. Superuser privileges (that is, UID(0)) are not required.
- *Unix home directory* Assign a home directory in the OMVS segment for the user ID. By convention, the home directory path name takes the form:

  `/u/userid`

  where *userid* is the SERNET user ID you assign in RACF.

  In the examples below, we will use a SERNET user ID of `sernet` and a Unix home directory path name of `/u/sernet`.

PRIVILEGES Serena recommends that SERNET be assigned the same user ID as the ChangeMan ZMF started task class.

Verifying SERNET User ID Privileges

If you are already using TCP/IP for communications with ChangeMan ZMF, SERNET will already have a user ID with an OMVS segment assigned. For example, you may use SERNET to communicate with ChangeMan ZDD or use the ChangeMan ZMF Load Balancing Option (LBO). However, user privileges and/or a Unix home directory may not be established.

To verify privileges for an existing SERNET user ID:

1. Find the current SERNET user ID.
   a. Use SDSF to examine a running ChangeMan ZMF task or the JESMSGLG of the job output from a previous execution of ChangeMan ZMF.
   b. At the top of the message log, usually next to the message

      `$HASP373 STARTED`

      find message `IEF695I`. This message includes an `ASSIGNED` message line that identifies the SERNET user ID.
3. Retrieve the OMVS segment for the SERNET user ID.
   a. At the TSO command line, issue the following command:

      `LU userid OMVS`

      where *userid* is the SERNET user ID found above, such as *sernet*.
   b. If no OMVS segment is returned, ask your systems programmer or security administrator to add one.
   c. If an OMVS segment exists for the user ID, verify that the UID is set to zero and note the Unix home directory (for example, `/u/sernet`). If either are missing, ask your security administrator to add it to the OMVS segment.

PRIVILEGES

- UID(0) is not required for the HTTP server.
- UID(0) is recommended but not required for the SERNET server. The SERNET server already runs as APF-authorized. The server must have read, execute, and write privileges to the

HFS file system, and in particular, anything that starts with the home directory of the server's user ID.

Installing SERSERVC

To install SERSERVC perform the following steps.

1. Create the SERSERVC runtime directory with a path name of the form

   /u/*userid*/serservc

   where *userid* is your actual SERNET user ID. (In our examples, this is *sernet*.)

   a. Select ISPF option 3.17 to invoke the UNIX directory list utility.

   b. In the **Pathname** field of the **z/OS Unix Directory List Utility** panel, type the SERNET home directory path (for example, /u/sernet). Leave the **Option==>** prompt blank to request a display of directory contents and press Enter.

      The directory list for the SERNET home directory displays.

   c. In the **Unix Directory List** panel for the SERNET home directory, type the **N (New)** line command at the root level of the file hierarchy. The **Filename** for this level is listed as a single period (.) and the **Type** is "Directory" (Dir).

      For example:

```
 Menu  Utilities  View  Options  Help

 sssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss

                            z/OS UNIX Directory List          Row 1 to 5 of
51

 Pathname . : /u/sernet

 Command  Filename        Message          Type Permission Audit  Ext  Fmat

 ---------------------------------------------------------------------------
--

 ___n____ .                                Dir  rwxrwxrwx  fff---

 ________ ..                               Dir  --x--x--x  fff---

 ________ codepage                         Dir  rwxrwxrwx  fff---

 ________ dd                               Dir  rwxrwxrwx  fff---

 ________ howdy.java                       File rwx------  fff--- --s- ----
```

```
 Command ===>                                                Scroll ===>
PAGE

  F1=Help    F2=Split   F3=Exit    F4=Expand  F5=Rfind   F7=Up      F8=Down


  F9=Swap   F10=Left   F11=Right  F12=Cancel
```

Press Enter.

d. When the **Create New z/OS UNIX File** window displays, create a new directory called `serservc` with permission level 755. Required field values are:

- **Pathname** Give the full path name for the new directory `serservc`.
  For example: `/u/sernet/serservc`
- **Permissions** Type 755 to assign read, write, and execute permissions over the directory to the directory owner, the owner's security group, and all others.
- **File Type** Type 1 to identify the new data object as a directory.
  For example:

```
ISRUULNW               Create New z/OS UNIX File

Command ===>


Pathname . . . . /u/sernet/serservc                                  +


Permissions  . . 755  (Octal)


Link . . . . . .                                                     +


                                          Options

File Type  . . . 1  1. Directory             Set sticky bit
                    2. Regular file          Copy...
                    3. FIFO                  Edit...
                    4. Symbolic Link
                    5. External Link
                    6. Hard Link
```

Press Enter and then exit the utility with PF3.

NOTE The creation of the UNIX directory `/u/userid/serservc` must be done by a user with the proper authority, such as a systems programmer. Some user IDs may not have access to ISPF 3.17.

5. Copy the sample runtime JCL module `SERSERVC` to your actual installation PROCLIB. Member `SERSERVC` resides in the CNTL library where you unloaded the ChangeMan ZMF SERCOMC installation libraries.

