

Note

Before using this information and the product it supports, read the information in "Notices" on page 31.

Edition notices

This edition applies to version 4.5.1 of IBM Enterprise Content Management Widgets (product number 5724-R76) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preparing for non-English installations

For details on the supported levels of independent software vendor components and version requirements for non-English installations, see the *IBM FileNet P8 Hardware and Software Requirements* guide, and the topic Non-English environment considerations in the *Plan and Prepare Your Environment for IBM FileNet P8* guide. To download these documents from the IBM® web site, see the Product Documentation for FileNet® P8 Platform support page: <http://www.ibm.com/support/docview.wss?rs=3247&uid=swg27010422>.

Language support for ECM Widgets

Enterprise Content Management Widgets is Unicode-enabled to support multiple languages; however ECM Widgets is dependent on the Process Engine language support. For more information on non-English environment considerations see the *IBM FileNet P8 Non-English Support Guide*. To download this document from the IBM web site, see the Product Documentation for FileNet P8 Platform support page: <http://www.ibm.com/support/docview.wss?rs=3247&uid=swg27010422>.

Available languages

ECM Widgets provides the Multilingual user interface files. A separate installation step is not required to install the translated version. For more information about available languages, translated user interface, display settings, and functionality related to localized components, see the *IBM FileNet P8 Non-English Support Guide*. To download this document from the IBM web site, see the Product Documentation for FileNet P8 Platform support page: <http://www.ibm.com/support/docview.wss?rs=3247&uid=swg27010422>.

Installing IBM ECM Widgets Documentation on the Application Server

Before you install IBM Enterprise Content Management Widgets, ensure that at least version 4.5 of the IBM FileNet P8 Platform documentation is installed on your IBM FileNet P8 documentation server. Version information is available in the IBM FileNet P8 help topic Help Directory > About the documentation - IBM FileNet P8 4.5. Click the Documentation version and build information link for details.

To update your IBM FileNet P8 Platform documentation, download the zip file from the IBM web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>. IBM recommends that you copy the PDF of this guide into the `ecm_help/installation/ecmwidgets_install` directory on the documentation server before you re-index for the search function. That way, the guide is available for future use and is searchable from the IBM FileNet P8 Documentation online help.

Because IBM ECM Widgets is an expansion product for IBM FileNet P8 Platform, you must add the associated ECM Widgets documentation to an existing installation of the IBM FileNet P8 Platform Help. This action makes ECM Widgets help available to your users. For details and instructions on installing expansion product documentation, see the IBM FileNet P8 Platform Installation and Upgrade Guide, which can be downloaded from the IBM web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>. Pay special attention to the Install Expansion Product Documentation subtopic in the task Install IBM FileNet P8 Platform Documentation (*your application server*).

Installing IBM ECM Widgets on WebSphere Application Server

Use this procedure to install and deploy a single-server instance of IBM Enterprise Content Management Widgets on IBM WebSphere® Application Server.

Tip: To deploy IBM Enterprise Content Management Widgets on multiple servers, see “Installing a WebSphere Application Server Network Deployment of IBM ECM Widgets” on page 19.

Installing prerequisite software

Before you install IBM ECM Widgets, you must install certain IBM FileNet P8 components in a system with an IBM DB2 database and IBM WebSphere Application Server.

Install the following prerequisite components before you install IBM Enterprise Content Management Widgets:

- DB2® for Linux®, UNIX® and Windows®
- Content Engine
- Process Engine
- IBM WebSphere Application Server on Microsoft® Windows Server operating system

Deploy the following components to the same profile on the IBM WebSphere Application Server:

- Workplace™ XT™
- Content Engine Client
- Process Engine Client with REST service enabled
- (Optional) eForms

Important: Workplace XT must be configured for full SSL support. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM Web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

For supported versions of required platform software, see the IBM FileNet P8 Hardware and Software Requirements document on the IBM Web site. For supported versions of required FileNet P8 Software, see the IBM FileNet P8 Compatibility document on the IBM Web site.

For WebSphere Application Server Network Deployment installations, the following additional components must be collocated on the Microsoft Windows Server computer:

- WebSphere Application Server Network Deployment
- IBM HTTP Server
- IBM HTTP Server Plugin

Installing IBM ECM Widgets

To install the files and components necessary to deploy IBM Enterprise Content Management Widgets:

1. Log on to the host computer by using an account that has administrator privileges.
2. Copy the installation package to the host computer.
3. Access the installation package and run the ECMWidgets4_5_1WIN.exe file.
4. On the Specify Installation Options window, select one or both of the following installation options:
 - Install IBM ECM Widgets on this computer to install the product.
 - Save your settings in a response file to record the options that you select during this installation in a file. The response file can be used to silently install the product on another computer that will use the same settings that you select during this installation.
5. Specify a directory in which to install the software:
 - To accept the default installation path, click **Next**.
 - To repopulate the field with the default installation path, click **Restore Default Folder**.
 - To navigate to a different installation path, click **Choose** and browse for the directory you want to use.
6. Review the pre-installation summary and click **Install**.
7. Review the installation summary. If errors occurred, see the log file in the following default directory:

C:\Program Files\IBM\ECMWidgets\IBM_ECM_Widgets_InstallLog.log

Creating a new database for Business Space powered by WebSphere

To create an empty database in DB2:

1. Open the IBM DB2 Control Center.
2. Right-click the **All Databases** folder and click: **Create Database** → **Standard**.
3. On the Specify a name for your new database window, enter the following settings and click **Next**:
 - Enter a name for the database.
 - Click **32k** for the **Default buffer pool and table space page size**.
4. Click **Next** on the Specify where to store your data window to accept the default values.
5. Select **UTF-8** from the **Code set** menu on the Specify the locale for this database window and click **Finish**.
6. Click **Close** after the database creation wizard completes.

