opentext™

OpenText™ Exstream™

System Administration

Design and Production Documentation

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OpenText™ Exstream
System Administration
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It is also valid for subsequent software versions as long as no new document version is shipped with the product or is published at https://knowledge.opentext.com.

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Chapter 1: System Administration for Design and Production

This section of the documentation is written for system administrators, who are responsible for configuring your Design and Production implementation and for design administrators who are responsible setting up and maintaining for overall design standards within an organization. It includes information for configuring design databases, setting up keys and licenses, managing users, and configuring system settings such as fonts, colors, languages, and design workflows.

For information about installation and upgrading Exstream Design and Production, see *Installation and Upgrade Information* in the Exstream Design and Production documentation.

As a system administrator, your role is to set up and maintain the design environment for your organization. Configuring databases, system settings, design groups, and design users allows you to control security, segment roles, and responsibilities, and promote collaboration. The system administrator has complete access to the system and is responsible for maintaining the system. Others, such as heads of departments, might share those responsibilities and be given super user access.

Super users are design users who have complete access to the system, including the ability to create design users and design groups. System administrators, and in some cases department heads, typically have this level of access. These users can also do the following:

- Unlock objects locked by other users or check in objects that someone else checked out.
- Submit, approve, and reject objects, as well as make Work in Progress (WIP) versions and make Quick Fixes of objects in the Library.

Note: The Exstream Design and Production documentation set describes the features and functions of a fully-configured system. That is, the information and images presented in the Exstream Design and Production user manuals reflect a system that has all modules licensed and all features enabled.

Chapter 2: Database Administration and Maintenance

Databases in Design and Production store information about objects that have been created, modified, or deleted. They also store system settings and configuration information, such as which modules are available or which users have access to specific folders.

This section discusses the following topics:

2.1 Supported Databases

The following table lists the database versions supported for creating Design and Production design and tracking databases.

Supported database versions

Database	Version
DB2	Linux, UNIX, and Windows • DB2 9 • DB2 10 • DB2 11 z/OS • DB2 11 **Note:** If you are using a DB2 database, and it resides on the mainframe (z/OS), you must install special ODBC drivers on the Windows workstation of each Exstream Design and Productionuser who will access the database. The ODBC drivers allow the Windows workstations to communicate with the database. Exstream Design and Production supports the DataDirect Connect for ODBC DB2 Wire Protocol driver.
Microsoft Access	• Microsoft Access 2010 • Microsoft Access 2013 • Microsoft Access 2016
Microsoft SQL Server	• Microsoft SQL Server 2008 • Microsoft SQL Server 2012 • Microsoft SQL Server 2014 • Microsoft SQL Server 2016 • Microsoft SQL Server 2017
Oracle	• Oracle 11g • Oracle 12c
PostgreSQL	• PostgreSQL 9.6 (minimum version 9.6.2) • PostgreSQL 10.0

2.2 Sample Design and Production Applications

You can use the Design and Production sample applications for training, testing, and troubleshooting purposes. The sample applications are available as XOB files on My Support at http://support.opentext.com. After you set up your design database, you can import these applications by loading the downloaded XOB file into your database.

You can download the XOB files and data files for the following sample applications:

- **Bank Statement - Japanese**—This application contains only DBCS objects and represents a DBCS-only financial application in Exstream.
- **Communications**—This application contains SBCS and DBCS objects and represents an SBCS/DBCS communications application in Exstream.
- **Correspondence**—This application contains SBCS and DBCS objects and represents an SBCS/DBCS correspondence application in Exstream.

2.3 Before Creating a Database

Before you can create the structure necessary to store information, you must first create the initial database instance. This process varies by database type. Keep in mind that you must use the Database Administrator utility (`DBAdmin.exe`) to create an empty database.

To create a database instance, you must complete the following steps:

- "Configuring database user permissions" below
- "Creating a data source name" on the next page

2.3.1 Configuring database user permissions

Users must have correct permissions in the database based on how they use it. Databases typically have two types of users:

- **Design user**—Creates and updates objects in Exstream, but does not access the database directly. Design users must have permission to insert, update, and delete data in tables.
- **Database administrator**—Directly accesses the database to create, drop, and update the database structure. Database administrators must have design user permissions, plus

permission to create, alter, and drop tables, foreign keys, and indexes. They must also have permission to access storage groups (DB2 on z/OS) and create bufferpools (DB2 on Linux, UNIX, and Windows) and tablespaces (DB2 and Oracle).

2.3.2 Creating a data source name

To let users connect to databases from Exstream, you must create Data Source Names (DSNs) for each database on each workstation. Based on your database type, you use different ODBC drivers to create the DSNs.