6. Customize the runtime JCL for SERSERVC.

   The following model SERSERVC JCL segment is supplied for your reference when making these changes. The actual downloaded JCL may vary from this example.

```
//SERSERVC PROC OUTC=H,                              * CLASS
//             PORT=6657,                            * PORT
//             PATH='/u/sernet/serservc',            * PATH
//             PROCLIB='USER.PROCLIB'                * PROCLIB
//*=============================================================*
//*         JCL TO EXECUTE SERSERVC SDSF SERVER                 *
//*=============================================================*
//SERSERVC EXEC PGM=BPXBATCH,
//         PARM='sh &PATH./serserv &PORT'
//*
//SYSEXEC  DD  PATH='&PATH/'
//SYSPRINT DD  SYSOUT=&OUTC
//SYSTSPRT DD  SYSOUT=&OUTC
//STDOUT   DD  PATH='&PATH./stdout',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=SIRWXU
//STDERR   DD  PATH='&PATH./stderr',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=SIRWXU
//MSGLOG   DD  PATH='&PATH./msglog'
//STDENV   DD  DUMMY
//*=============================================================*
```

   a. For the **PORT** parameter, change the sample port number to the actual IP port assigned for the exclusive use of the SERSERVC HTTP server.
   b. In the PATH parameter, replace the sample home directory, /u/sernet, with the actual Unix home directory you created for SERNET.

      CAUTION The home directory is the top-level directory for SERNET. Do not change the name of the serservc subdirectory in this path.
   c. For the **PROCLIB** parameter, replace the sample value USER.PROCLIB with the name of your actual installation PROCLIB.

4. Customize the JCL for the SERSERVI install job. Member SERSERVI resides in the CNTL library where you unloaded the ChangeMan ZMF SERCOMC installation libraries.

The following sample SERSERVI JCL segment is supplied for your reference when making these changes. The actual downloaded JCL may vary from this example.

```
//jobcard  JOB ,'USS JOB',CLASS=A,
//         NOTIFY=userid
//*
//STEP1   EXEC PGM=IKJEFT01,DYNAMNBR=200,COND=EVEN
//SYSTSPRT DD  SYSOUT=*
//HFSOUT   DD  PATH='/u/sernet/serservc/stdout',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//HFSERR   DD  PATH='/u/sernet/serservc/stderr',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//EMPTY    DD  *
/*
//NEWLOG   DD  PATH='/u/sernet/serservc/msglog',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//NEWHDR   DD  PATH='/u/sernet/serservc/headers',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//MSGARCH  DD  *
******** ******** SerServ *------------------ Archive Restart ---*
/*
//NEWSRV   DD  PATH='/u/sernet/serservc/serserv',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//NEWTSK   DD  PATH='/u/sernet/serservc/sertask',
//             PATHOPTS=(OWRONLY,OCREAT,OTRUNC),
//             PATHMODE=(SIRWXU,SIRWXG,SIRWXO)
//SERSERV  DD  DISP=SHR,DSN=CMNPRD.CMN.SE56.#000031.REX(SERSERV)
//SERTASK  DD  DISP=SHR,DSN=CMNPRD.CMN.SE56.#000031.REX(SERTASK)
```

```
//SERCMD   DD  DISP=SHR,DSN=CMNPRD.CMN.SE56.#000031.CLS(SERCMD)

//NEWCMD   DD  DISP=SHR,DSN=USER.SYS1.CLIST(SERCMD)

//SERVA    DD  DISP=SHR,DSN=USER.PROCLIB(SERSERVA)

//SERVP    DD  DISP=SHR,DSN=USER.PROCLIB(SERSERVP)

//SYSPRINT DD  SYSOUT=*

. . .
```

a. Copy the SERSERVI JCL sample to a work library for editing.

b. Edit the job card as needed.

c. In each occurrence of the **PATH** parameter that is supplied to various job steps in this job, change the sample home directory name, /u/sernet, to the actual name of the Unix home directory you defined for SERNET.

CAUTION! The home directory is the top-level directory for SERNET. Do not change the name of the serservc subdirectory or any lower-level directories or files in the **PATH** parameter value.

d. For jobs SERSERV and SERTASK, change the dataset names in the sample DD statements to point to the CEXEC library where you unloaded the ChangeMan ZMF SERCOMC installation libraries.

e. For the SERCMD job, change the dataset name in the sample DD statement to point to the CLIST library where you unloaded the ChangeMan ZMF SERCOMC installation libraries.

f. For the NEWCMD job, change the CLIST library in the sample DD statement to point to the actual REXX execution library where SERSERVC will reside at runtime.

TIP This may be either a SYSEXEC or SYSPROC library, depending on your installation standards. Run ISRDDN from TSO if you are uncertain about how your REXX execution libraries are handled.

g. In the SERVA and SERVP sample DD statements, change the name of the library containing members SERSERVA and SERSERVP from USER.PROCLIB to your actual installation PROCLIB dataset name.

8. Run SERSERVI.

This job installs the HTTP server software in the REXX execution library where it will reside at runtime.

9. Modify REXX EXEC module SERCMD to use the actual IP address and port number assigned to SERSERVC.

SERCMD is copied to the actual REXX execution library where SERSERVC resides by the SERSERVI install job.

Verifying SERSERVC Installation

To verify the installation of SERSERVC, do the following:

1. Start the server by issuing the /S (Start) console command in SDSF:

```
/S SERSERVC
```

2. Ping SERSERVC locally to verify that it is operational.

a. At the TSO command line, enter:

```
SERCMD PING
```

b. You should receive the response ok.

3. Ping SERSERVC from a Web browser to verify network connectivity.
   a. From any Web browser, type

      `http://ip:port/?PING`

      where

      ip is the IP address assigned to the LPAR where SERNET resides, and *port* is the port number assigned to the exclusive use of SERSERVC.
   b. You should receive the response ok.

SERSERVC Runtime Considerations

Runtime considerations for SERSERVC include the following startup, shutdown, and timing synchronization issues.

Startup and Shutdown

Console Commands

The SERSERVC HTTP server can be started and stopped using standard console commands in SDSF. To start the server, enter:

```
/S SERSERVC
```

The server can be stopped (cancelled) from SDSF at any time. To stop the server, enter:

```
/C SERSERVC
```

IPL Startup

However, SERSERVC is designed for high availability. When testing is complete, consider adding SERSERVC to the list of started tasks that are brought up at IPL time.