Editing the Business Space database script

To modify the createTable_BusinessSpace.sql file:

1. Open the createTable_BusinessSpace.sql file in the BusinessSpace directory of your IBM Enterprise Content Management Widgets installation directory in a text editor. The default location of the file is:

C:\Program Files\IBM\ECMWidgets\BusinessSpace\createTable_BusinessSpace.sql

2. Modify the following entries in the file:

- Replace all occurrences of @TSDIR@_BSPACE with a directory for the table space, for example:
C:\TBLSPACE
 - Replace all occurrences of @TSDIR@_TMPTS32K_BS with a temporary directory for the table space. For example:
C:\TBLSPACE_TMP
 - Replace all occurrences of @SCHEMA@ with IBMBUSSP.
3. Save and close the file.

Running the database script on the new database

To run the supplied SQL script on the empty database that you created:

1. In the DB2 Control Center, under **All Databases**, right-click the new database that you created and select **Query**.
2. Click **Selected** → **Open**.
3. Navigate to the installation directory, select the createTable_BusinessSpace.sql file and click **OK**.
4. Click **Execute**. Read the log and verify that the SQL commands executed properly.

Copying the required JAR files to the plugins directory

To copy the JAR files from the installation location into the plugins directory of the IBM WebSphere Application Server home directory:

Access the IBM Enterprise Content Management Widgets installation directory and copy the following files from the BusinessSpace directory to the plugins directory of the WebSphere Application Server home directory:

- com.ibm.bpm.wim_6.2.0.jar
- com.ibm.bspace.config_6.1.2.jar
- com_ibm.bspace.plugin_6.2.0.jar
- com.ibm.wbi.infra_6.1.2.jar

For example, copy the files from the default location:

C:\Program Files\IBM\ECMWidgets\BusinessSpace

to the default plugins directory of:

WAS_HOME\plugins

Creating a data source

To create an IBM WebSphere Application Server data source:

1. Open the WebSphere Application Server administrative console.
2. Navigate to **Resources** → **JDBC** → **Data Sources**.
3. Select the **Cell** level from the **Scopes** menu.
4. Click **New**.
5. Under **Component-managed authentication alias and XA recovery authentication alias**, click **create a new J2C authentication alias**. If you already have a J2C authentication alias, go to step 10.
6. Click **New** on the JAAS - J2C authentication data page.
7. Enter a name for the Alias and set the User ID and Password. Click **Apply**.

Restriction: The user ID account requires privileges to access the database and all tables in the database.

8. Click **Save directly to the master configuration**.
 9. Click **Data Sources** to return to the Data Sources page.
 10. Ensure that the Cell level is selected in the **Scopes** menu and click **New**.
 11. Enter a name in the Data source name field, for example, BspaceDS.
 12. Enter the following information in the JNDI name field:
jdbc/bpm/BusinessSpace
 13. Select the **authentication alias** that you created from the menu under **Component-managed authentication alias and XA recovery authentication alias** and click **Next**.
 14. Create a new DB2 JDBC provider: If you already have a DB2 JDBC provider, go to step 15.
 - a. Click **Database type** → **DB2**.
 - b. Click **Provider type** → **DB2 Universal JDBC Driver Provider**.
 - c. Click **implementation type** → **XA data source**.
 - d. Enter a data source name in the **Name** field and click **Next**.
 15. Enter the path to the db2jcc.jar file on the Enter database class path information page and click **Next**. The file is installed in the following default location:
C:\Program Files\IBM\SQLLIB\Java
- Important:** Leave the **native library path** field blank.
16. In the “Enter database specific properties for the data source” window, enter the following information:
 - a. Enter the name of the Business Space powered by WebSphere database that you created earlier in this procedure in the **Database name** field.
 - b. Select **4** from the **Driver type** menu.
 - c. Enter the name of local host in the **Server name** field.
 - d. Click **Next**.
 - e. Review the settings and click **Finish**.
 - f. Click **Save directly to the master configuration**.
 17. Restart the WebSphere Application Server.
 18. Verify the connection to the data source that you created:
 - a. Open the WebSphere Application Server administrative console.
 - b. Access **Resources** → **JDBC** → **Data Sources**
 - c. Select the data source that you created and click **Test connection**. A WebSphere Application Server message indicates whether connection to the data source was successful.

Running the IBM ECM Widgets Configuration Manager

You must deploy IBM Enterprise Content Management Widgets on IBM WebSphere Application Server. You can install a new instance of Business Space powered by WebSphere as part of the deployment or you can add IBM ECM Widgets to an existing Business Space that was installed by an IBM WebSphere Business Process Management product.

Gather the following information before you start the deployment:

- Business Space deployment path
- Workplace XT settings:
 - Workplace XT installation path
 - Workplace XT URL
- Process Engine REST API URL
- FileNet P8 Documentation URL
- IBM WebSphere Application Server Settings:
 - Home directory path
 - Profile directory path
 - Administrator log on credentials
 - SOAP Connector address port

To deploy ECM Widgets on WebSphere Application Server:

1. On Windows, click **Start** → **All Programs** → **IBM ECM Widgets** → **Configuration Manager**.
2. Click the **Deploy ECM Widgets** icon.
3. On the Specify deployment information window, enter the installation path and select **Deploy ECM Widgets and a new Business Space**.
4. In the Specify WebSphere Application Server properties window, enter the following details regarding your WebSphere Application Server configuration:
 - WebSphere Application Server home directory
 - WebSphere Application Server profile directory
 - Administrator credentials
 - SOAP port
5. Enter the following information on the Specify software URLs and configuration settings window that will be recorded in the bootstrap settings file:
 - Workplace XT URL
 - Process Engine REST API URL
 - Content Engine Services URL
 - Keep alive interval
 - Default Process Engine application space
6. Specify the FileNet P8 documentation server URL.
7. Enter the Workplace XT installation path, for example:
C:\Program Files\FileNet\WebClient
8. Click **Finish** to complete the deployment.
9. If any errors occurred, review the configuration log for details. Run the IBM ECM Widgets Configuration Manager again. The log is located in the logs directory of the installation path. For example, the log is located in the following default location:
C:\Program Files\IBM\ECMWidgets\logs
10. Redeploy IBM FileNet Workplace XT. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