To create a DSN on a workstation:

1. Make sure you have a database instance.
2. For DB2, create a connection to the database using the native DB2 utilities.
3. Open the ODBC Data Source Administrator utility.
4. Follow the steps in the utility to create a DSN.

Note: For PostgreSQL databases, the type of driver used to create a DSN for a design or tracking database is determined by the engine you are using:

- If you are creating a DSN for use with the Design and Production design tools (Design Manager, Designer, and Logic Designer) and the DBCS engine, select the PostgreSQL Unicode driver.
- If you are creating a DSN for use with the SBCS engine, select the PostgreSQL ANSI driver.

2.4 Creating the Database Structure

After you have created and configured the initial database instance and created a DSN for the database, you use the Database Administrator utility (`DBAdmin.exe`) to create the structure required for the particular database role. By default, the executable is located in the same directory as Exstream.

To create the database structure, you must open the Database Administrator utility and then complete the following steps:

- "Connecting to a Database" on the next page
- "Defining the Database Role" on page 15
- "Creating Tablespaces" on page 16

- "Selecting Logging Options" on page 17
- "Finishing the Database Structure Creation" on page 17

2.4.1 Connecting to a Database

1. Click **Connect**.

   The **Select Database** dialog box opens.

2. Highlight the DSN or location of the database.

3. Select the database login method. If you are unsure about which option to select, contact your system administrator.

To	Do this
Use the default user name and password to connect to the database	From the **Database authentication method** drop-down list, select **Default Exstream user and password** For more information about the Exstream default user name and password, see "Setting Default User Names and Passwords" on page 34. The database server uses your login information for the design environment to authorize you.
Use the security built into the Windows network to connect to the database	From the **Database authentication method** drop-down list, select **Windows authentication**. The database server uses your Windows ID to authorize you. The **Windows authentication** option is the default.
Use a separate user name and password to connect to the database	a. From the **Database authentication method** drop-down list, select **Specify user and password**. The **User** and **Password** boxes become active. b. In the **User** box, enter a user name. c. In the **Password** box, enter a password. You receive a prompt for the Exstream user name and password to authorize you to use the design environment.

4. If you want to save database password credentials, select the **Remember passwords** check box.

   By default, the **Remember passwords** check box is not selected. If you save database password credentials and then clear the check box, the Database Administration utility clears all previously saved passwords. Keep in mind that passwords are weakly encrypted when they are saved to the registry.

5. You have the option to either select a schema from the **Database schema** drop-down list, or enter a schema name. Make sure your schema names do not include spaces. If schema

names have spaces, errors occur when you attempt to use the Database Administrator utility. The Database Administrator utility stores the 30 most recent database schemas.

6. Click **OK**.

   You return to the **Create** tab on the Database Administrator utility. The **Database properties** area is automatically updated based on the database you selected.

   Note: The Database Administrator utility creates the database structure under the schema you enter when connecting to a database. You can have only one Exstream database per schema. For DB2, SQL Server, and PostgreSQL databases, the schema you enter will be created if it does not exist and if you have permission on the database server. For Oracle databases, the schema name you enter must match an existing user on the database server. If you do not enter a schema name, your database user name will be the schema name.

2.4.2 Defining the Database Role

Exstream uses different database roles depending on the information you want to store. A query file contains the database structure requirements for a particular language, version, and database role. The Database Administrator utility uses the requirements as instructions to create the appropriate tables, variables, and variable values based on the role of the database.

To define the database role:

1. Select one of the following **Database role** radio buttons:
   - **Design**—The database is used to store information about objects, created and used in Exstream. It includes system settings and other environmental objects, such as design users and groups, message and paper types, and output queues.
   - **Tracking**—The database is used to store information about the distribution of, and response to, campaigns. The results are used to target future campaigns.
2. From the **Database language** drop-down list, select a language to match the geography in which the database will be used.
3. In the **Query properties** area, in the **Path** box, enter the location of the query file (.qry), if necessary. By default, the query files are located in the `Query Files` folder in `C:\Program Files\OpenText\Exstream\Exstream <version>\Query Files`. The Database Administrator utility selects the appropriate query file based on the database role and language.

2.4.3 Creating Tablespaces

Using multiple tablespaces lets you do load balancing and spread data over multiple locations on one or more hard drives. What you can place in a separate tablespace varies based on the type of database you are using.

Caution: If you are using a DB2 database on z/OS, you must use one tablespace per table.