Orderly Shutdown

It does no harm to cancel SERSERVC with a console command, but orderly shutdown is the preferred method. To initiate an orderly shutdown of the server, type

```
SERCMD SHUTDOWN
```

at the TSO command line. You should receive the response ok.

During an orderly shutdown, SERSERVC copies its message log (`msglog`), error log (`stderr`), and standard output (`stdout`) to `SYSOUT *` before terminating execution.

Network Synchronization

SERSERVC requires the local network time to be synchronized with server time on the host. Time zone differences of an integer number of hours are acceptable. However, the minutes and seconds (mm:ss) on the local network clock may not differ by more than 59 seconds from the minutes and seconds on the host clock.

Verifying Host Clock Time

To verify that local network time is synchronized with server time on the host, do the following:

1. From a Web browser running on the local network, type

```
http://ip:port/?TIME
```

where *ip* is the IP address assigned to the LPAR where SERNET resides and *port* is the port number assigned to the exclusive use of SERSERVC.

2. You should receive the response **hh:mm:ss**, which is the time on the mainframe where SERSERVC is running.
3. Discard the hours and compare the minutes and seconds on the host with the minutes and seconds reported on your local network. If a difference greater than 59 seconds is found, your local network time must be synchronized to the host.

The mainframe time is considered correct because its clock is built in at manufacture and cannot be changed.

Running Multiple Instances of SERSERVC

You can run multiple instances of SERSERVC if needed. For example, you may want to run a development HTTP server and a production HTTP server. Each instance must have its own directory and a unique port.

To run another instance of the HTTP server:

- Install SERSERVC and substitute another name for this instance, such as SERSERVD, in place of SERSERVC.
- Specify a different directory and port for this instance according to your company's installation standards.

Here is an example of a JCL segment for a production system:

```
//SERSERVC JOB MSGLEVEL=1

//STARTING EXEC SERSERVC

XXSERSERVC PROC OUTC=H,                              * CLASS

XX             PORT=8188,                            * PORT

XX             PATH='/u/serstart/serservc',          * PATH

XX             PROCLIB='USER.PROCLIB'                * PROCLIB

Development SERSERVC example:

//SERSERVD JOB MSGLEVEL=1

//STARTING EXEC SERSERVD

XXSERSERVD PROC OUTC=H,                              * CLASS

XX             PORT=6157,                            * PORT

XX             PATH='/u/sernet/serservc',            * PATH

XX             PROCLIB='USER.PROCLIB'                * PROCLIB
```

Basic Customization

Creating a New Metric [page 37]

Configuring Quality Center KPI Metrics [page 43]

Troubleshooting [page 46]

Creating a New Metric

Here you will follow a basic example of creating a new metric in WebFOCUS Developer Studio. Follow along to gain a basic understanding of how you can create your own metrics. For more examples, please see the Serena Dashboard Developer's Reference, where we have included steps to illustrate how we at Serena created many of the out of box metrics for Serena Dashboard.

To create a new metric, you need to:

- If necessary, create a new synonym. See To create a new synonym (.mas plus .acx) file: [page 37]. Note that Serena Dashboard includes a rich collection of synonyms that represent data from the Serena Orchestrated ALM solutions, such as Release Manager and Development Manager. You can use the tables in these synonyms to create new metrics without having to build new synonyms.
- Create a new procedure (graph definition, .fex) file, see To create a new procedure (.fex file) based on the master file: [page 39].
- If necessary, create a join for the metric. See To create a join [page 0].
- Assign the metric definition to a new or existing metric.

Working with Out-of-the-box Synonyms

To work with existing Serena Dashboard Synonyms:

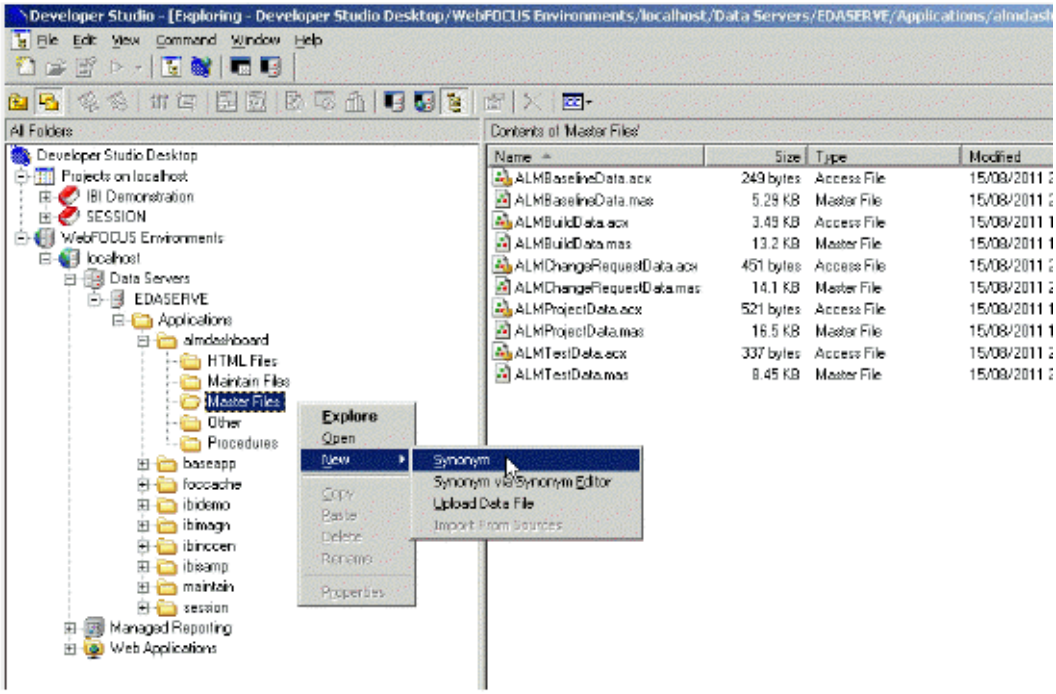
Launch WebFOCUS Developer Studio. From the Explorer view, expland the WebFOCUS Environments node, then drill down under localhost | Data Servers \ EDASERVE | Applications. Synonym files (.mas and .acx) appear here.