Verifying ECM Widgets and Business Space deployment

To verify that IBM Enterprise Content Management Widgets and Business Space powered by WebSphere deployed properly:

1. Access the Business Space Manager URL to verify that Business Space deployed successfully.
 - a. Open a browser from a remote computer and enter the following default Business Space URL:
`https://host_server_name:port/BusinessSpace/`
 - b. Enter a valid user account to log in.
2. Access the IBM ECM Widgets version information URL to verify that ECM Widgets deployed successfully:
 - a. Open a browser from a remote computer and enter the following default ECM Widgets Version Information page URL:
`https://host_server_name:port/ECMWidgets/About.jsp`

The IBM ECM Widgets product is deployed to an instance of Business Space on your server. You can now add the various IBM ECM Widgets to Business Spaces and create new Business Space pages. For more information about adding and configuring IBM ECM Widgets in Business Space, see the IBM FileNet P8 help topic:

FileNet P8 Documentation > Application Design > IBM ECM Widgets

Setting the Workplace XT cookie path

To set the IBM FileNet Workplace XT cookie path:

1. Access the WebSphere Application Server administrative console and click **Applications** → **Enterprise Applications**.
2. Click Workplace XT.
3. Click **Session management** under Web Module Properties.
4. Click **Enable cookies**.
5. Enter a unique path in which to store this application's cookies in the **Cookie path** field and click OK.
6. Select the **Override session management** option under General Properties and click **Apply**.
7. Click **Save directly to the master configuration**.
8. Restart Workplace XT.

Installing IBM ECM Widgets to an existing installation of an IBM WebSphere Business Process Management product

Use this procedure to install and deploy IBM Enterprise Content Management Widgets to an existing installation of an IBM WebSphere Business Process Management product that has deployed Business Space powered by WebSphere.

Installing prerequisite software

Before you install IBM ECM Widgets, you must install certain IBM FileNet P8 components in a system with an IBM DB2 database and IBM WebSphere Application Server.

Install the following prerequisite components before you install IBM Enterprise Content Management Widgets:

- DB2 for Linux, UNIX and Windows
- Content Engine
- Process Engine
- IBM WebSphere Application Server on Microsoft Windows Server operating system

Deploy the following components to the same profile on the IBM WebSphere Application Server:

- Workplace XT
- Content Engine Client
- Process Engine Client with REST service enabled
- (Optional) eForms

Important: Workplace XT must be configured for full SSL support. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM Web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

For supported versions of required platform software, see the IBM FileNet P8 Hardware and Software Requirements document on the IBM Web site. For supported versions of required FileNet P8 Software, see the IBM FileNet P8 Compatibility document on the IBM Web site.

For WebSphere Application Server Network Deployment installations, the following additional components must be collocated on the Microsoft Windows Server computer:

- WebSphere Application Server Network Deployment
- IBM HTTP Server
- IBM HTTP Server Plugin

Installing IBM ECM Widgets

To install the files and components necessary to deploy IBM Enterprise Content Management Widgets:

1. Log on to the host computer by using an account that has administrator privileges.
2. Copy the installation package to the host computer.
3. Access the installation package and run the ECMWidgets4_5_1WIN.exe file.
4. On the Specify Installation Options window, select one or both of the following installation options:
 - Install IBM ECM Widgets on this computer to install the product.
 - Save your settings in a response file to record the options that you select during this installation in a file. The response file can be used to silently install the product on another computer that will use the same settings that you select during this installation.
5. Specify a directory in which to install the software:
 - To accept the default installation path, click **Next**.
 - To repopulate the field with the default installation path, click **Restore Default Folder**.
 - To navigate to a different installation path, click **Choose** and browse for the directory you want to use.
6. Review the pre-installation summary and click **Install**.
7. Review the installation summary. If errors occurred, see the log file in the following default directory:
C:\Program Files\IBM\ECMWidgets\IBM_ECM_Widgets_InstallLog.log

Running the IBM ECM Widgets Configuration Manager

You must deploy IBM Enterprise Content Management Widgets on IBM WebSphere Application Server. You can install a new instance of Business Space powered by WebSphere as part of the deployment or you can add IBM ECM Widgets to an existing Business Space that was installed by an IBM WebSphere Business Process Management product.

Gather the following information before you start the deployment:

- Business Space deployment path
- Workplace XT settings:
 - Workplace XT installation path
 - Workplace XT URL
- Process Engine REST API URL
- FileNet P8 Documentation URL
- IBM WebSphere Application Server Settings:
 - Home directory path
 - Profile directory path
 - Administrator log on credentials
 - SOAP Connector address port

To deploy ECM Widgets on WebSphere Application Server:

1. On Windows, click **Start** → **All Programs** → **IBM ECM Widgets** → **Configuration Manager**.
2. Click **Deploy ECM Widgets**.
3. On the Specify deployment information window enter the installation path and select **Deploy ECM Widgets to an existing Business Space**.

4. In the Specify WebSphere Application Server properties window, enter the following details regarding your WebSphere Application Server configuration:
 - WebSphere Application Server home directory
 - WebSphere Application Server profile directory to which Business Space is deployed
 - Administrator credentials for the existing WebSphere Application Server deployment
 - SOAP port for the existing WebSphere Application Server deployment
5. Enter the following information on the Specify software URLs and configuration settings window that will be recorded in the bootstrap settings file:
 - Workplace XT URL
 - Process Engine REST API URL
 - Content Engine Services URL
 - Keep alive interval
 - Default Process Engine application space
6. Specify the FileNet P8 documentation server URL.
7. Enter the Workplace XT installation path, for example:
C:\Program Files\FileNet\WebClient
8. Click **Finish** to complete the deployment.
9. If any errors occurred, review the configuration log for details. Run the IBM ECM Widgets Configuration Manager again. The log is located in the logs directory of the installation path. For example, the log is located in the following default location:
C:\Program Files\IBM\ECMWidgets\logs
10. Redeploy IBM FileNet Workplace XT. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM FileNet Product Documentation for FileNet P8 Platform at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

Setting the Workplace XT cookie path

To set the IBM FileNet Workplace XT cookie path:

1. Access the WebSphere Application Server administrative console and click **Applications** → **Enterprise Applications**.
2. Click Workplace XT.
3. Click **Session management** under Web Module Properties.
4. Click **Enable cookies**.
5. Enter a unique path in which to store this application's cookies in the **Cookie path** field and click OK.
6. Select the **Override session management** option under General Properties and click **Apply**.
7. Click **Save directly to the master configuration**.
8. Restart Workplace XT.