To create tablespaces:

1. From the **Tablespaces** drop-down list in the **Options** area, select one of the following options to specify where data is written on the hard drive:
   - **Automatically use Exstream defaults**—Lets you use the default Exstream tablespace names in the query file. If the tablespaces do not exist, you are prompted for the tablespace container file name when necessary. Before selecting this option, you can open the `DesignUpdate.qry` file to review the new tables and the requirements for the tablespace. Do a search for `Create Table` or `Create Table From` statements following the version number from which you are attempting to upgrade.

     Caution: If you select this option for a PostgreSQL database, the default tablespace (typically, the `pg_default` tablespace) is selected.

   - **Manually choose existing tablespaces**—Lets you select the tablespaces from a list of existing tablespaces. To use tablespace names other than the default names, select this option.

2. If you selected the **Manually choose existing tablespaces** option, a dialog box opens. To individually assign tablespaces to tables, select a row from the list of tables at the top of the dialog box and then select or enter the tablespace name.
3. Do one of the following:
   - Click **Update Selected** to update that row or click **Update All** to set all tablespaces to the value(s) you have selected or entered.
   - Click **View CREATE Statements For Selected** to generate the SQL code for the currently selected table or click **View All CREATE Statements** to generate the SQL code for every new table created. Review the SQL code if you want to know which tablespaces you must create or to verify that the database structure is generated as expected with the tablespace information you entered.

2.4.4 Selecting Logging Options

The log file contains a list of the executed statements and encountered errors.

To select logging options:

1. In the **File name** box, enter the name and location of the log file. The default log file name is `DBAdmin.log`.
2. If you want to add information to the end of the log file each time you use the Database Administrator utility, select the **Append to log file** check box. If you clear the check box and do not change the log file name, you overwrite the file each time you use the Database Administrator utility.

2.4.5 Finishing the Database Structure Creation

1. Click one of following buttons:
   - **Create**—Creates the database structure
   - **Generate SQL script**—Creates an SQL script to create the database structure
2. If you are creating a database for use with Exstream version 9.5.301 or later, you receive a message that notifies you of the data collection and privacy policy. To continue with the database creation process, you must accept the anonymous data collection and usage statement by clicking **OK** on the message dialog box.

   Note: To learn more about OpenText data collection and view the OpenText privacy policy, visit http://www.opentext.com/who-we-are/copyright-information/site-privacy. If you have additional questions about Exstream usage analytics, contact OpenText Customer Support at http://support.opentext.com.

3. If you are creating a SQL Server, Oracle, or DB2 database, the **Grant database permissions** dialog box opens. You can enter a user name and grant permissions using this dialog box, or you can create a SQL script and run the script at a later time.

   If the **Grant database permissions** dialog box does not open, or if you do not want to set permissions, skip to step 4.
4. Open Exstream and log in to the database using your super user ID and password.

   The **Authorize Version Upgrade** dialog box opens to ensure that no unauthorized upgrades have occurred.

> **Note:** The Database Administrator utility creates the database structure under the schema you enter when connecting to a database. You can have only one Exstream database per schema. For SQL Server and DB2 databases, the schema you enter will be created if it does not exist and if you have permission on the database server. For Oracle databases, the schema name you enter must match an existing user on the database server. If you do not enter a schema name, your database user name will be the schema name.

You can also create a batch file to create the structure for multiple databases from the command line. For a list of the available switches, see "Switches for Database Administration and Maintenance" on page 41.

2.5 Updating the Database Structure

When you upgrade to a new version of Exstream, sometimes new features are introduced that require you to update the structure of a database. For convenience, the required database structure is tracked and you are notified if you must perform an update. The Database Administrator utility (`DBAdmin.exe`) lets you perform the actions necessary to update the database structure. By default, the executable is located in the same directory as Exstream.

To update the structure of a database, you must first open the Database Administrator, click the **Update** tab, and connect to a database.

You must then complete the following steps:

- "Selecting the Type of Update" below
- "Confirming the Query File Location" on the next page
- "Selecting Logging Options" on the next page
- "Finishing the Database Structure Update" on page 20
- "Dropping the Database Structure" on page 20

2.5.1 Selecting the Type of Update

If you are updating the database structure, select the type of update you want to complete from the **Update processing** drop-down list in the **Options** section of the Database Administrator utility. The following table lists the options.

Update processing options

Option	Action
Normal (recommended)	Updates the database structure from the current version to the latest version specified in the update query file. This is the default option.
Redo actions for the current version	Updates the database structure redoing update actions for the current version of the database and then continues updating through the latest version specified in the query file. The update actions for the current version will be repeated.
Redo actions after a specific version	Updates the database structure using the update actions after the specified version through the latest version specified in the query file.