Creating a new Synonym

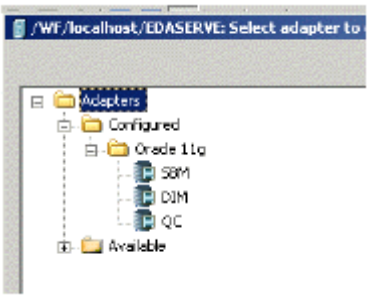
Serena Dashboard includes a rich collection of synonyms designed to retrieve data from Serena Orchestrated ALM solutions such as Serena Release Manager and Serena Development Manager. The tables in these out-of-the-box synonyms may already provide you with the data that you need to build new metrics. Please consult the Serena Dashboard Table Reference for more information. Follow the steps in this section if you need to define new synonyms to pull additional data from your data sources.

To create a new synonym (.mas plus .acx) file:

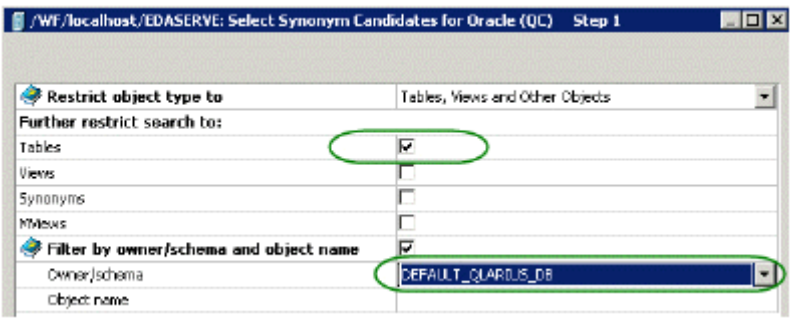
1. In Developer Studio, right-click Master Files and select New | Synonym



2. Select the adapter for the data source and click OK.

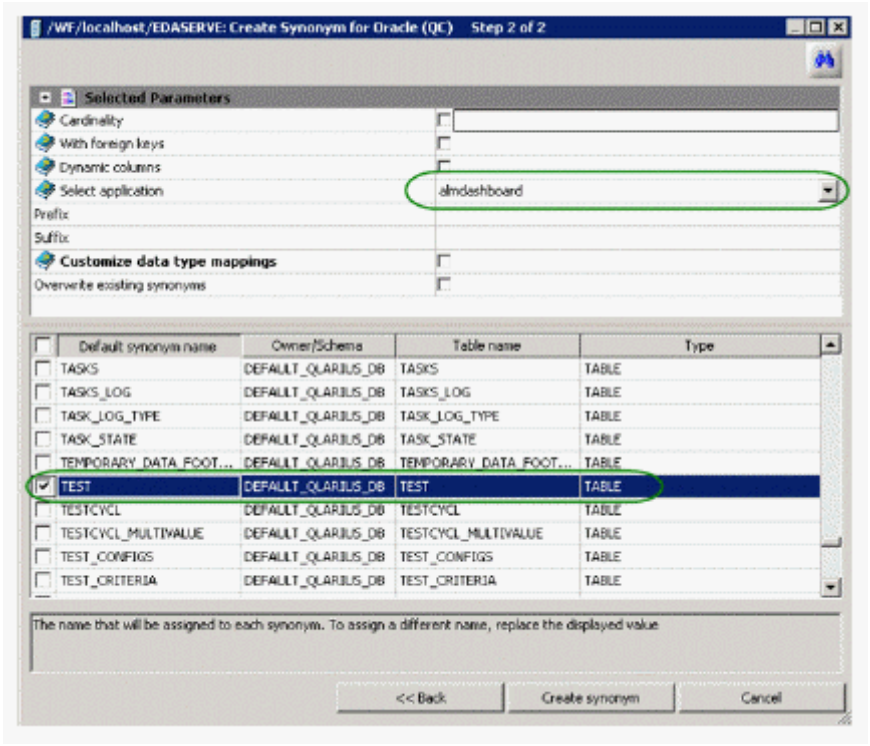


3. Select Tables, and select the name of the schema from the drop-down list under Owner/schema.



4. Click Next.

5. Select almdashboard for the application and select the required table(s).



6. Click Create synonym.

Testing a Connection

To test the connection:

1. Double-click the new synonym.
2. Right-click and select Sample Data.

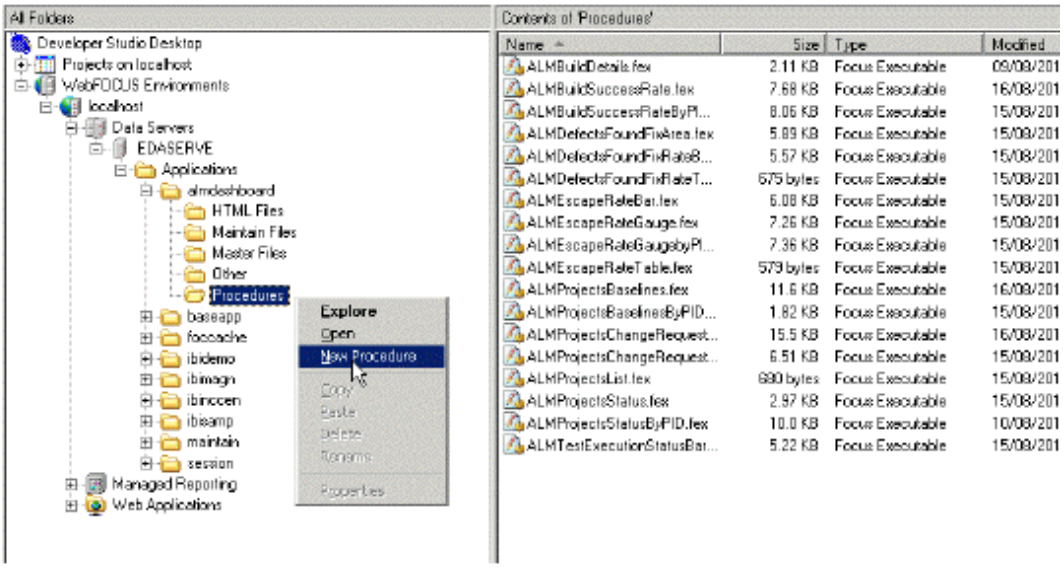
If data is returned, the connection is working.

Creating a New Procedure Based on the Master File

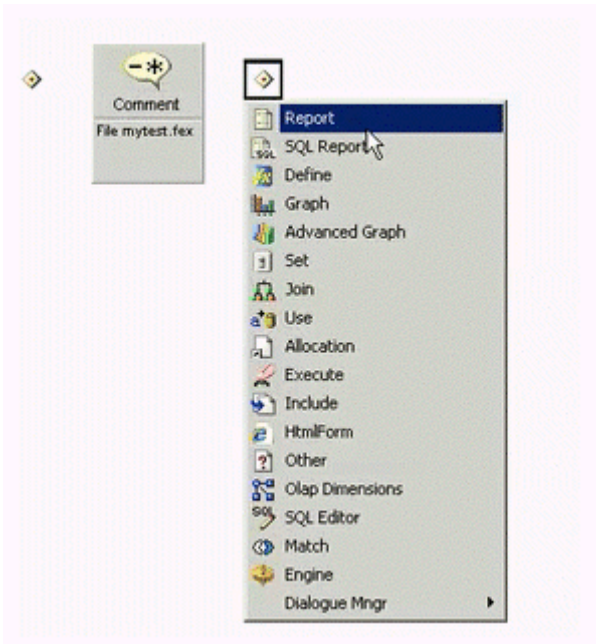
To create a new procedure (.fex file) based on the master file:

1. Open WebFOCUS Developer Studio.
2. Under WebFOCUS Environments, select the Applications node,

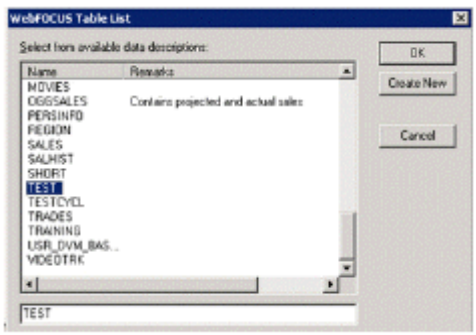
   for example localhost/Data Servers/EDASERVE/Applications/almdashboard.
3. Under Applications, select the application where you want to create the report definition, for example almdashboard for Serena ALM.
4. Right-click the Procedures node and select File | New Procedure.



5. In the New Procedure File dialog box, enter a file name, e.g. Test, and click Create.
6. Right-click the icon and select the type of graph, for example Report for a listing type of metric.

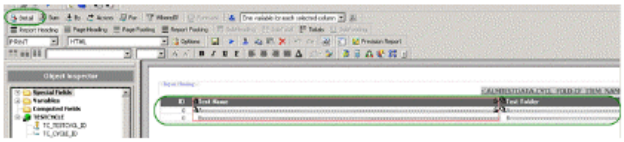


7. In the WebFOCUS Table list, select a data description from the list, For example TEST. (You can also create a new one using the Create New button.)



For example, you would select SBM_USR_DEVELOPMENT_CONTROL_PROJR to base a report on projects in SBM.

8. Click OK.
9. On the Report editor, select required tables to report. Drag the required fields from the Object Inspector list. In this example, we need only the details for reporting individual items and no summing or counting.



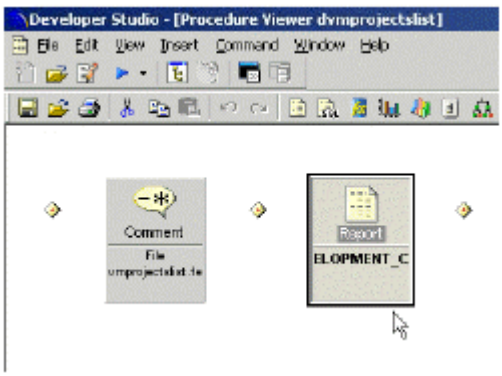
10. Click the Save button, and click the  button to view the report.

This has now created a new metric (.fex) file.

Editing a Metric Definition

To edit an existing metric definition:

1. Select the Procedures node.
2. Right-click the .fex file for the Procedure and select Edit.
3. Double-click the second icon.