Verifying ECM Widgets and Business Space deployment

To verify that IBM Enterprise Content Management Widgets and Business Space powered by WebSphere deployed properly:

1. Access the Business Space Manager URL to verify that Business Space deployed successfully.
 - a. Open a browser from a remote computer and enter the following default Business Space URL:
`https://host_server_name:port/BusinessSpace/`
 - b. Enter a valid user account to log in.
2. Access the IBM ECM Widgets version information URL to verify that ECM Widgets deployed successfully:
 - a. Open a browser from a remote computer and enter the following default ECM Widgets Version Information page URL:
`https://host_server_name:port/ECMWidgets/About.jsp`

The IBM ECM Widgets product is deployed to an instance of Business Space on your server. You can now add the various IBM ECM Widgets to Business Spaces and create new Business Space pages. For more information about adding and configuring IBM ECM Widgets in Business Space, see the IBM FileNet P8 help topic:

FileNet P8 Documentation > Application Design > IBM ECM Widgets

Installing an IBM WebSphere Business Process Management product to an IBM ECM Widgets installation

Use this procedure to install an IBM WebSphere Business Process Management product to an existing IBM ECM Widgets installation.

Installing prerequisite software

Before you install IBM ECM Widgets, you must install certain IBM FileNet P8 components in a system with an IBM DB2 database and IBM WebSphere Application Server.

Install the following prerequisite components before you install IBM Enterprise Content Management Widgets:

- DB2 for Linux, UNIX and Windows
- Content Engine
- Process Engine
- IBM WebSphere Application Server on Microsoft Windows Server operating system

Deploy the following components to the same profile on the IBM WebSphere Application Server:

- Workplace XT
- Content Engine Client
- Process Engine Client with REST service enabled
- (Optional) eForms

Important: Workplace XT must be configured for full SSL support. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM Web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

For supported versions of required platform software, see the IBM FileNet P8 Hardware and Software Requirements document on the IBM Web site. For supported versions of required FileNet P8 Software, see the IBM FileNet P8 Compatibility document on the IBM Web site.

For WebSphere Application Server Network Deployment installations, the following additional components must be collocated on the Microsoft Windows Server computer:

- WebSphere Application Server Network Deployment
- IBM HTTP Server
- IBM HTTP Server Plugin

Installing an IBM WebSphere Business Process Management product

Install an IBM WebSphere Business Process Management product that will deploy a new instance of Business Space powered by WebSphere.

Install the WebSphere BPM product to your IBM WebSphere Application Server according to the application's installation instructions. For example, run the installation for the WebSphere Business Monitor application.

Setting the new Business Space deployment to use the ECM Widgets database

You must set the new installation of Business Space powered by WebSphere to use the data source and database that was created for the IBM ECM Widgets deployment:

1. Access the WebSphere Application Server administrative console for the newly installed WebSphere BPM application. For example, access the Integrated Solutions Console for WebSphere Business Monitor.
2. Click **Resources** → **JDBC** → **Data Sources**.
3. Click **Business Space Datasource**.
4. Click **JAAS - J2C authentication data** under **Related Items**.
5. Click **New** on the JAAS - J2C authentication data page.
6. Enter a name for the Alias and set the User ID and Password. Click **Apply**.

Restriction: The User ID account requires privileges to access the database and all tables in the database.

7. Click **Save directly to the master configuration**.
8. Click **Business Space Data Source** to return to the Business Space Data Source General Properties page.
9. From the **Component-managed authentication alias** menu, select the JAAS - J2C authentication alias that you just created.
10. From the **Container-managed authentication alias** menu, select the JAAS - J2C authentication alias that you just created.
11. From the **Mapping-configuration alias** menu, select the JAAS - J2C authentication alias that you just created.
12. Enter the name of the database that you created for your existing IBM ECM Widgets installation in the **Database name** field, under **DB2 Universal data source properties**.
13. Click **Save directly to the master configuration** and then restart the WebSphere Application Server.
14. Verify the connection to the data source that you created:
 - a. Open the WebSphere Application Server administrative console.
 - b. Access **Resources** → **JDBC** → **Data Sources**.
 - c. Click **Business Space Datasource**.
 - d. Click **Test connection**. A WebSphere Application Server message indicates whether connection to the data source was successful.

Running the IBM ECM Widgets Configuration Manager

You must deploy IBM Enterprise Content Management Widgets on IBM WebSphere Application Server. You can install a new instance of Business Space powered by WebSphere as part of the deployment or you can add IBM ECM Widgets to an existing Business Space that was installed by an IBM WebSphere Business Process Management product.