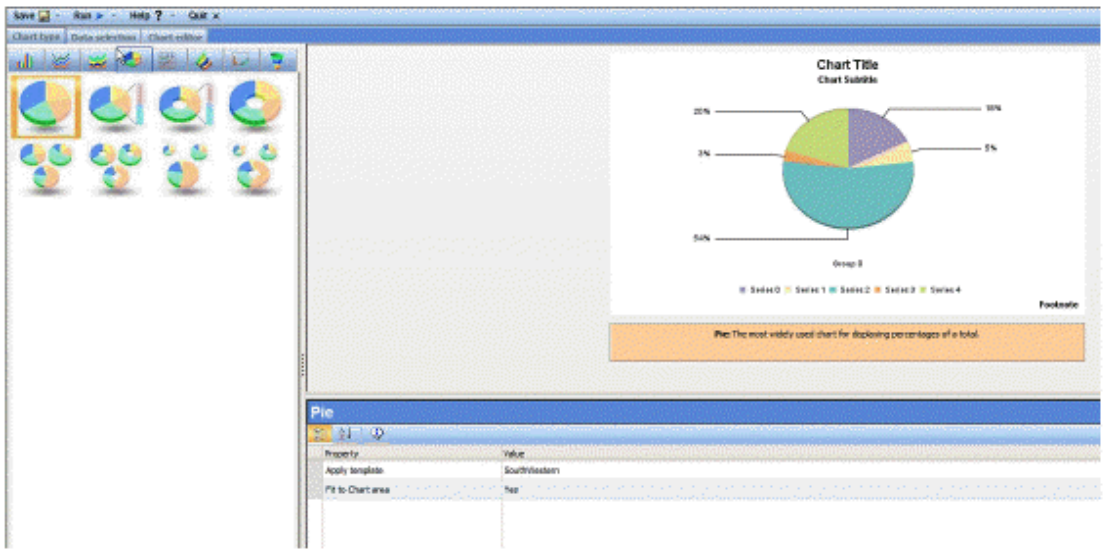
4. Delete existing fields or drag the new fields from the Object Inspector list as required.
5. Select File | Save.
6. Select File | Close.

Creating an Advanced Graph

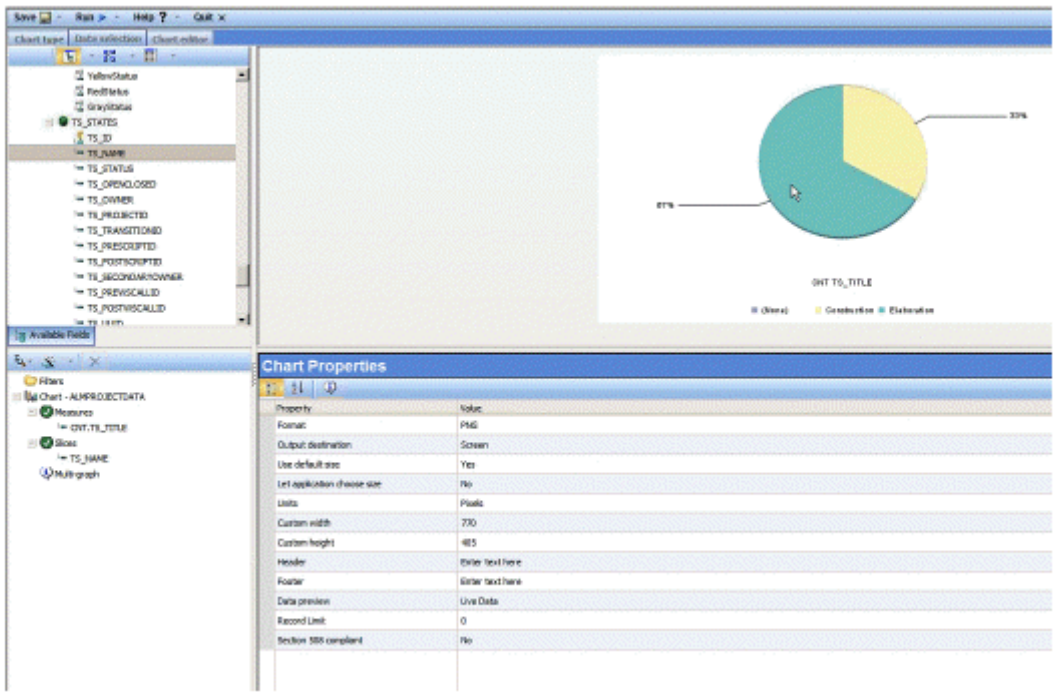
To create an advanced graph:

1. Right-click the Procedures node and select File | New Procedure.
2. In the New Procedure File dialog box, enter a file name, and click Create.
3. Right-click the  icon and select Advanced Graph.

   This will launch the Advanced Graph Editor.
4. Select the Chart type tab, and select type of graph/chart from the left-hand side.



5. Select the Data selection tab.
6. Select the required data fields and drag them from the top left pane to the bottom left pane. You should see how the chart will look in the preview window.



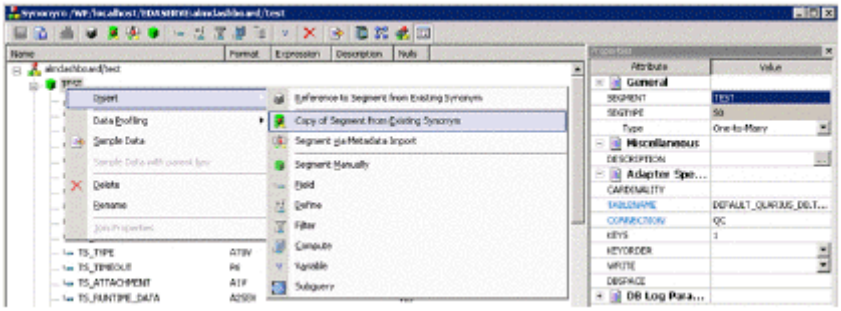
7. Select the Chart editor tab to choose various other GUI options if required.
8. Click Save.