Gather the following information before you start the deployment:

- Business Space deployment path
- Workplace XT settings:
 - Workplace XT installation path
 - Workplace XT URL
- Process Engine REST API URL
- FileNet P8 Documentation URL
- IBM WebSphere Application Server Settings:
 - Home directory path
 - Profile directory path
 - Administrator log on credentials
 - SOAP Connector address port

To deploy ECM Widgets on WebSphere Application Server:

1. On Windows, click **Start** → **All Programs** → **IBM ECM Widgets** → **Configuration Manager**.
2. Click **Deploy ECM Widgets**.
3. On the Specify deployment information window enter the installation path and select **Deploy ECM Widgets to an existing Business Space**.
4. In the Specify WebSphere Application Server properties window, enter the following details regarding your WebSphere Application Server configuration:
 - WebSphere Application Server home directory
 - WebSphere Application Server profile directory to which Business Space is deployed
 - Administrator credentials for the existing WebSphere Application Server deployment
 - SOAP port for the existing WebSphere Application Server deployment
5. Enter the following information on the Specify software URLs and configuration settings window that will be recorded in the bootstrap settings file:
 - Workplace XT URL
 - Process Engine REST API URL
 - Content Engine Services URL
 - Keep alive interval
 - Default Process Engine application space
6. Specify the FileNet P8 documentation server URL.
7. Enter the Workplace XT installation path, for example:
C:\Program Files\FileNet\WebClient
8. Click **Finish** to complete the deployment.
9. If any errors occurred, review the configuration log for details. Run the IBM ECM Widgets Configuration Manager again. The log is located in the logs directory of the installation path. For example, the log is located in the following default location:
C:\Program Files\IBM\ECMWidgets\logs
10. Redeploy IBM FileNet Workplace XT. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM FileNet Product Documentation for FileNet P8 Platform at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

Deploying Workplace XT to the new profile directory

Deploy IBM FileNet Workplace XT to the new IBM WebSphere Application Server profile directory, in which the new IBM WebSphere BPM instance of Business Space powered by WebSphere is deployed, and configure Workplace XT accordingly.

For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide that can be downloaded from the IBM Web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

Verifying ECM Widgets and Business Space deployment

To verify that IBM Enterprise Content Management Widgets and Business Space powered by WebSphere deployed properly:

1. Access the Business Space Manager URL to verify that Business Space deployed successfully.
 - a. Open a browser from a remote computer and enter the following default Business Space URL:
`https://host_server_name:port/BusinessSpace/`
 - b. Enter a valid user account to log in.
2. Access the IBM ECM Widgets version information URL to verify that ECM Widgets deployed successfully:
 - a. Open a browser from a remote computer and enter the following default ECM Widgets Version Information page URL:
`https://host_server_name:port/ECMWidgets/About.jsp`

The IBM ECM Widgets product is deployed to an instance of Business Space on your server. You can now add the various IBM ECM Widgets to Business Spaces and create new Business Space pages. For more information about adding and configuring IBM ECM Widgets in Business Space, see the IBM FileNet P8 help topic:

FileNet P8 Documentation > Application Design > IBM ECM Widgets

Setting the Workplace XT cookie path

To set the IBM FileNet Workplace XT cookie path:

1. Access the WebSphere Application Server administrative console and click **Applications** → **Enterprise Applications**.
2. Click Workplace XT.
3. Click **Session management** under Web Module Properties.
4. Click **Enable cookies**.
5. Enter a unique path in which to store this application's cookies in the **Cookie path** field and click OK.
6. Select the **Override session management** option under General Properties and click **Apply**.
7. Click **Save directly to the master configuration**.
8. Restart Workplace XT.

Installing a WebSphere Application Server Network Deployment of IBM ECM Widgets

Use the following procedure to implement a WebSphere Application Server Network Deployment of IBM ECM Widgets on a multi-server configuration. Because the Configuration Manager can't be used to deploy ECM Widgets on a WebSphere Application Server Network Deployment, the components must be deployed manually.

Installing prerequisite software

Before you install IBM ECM Widgets, you must install certain IBM FileNet P8 components in a system with an IBM DB2 database and IBM WebSphere Application Server.

Install the following prerequisite components before you install IBM Enterprise Content Management Widgets:

- DB2 for Linux, UNIX and Windows
- Content Engine
- Process Engine
- IBM WebSphere Application Server on Microsoft Windows Server operating system

Deploy the following components to the same profile on the IBM WebSphere Application Server:

- Workplace XT
- Content Engine Client
- Process Engine Client with REST service enabled
- (Optional) eForms

Important: Workplace XT must be configured for full SSL support. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM Web site Product Documentation for FileNet P8 Platform support page at the following location: <http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

For supported versions of required platform software, see the IBM FileNet P8 Hardware and Software Requirements document on the IBM Web site. For supported versions of required FileNet P8 Software, see the IBM FileNet P8 Compatibility document on the IBM Web site.

For WebSphere Application Server Network Deployment installations, the following additional components must be collocated on the Microsoft Windows Server computer:

- WebSphere Application Server Network Deployment
- IBM HTTP Server
- IBM HTTP Server Plugin

Installing IBM ECM Widgets

To install the files and components necessary to deploy IBM Enterprise Content Management Widgets:

1. Log on to the host computer by using an account that has administrator privileges.
2. Copy the installation package to the host computer.
3. Access the installation package and run the ECMWidgets4_5_1WIN.exe file.
4. On the Specify Installation Options window, select one or both of the following installation options:
 - Install IBM ECM Widgets on this computer to install the product.
 - Save your settings in a response file to record the options that you select during this installation in a file. The response file can be used to silently install the product on another computer that will use the same settings that you select during this installation.
5. Specify a directory in which to install the software:
 - To accept the default installation path, click **Next**.
 - To repopulate the field with the default installation path, click **Restore Default Folder**.
 - To navigate to a different installation path, click **Choose** and browse for the directory you want to use.
6. Review the pre-installation summary and click **Install**.
7. Review the installation summary. If errors occurred, see the log file in the following default directory:

C:\Program Files\IBM\ECMWidgets\IBM_ECM_Widgets_InstallLog.log

Creating a new database for Business Space powered by WebSphere

To create an empty database in DB2:

1. Open the IBM DB2 Control Center.
2. Right-click the **All Databases** folder and click: **Create Database** → **Standard**.
3. On the Specify a name for your new database window, enter the following settings and click **Next**:
 - Enter a name for the database.
 - Click **32k** for the **Default buffer pool and table space page size**.
4. Click **Next** on the Specify where to store your data window to accept the default values.
5. Select **UTF-8** from the **Code set** menu on the Specify the locale for this database window and click **Finish**.
6. Click **Close** after the database creation wizard completes.

Editing the Business Space database script

To modify the createTable_BusinessSpace.sql file:

1. Open the createTable_BusinessSpace.sql file in the BusinessSpace directory of your IBM Enterprise Content Management Widgets installation directory in a text editor. The default location of the file is:

C:\Program Files\IBM\ECMWidgets\BusinessSpace\createTable_BusinessSpace.sql

2. Modify the following entries in the file:

- Replace all occurrences of @TSDIR@_BSPACE with a directory for the table space, for example:
C:\TBLSPACE
 - Replace all occurrences of @TSDIR@_TMPTS32K_BS with a temporary directory for the table space. For example:
C:\TBLSPACE_TMP
 - Replace all occurrences of @SCHEMA@ with IBMBUSSP.
3. Save and close the file.

Running the database script on the new database

To run the supplied SQL script on the empty database that you created:

1. In the DB2 Control Center, under **All Databases**, right-click the new database that you created and select **Query**.
2. Click **Selected** → **Open**.
3. Navigate to the installation directory, select the createTable_BusinessSpace.sql file and click **OK**.
4. Click **Execute**. Read the log and verify that the SQL commands executed properly.

Copying the required JAR files to the plugins directory

To copy the JAR files from the installation location into the plugins directory of the IBM WebSphere Application Server home directory for each node on the cluster:

Access the IBM Enterprise Content Management Widgets installation directory and copy the following files from the BusinessSpace directory to the plugins directory of the WebSphere Application Server home directory on each node of the cluster:

- com.ibm.bpm.wim_6.2.0.jar
- com.ibm.bspace.config_6.1.2.jar
- com_ibm.bspace.plugin_6.2.0.jar
- com.ibm.wbi.infra_6.1.2.jar

For example, copy the files from the default location:

C:\Program Files\IBM\ECMWidgets\BusinessSpace

to the default plugins directory of:

WAS_HOME\plugins

Installing IBM ECM Widgets components on the cluster

To install the IBM ECM Widgets and Business Space powered by WebSphere WAR and EAR files on the cluster:

1. Open the Network Deployment WebSphere Application Server administrative console.
2. Install the BspaceManager.ear file to the cluster:
 - a. Click **Applications** → **Enterprise Applications** → **Install New Application**.
 - b. Enter the path to the BspaceManager.ear file and click **Next**. The default location is:
C:\Program Files\IBM\ECMWidgets\BusinessSpace
 - c. Click **Next** to accept the defaults on the Select installation options page.

- d. On the Map modules to servers page, select the cluster and the HTTP Web Server entries from the list on the **Clusters and Servers** list.
 - e. Select the **IBM_BSPACE_MANAGER** module and click **Apply**.
 - f. Click **Next**.
 - g. Click **Finish** on the Summary page.
 - h. Click **Save directly to master configuration**.
3. Install the BspaceWidgets.ear file to the cluster:
 - a. Click **Applications** → **Enterprise Applications** → **Install New Application**.
 - b. Enter the path to the BspaceWidgets.ear file and click **Next**. The default location is:
C:\Program Files\IBM\ECMWidgets\BusinessSpace
 - c. Click **Next** to accept the defaults on the Select installation options page.
 - d. On the Map modules to servers page, select the cluster and the HTTP Web Server entries from the list on the **Clusters and Servers** list.
 - e. Select all modules and click **Apply**.
 - f. Click **Next**.
 - g. Click **Finish** on the Summary page.
 - h. Click **Save directly to master configuration**.
 4. Install the ECMWidgets.war file to the cluster as follows:
 - a. Click **Applications** → **Enterprise Applications** → **Install New Application**.
 - b. Enter the path to the ECMWidgets.war file and click **Next**. The default location is:
C:\Program Files\IBM\ECMWidgets
 - c. Enter the following **Context root** information and click **Next**:
ECMWidgets
 - d. Click **Next** to accept the defaults on the Select installation options page.
 - e. On the Map modules to servers page, select the cluster and the HTTP Web Server entries from the list on the **Clusters and Servers** list.
 - f. Select the **ECMWidgets** Module and click **Apply**.
 - g. Click **Next**.
 - h. Click **Finish** on the Summary page.
 - i. Click **Save directly to master configuration**.
 5. Update the bootstrap settings file on each node in the cluster:
 - a. In a text editor, open the bootstrap.json file in the following default location:
`WAS_HOME\profiles\AppSrv\installedApps\Node_Name\ECMWidgets.ear\ECMWidgets.war\catalog\com\ibm\im\ecmwidgets`
 - b. Find the following entries and replace all occurrences of *host_name* and *port* with the values for your configuration:
 - "bpmServiceBaseURL": "https://host_name:port/WorkplaceXT/P8BPMREST/p8/bpm/v1"
 - "contentEngineServiceBaseURL": "https://host_name:port/WorkplaceXT/P8CEREST/p8/ce/v1"
 - "workplaceXTBaseURL": "https://host_name:port/workplaceXT"
 6. Save the file as UTF-8.

Creating a data source

To create a WebSphere Application Server Network Deployment data source.

1. Open the WebSphere Application Server Network Deployment administrative console.
2. Navigate to **Resources** → **JDBC** → **Data Sources**.
3. Select the cluster from the **Scopes** menu.
4. Click **New**.
5. Under **Component-managed authentication alias and XA recovery authentication alias**, click **create a new J2C authentication alias**. If you already have a J2C authentication alias, go to step 10.
6. Click **New** on the JAAS - J2C authentication data page.
7. Enter a name for the Alias and set the User ID and Password. Click **Apply**.

Restriction: The User ID account requires privileges to access the database and all tables in the database.