Creating a Join

If you need to create a join for the graph:

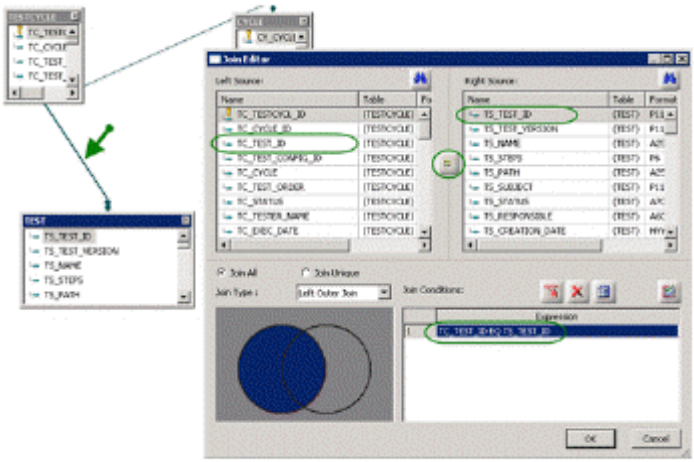
1. Select the Master Files node.
2. Right-click the synonym (.mas file) and select Edit in Synonym Editor.

3. Right-click the top node and select Insert | Copy of segment from Existing Synonym.



4. Select the other synonym and click Select.

5. Use the Join Editor to define the join.



Configuring Quality Center KPI Metrics

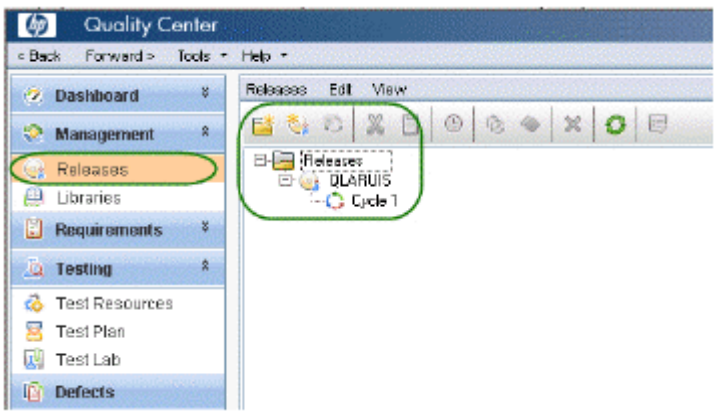
This topic walks you through an example of setting up metrics that report on test data from Quality Center. You can apply what you learn from this example to your own environment.

Test Execution Status Metric

This section shows you how to configure a test execution status metric.

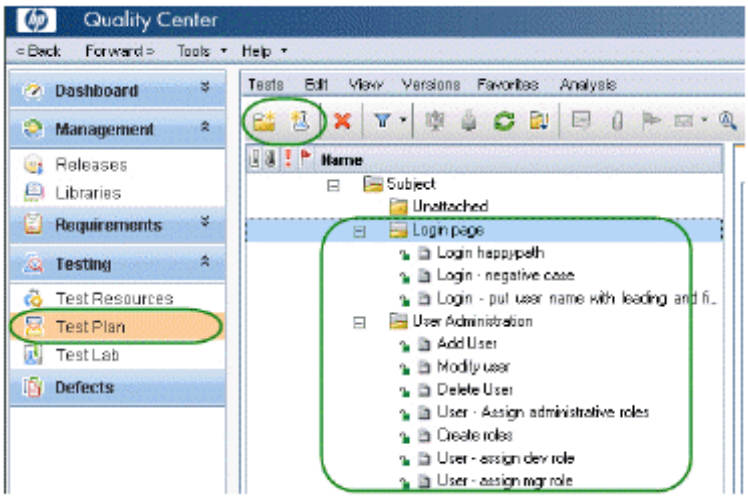
1. Open the Quality Center web UI.

2. Under Releases, create a release and a Cycle under the release.



.

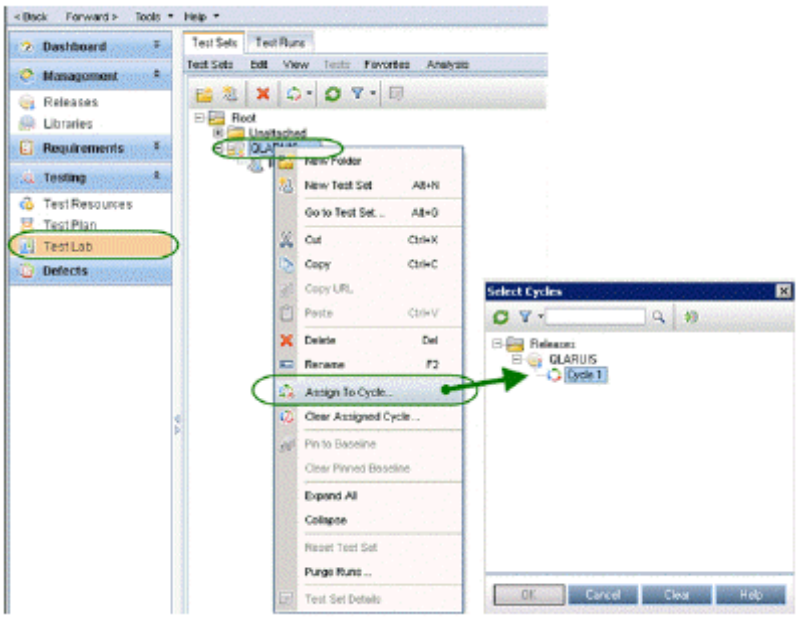
3. Select Test Plan and create a set of test cases. This is a library of test cases to be used in test runs. For example:



4. Select Test Lab and create a folder for the test sets, for example QLARIUS. The name of this folder will be displayed on the Dashboard.