8. Click **Save directly to the master configuration**.
9. Click **Data Sources** to return to the Data Sources page.
10. Ensure that the Cell level is selected in the **Scopes** menu and click **New**.
11. Enter a name in the Data source name field, for example, BspaceDS.
12. Enter the following entry in the JNDI name field:
jdbc/bpm/BusinessSpace
13. Select the **authentication alias** from the menu under **Component-managed authentication alias and XA recovery authentication alias** and click **Next**.
14. Create a new DB2 JDBC provider using the following procedure: If you already have a DB2 JDBC provider, go to step 15.
 - a. Click **Database type** → **DB2**.
 - b. Click **Provider type** → **DB2 Universal JDBC Driver Provider**.
 - c. Click **implementation type** → **XA data source**.
 - d. Enter a data source name in the **Name** field and click **Next**.
15. Enter the path to the db2jcc.jar file on the Enter database class path information page and click **Next**. The file is installed in the following default location:
C:\Program Files\IBM\SQLLIB\Java

Important: Leave the **native library path** field blank.

16. In the “Enter database specific properties for the data source” window, enter the following information:
 - a. Enter the name of the Business Space powered by WebSphere database that you created earlier in this procedure in the **Database name** field.
 - b. Select **4** from the **Driver type** menu.
 - c. Enter the name of local host in the **Server name** field.
 - d. Click **Next**.
 - e. Review the settings and click **Finish**.
 - f. Click **Save directly to the master configuration**.
17. Restart the WebSphere Application Server.
18. Verify the connection to the data source that you created:
 - a. Open the WebSphere Application Server administrative console.

- b. Access **Resources** → **JDBC** → **Data Sources**
- c. Select the data source that you created and click **Test connection**. A WebSphere Application Server message indicates whether connection to the data source was successful.

Copying the required XML files into the deployed Business Space WAR file

To copy the XML files to the deployed WAR file for each node of the cluster:

1. Copy the following files from the ECM Widgets installation location to the BspaceManager.war\RegistryData directory in the WebSphere Application Server deployed directory on each node of the cluster:
 - ecmwidgetsEndpoints.xml
 - ecmwidgetsWidgets.xml

For example, copy the files from the default location of:

C:\Program Files\IBM\ECMWidgets\BusinessSpace

to the Registry Data directory on which your Business Space powered by WebSphere is deployed. For example:

WAS_HOME\profiles\AppSrv\installedApps*node_name*
 \BusinessSpaceManager.ear\BspaceManager.war\registryData

2. Copy the contents of the ECM Widgets templates directory to the templateData directory of your deployed Business Space on each node of the cluster. For example, copy all files and subfolders from the following default ECM Widgets installation location:

C:\Program Files\IBM\ECMWidgets\templates

to the templateData directory on which your Business Space is deployed. For example, on a WebSphere Application Server Business Monitor configuration:

WAS_HOME\profiles\AppSrv\installedApps
 node_name\BusinessSpaceManager.ear\BspaceManager.war\templateData

Modifying the web.xml file and redeploying Workplace XT

To manually update the web.xml file and then redeploy IBM FileNet Workplace XT.

1. In a text editor, open the web.xml file from the following Workplace XT default installation location:

C:\Program Files\FileNet\WebClient\WorkplaceXT\WEB-INF

2. Locate the <servlet> entries and add the following entries:

```
<servlet>
  <servlet-name>P8CERESTServlet</servlet-name>
  <servlet-class>com.ibm.im.ecmwidgets.rest.P8CERESTServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>ecmWidgetForm</servlet-name>
  <servlet-class>com.filenet.eforms.apps.server.servlet.ECMWidgetFormServlet</servlet-class>
</servlet>
```

3. Locate the <servlet-mapping> entries and add the following entries:

```
<servlet-mapping>
  <servlet-name>ecmWidgetForm</servlet-name>
  <url-pattern>/ecmWidgetForm/*</url-pattern>
</servlet-mapping>
```

```
<servlet-mapping>
  <servlet-name>P8CERESTServlet</servlet-name>
  <url-pattern>/P8CEREST/*</url-pattern>
</servlet-mapping>
```

4. Copy the ceREST.jar file from the following default IBM ECM Widgets installation location:

C:\Program Files\IBM\ECMWidgets\ContentList\lib\ceREST.jar

to the following Workplace XT default installation location:

C:\Program Files\FileNet\WebClient\WorkplaceXT\WEB-INF\lib\ceREST.jar

5. Copy the ECMWidgetFormServlet.jar file from the following default IBM ECM Widgets installation location:

C:\Program Files\IBM\ECMWidgets\eForms\ECMWidgetFormServlet.jar

to the following Workplace XT default installation location:

C:\Program Files\FileNet\WebClient\WorkplaceXT\WEB-INF\lib\ECMWidgetFormServlet.jar

6. Recreate the Workplace XT WAR and EAR files and redeploy Workplace XT. For details, see the IBM FileNet Workplace XT Installation and Upgrade Guide which can be downloaded from the IBM web site Product Documentation for FileNet P8 Platform support page at the following location:
<http://www.ibm.com/support/docview.wss?rs=3278&uid=swg27010422>.

Verifying ECM Widgets and Business Space deployment

To verify that IBM Enterprise Content Management Widgets and Business Space powered by WebSphere deployed properly:

1. Access the Business Space Manager URL to verify that Business Space deployed successfully.
 - a. Open a browser from a remote computer and enter the following default Business Space URL:
`https://host_server_name:port/BusinessSpace/`
 - b. Enter a valid user account to log in.
2. Access the IBM ECM Widgets version information URL to verify that ECM Widgets deployed successfully:
 - a. Open a browser from a remote computer and enter the following default ECM Widgets Version Information page URL:
`https://host_server_name:port/ECMWidgets/About.jsp`

The IBM ECM Widgets product is deployed to an instance of Business Space on your server. You can now add the various IBM ECM Widgets to Business Spaces and create new Business Space pages. For more information about adding and configuring IBM ECM Widgets in Business Space, see the IBM FileNet P8 help topic:

FileNet P8 Documentation > Application Design > IBM ECM Widgets

Setting the Workplace XT cookie path

To set the IBM FileNet Workplace XT cookie path:

1. Access the WebSphere Application Server administrative console and click **Applications** → **Enterprise Applications**.
2. Click Workplace XT.
3. Click **Session management** under Web Module Properties.

4. Click **Enable cookies**.
5. Enter a unique path in which to store this application's cookies in the **Cookie path** field and click OK.
6. Select the **Override session management** option under General Properties and click **Apply**.
7. Click **Save directly to the master configuration**.
8. Restart Workplace XT.

Silently installing IBM ECM Widgets

To silently install IBM ECM Widgets, run a command that will use a properties file that contains entries that are necessary to complete the installation. There are two methods by which you can configure the required properties file:

- You can manually edit and modify the options in the `ECMWidgets_silent_input.properties` file that is included in the installation package.
- You can run an installation interactively and have the installer record the options that you set in the `ECMWidgets_silent_input.properties` file. This file can then be used to install silently on additional computers, and use the options that you recorded during your interactive installation. For details, see “Installing IBM ECM Widgets on WebSphere Application Server” on page 5.

1. Access the host computer and log on by using an account that has administrator privileges.
2. Copy the IBM ECM Widgets installation package to the host computer and prepare the properties file:
 - To modify the properties file included in the installation package, open the `ECMWidgets_silent_input.properties` file and follow the instructions within to modify the options. The properties you enter are not case sensitive.

Restriction: You must change the license agreement option from false to true or the installation will not run.

- To create a properties file by running the installation program, follow the instructions in “Installing IBM ECM Widgets on WebSphere Application Server” on page 5 to create the file. After the file is created, replace the file in the installation package with the file that you generated.
3. For localized installations only: If the `ECMWidgets_silent_input.properties` file contains non-English characters, convert the file using the `native2ascii` tool:
 - a. From the `JAVA_JDK_Home\bin` directory, run the following command:

```
native2ascii source_file target_file
```

For example:

```
native2ascii ECMWidgets_silent_input.properties intermediate.txt
```

Tip: If you accept the default installation paths that are recorded in the `ECMWidgets_silent_input.properties` file, conversion of the file will not be necessary.

4. Start the installation by running the following command:

```
ECMWidgets4_5_1WIN.exe -i silent -f target_file
```
5. Review the installation log for errors after the installation is complete. The log is located in the installation directory. For example, the default log location is:

```
C:\Program Files\IBM\ECMWidgets\ECM_Widgets_InstallLog.log
```
6. To deploy IBM ECM Widgets, proceed to one of the following topics, depending on your installation type, and complete the steps that follow to finish the product deployment:

- If you are installing and deploying a new instance of IBM ECM Widgets and a new instance of Business Space powered by WebSphere, proceed to “Creating a new database for Business Space powered by WebSphere” on page 6.
- If you are installing a Network Deployment of IBM ECM Widgets and a new instance of Business Space, proceed to “Copying the required XML files into the deployed Business Space WAR file” on page 24.
- If you are adding IBM ECM Widgets to an existing Business Space, proceed to “Installing IBM ECM Widgets to an existing installation of an IBM WebSphere Business Process Management product” on page 11.

Removing software

Deleting IBM ECM Widgets from the Business Space palette

You can delete IBM Enterprise Content Management Widgets from the Business Space Palette without removing Business Space powered by WebSphere.

Tip: You do not need to perform the steps in this procedure if you are going to remove Business Space

1. Access the host computer and log on by using an account that has Administrator privileges.
2. Open the `ecmwidgetsEndpoints.xml` file, located in the `registryData` folder of the deployed `BspaceManager.ear` file. For example, the file is located in the following default directory:

```
WAS_HOME\profiles\AppSrv\installedApps\serverNode01Cell  
\BusinessSpaceManager.ear\BspaceManager.war\registryData\
```

3. Locate all instances of the `<tns:Endpoint>` element and add the following action to the entry: `action="delete"`. For example: `<tns:Endpoint action="delete">`
4. Save and close the file.
5. Open the `ecmwidgetsWidgets.xml` file, located in the `registryData` folder of the deployed `BspaceManager.ear` file. For example, the file is located in the following default directory:

```
WAS_HOME\profiles\AppSrv\installedApps\serverNode01Cell  
\BusinessSpaceManager.ear\BspaceManager.war\registryData
```

6. Locate all instances of the `<tns:Category>` element and add the following action to the entry: `action="delete"`. For example: `<tns:Category action="delete">`
7. Locate all instances of the `<tns:Widget>` elements and add the following action to each entry: `action="delete"`. For example: `<tns:Widget action="delete">`
8. Save and close the file.
9. Open the WebSphere Application Server administrative console and restart **BusinessSpaceManager** from the **Enterprise Applications** page. The IBM ECM Widgets are no longer available in the Business Space palette.
10. Delete any Business Spaces that contained IBM ECM Widgets to delete all pages and the space. Alternatively, you can delete each page separately.

Removing deployed IBM ECM Widgets applications

To undeploy the IBM ECM Widgets applications from IBM WebSphere Application Server:

1. Open the WebSphere Application Server administrative console and click **Applications** → **Enterprise Applications**.
2. Depending on your configuration, remove the appropriate applications:
 - a. If you want to remove both IBM ECM Widgets and Business Space powered by WebSphere, select the following applications and click **Uninstall**:
 - `BusinessSpaceManager`
 - `ECMWidgets`

- IBM_BSPACE_WIDGETS
- b. If you want to remove IBM ECM Widgets but leave Business Space, select the following application and click **Uninstall**:
 - ECMWidgets

IBM ECM Widgets will be uninstalled from the WebSphere Application Server.

Removing IBM ECM Widgets installation

To remove the IBM ECM Widgets and Business Space powered by WebSphere components, including the Configuration Manager, after you have undeployed IBM ECM Widgets from the WebSphere Application Server:

1. Access the host computer and log on by using an account that has administrative privileges.
2. Open the Add or Remove Programs control panel.
3. Select **IBM ECM Widgets** and click **Change/Remove**. All IBM ECM Widgets components will be removed from the computer.

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