5. Assign a cycle to this folder.

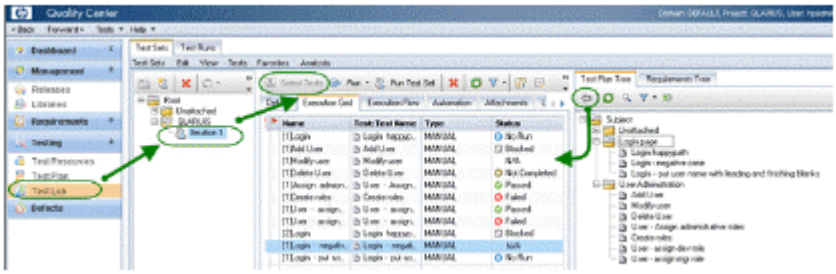
   Only after creating this reference will Serena Dashboard display the current new folder.



6. Create a test set, for example Iteration 1.

7. Select the test set and click Select Tests.

8. Run the tests (or change their Status)

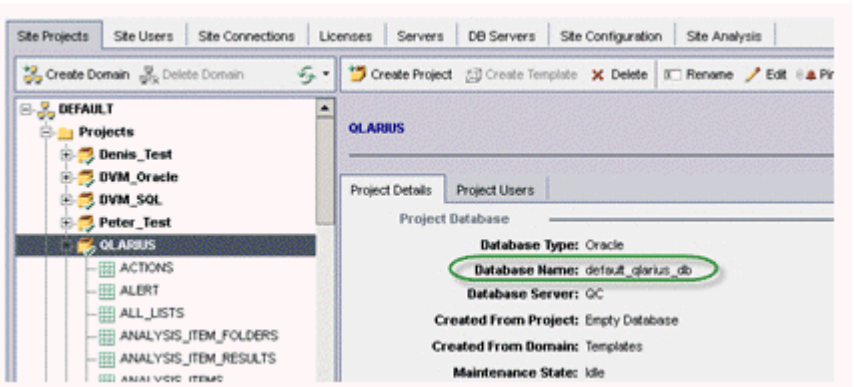


NOTE The names of the test sets are not displayed on the metric, only the name of the parent folder. The metric will display the summary of all the test sets under a folder.

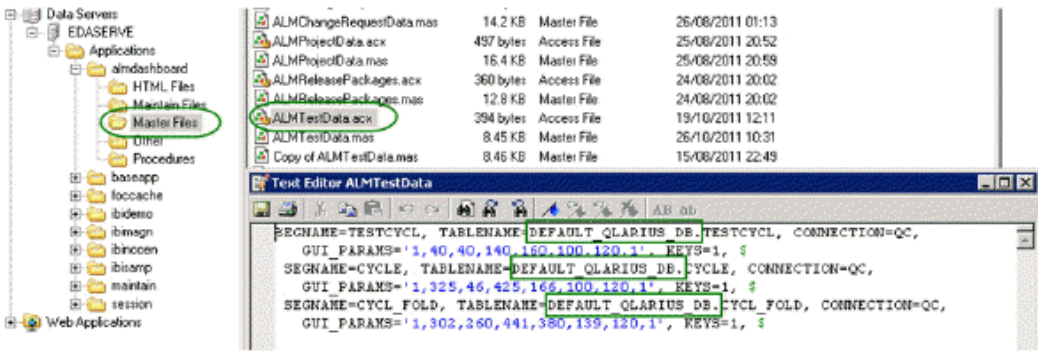
9. Set the database value in the ALMTestData access file.

   NOTE HP Quality Center creates a new database for every new project, so the metrics access files need to have the correct full table name for a project.

   a. Obtain the name of the database from QC Administrator:



   b. Edit the file ALMTestData.acx and set the name of the database in the TABLENAME parameter to this name.



3. If everything is configured correctly, you should be able to display a test execution graph in the Serena Dashboard

Troubleshooting

The following section describes a number of issues you may encounter when configuring or using Serena Dashboard. These are:

- Undeclared Server Error [page 46]

Undeclared Server Error

If you receive this error while loading metrics for Quality Center, it is likely that the schema name referenced in the acx file is not correct:

Error ’(FOC1677) UNDECLARED SERVER "QC" REFERENCED FOR SQLODBC INTERFACE’

To correct this:

1. Access the IBI WebFOCUS server by entering the following URL in a browser:

   `http://<servername>:8121`

2. Select Adapter and select the adapter for Quality Center.
3. Click the Test button to check that the adapter is configured correctly.
4. Locate the folder C:\ibi\apps\almdashboard.
5. Edit the file ALMTestData.mas and change `SUFFIX`

   to

   `SQLORA(SUFFIX=SQLORA)`

6. Edit the file ALMTestData.acx and change the schema name in the `TABLENAME` parameters. For example, if your QC schema name is `DEFAULT_QLARIUS_DB`, change the table name to:

   `TABLENAME=DEFAULT_QLARIUS_DB.TESTCYCLE`

7. Refresh the Dashboard.