2.5.2 Confirming the Query File Location

A query file contains the database structure requirements for a particular language, version, and database role. The Database Administrator utility uses the requirements as instructions to update the appropriate tables, variables, and variable values based on the role of the database.

To select the correct query file:

1. Make sure the correct **Database role** radio button is selected. You must make a selection only when you have multiple database roles in a single database. If you have a single database role in the database, only the applicable database role is active and you cannot make a selection.
2. From the **Database language** drop-down list, select a language to match the geography in which the database will be used.
3. In the **Query properties** area, in the **Path** box, enter the location of the query file (`.qry`), if necessary. By default, the query files are located in the `Query Files` folder in `C:\Program Files\OpenText\Exstream\Exstream <version>\Query Files`. The Database Administrator utility selects the appropriate query file based on the database role and language.

2.5.3 Selecting Logging Options

The log file contains a list of the executed statements and encountered errors.

To select logging options:

1. In the **File name** box, enter the name and location of the log file. The default log file name is `DBAdmin.log`.
2. If you want to add information to the end of the log file each time you use the Database Administrator utility, select the **Append to log file** check box. If you clear the check box

and do not change the log file name, you overwrite the file each time you use the Database Administrator utility.

2.5.4 Finishing the Database Structure Update

1. Click one of following buttons:
   - **Update**—Updates the database structure
   - **Generate SQL script**—Creates an SQL script to update the database structure
2. If you are updating a database for use with Exstream version 9.5.301 or later, you receive a message that notifies you of the OpenText data collection and privacy policy. To continue with the database update process, you must accept the anonymous data collection and usage statement by clicking **OK** on the message dialog box.

   Note: To learn more about OpenText data collection and view the OpenText privacy policy, visit http://www.opentext.com/who-we-are/copyright-information/site-privacy. If you have additional questions about Exstream usage analytics, contact OpenText Customer Support at http://support.opentext.com.
3. If you are updating an SQL Server, Oracle, or DB2 database, the **Grant database permissions** dialog box opens. You can enter a user name and grant permissions using this dialog box, or you can create an SQL script and run the script at a later time.

   If the **Grant database permissions** dialog box does not open or if you do not want to set permissions, skip to step 4.
4. Open Exstream and log in to the database using your super user ID and password. The **Authorize Version Upgrade** dialog box opens to ensure that no unauthorized upgrades have occurred.

You can also complete the following optional task as needed:

2.5.5 Dropping the Database Structure

As your enterprise database environment evolves, some database structures might no longer be needed. The Database Administrator utility lets you drop the Exstream database structure, including tables, tablespaces, bufferpools, foreign keys, and indexes. By default, the executable for the Database Administrator utility is located in the same directory as Exstream.

You can also create a batch file to drop the structure for multiple databases from the command line. For a list of the available switches, see “Switches for Database Administration and Maintenance” on page 41.

To drop the structure of the database:

1. Open the Database Administrator utility.
2. Click the **Drop** tab.
3. In the **Database properties** area, click **Connect** to connect to the source database.
4. If you use DB2 or Oracle, select the **Drop default Exstream tablespaces** check box to drop all of the Exstream tablespaces. Select this option only if no other databases are using the tablespaces in the database.
5. If you use DB2 on Linux, UNIX, and Windows, select the **Drop default Exstream bufferpool** check box to drop all of the Exstream bufferpools. Select this option only if no other tablespaces are using the bufferpools the database.
6. Confirm all of the following settings:
   - Database role
   - Query file path
   - Log file name
7. To complete the structure drop, do one of the following:

To	Do this
Drop the database structure	a. Click **Drop**. The **Grant database permissions** dialog box opens. b. Enter a user name and select how to grant permissions.
Create an SQL script to drop the database structure	Click **Generate SQL script**.

Note: You can also create a batch file to update the structure for multiple databases from the command line. For a list of the available switches, see "Switches for Database Administration and Maintenance" on page 41.

2.6 Copying Database Content

If you are changing database platforms, creating new databases, or sending a database to Exstream Support, you can copy the content, but not the structure, from one database and use it in another. Both databases must be on supported platforms and the versions must match. If the destination database is missing a structure, the content in the source database structure is not copied.

Caution: Existing data in the destination database is deleted before the copying process.

To copy the contents of a database to another database:

1. Open the Database Administrator utility.
2. In the **Database properties** area, click **Connect** to connect to the source database.
3. Click the **Copy** tab, and then click **Connect** to connect to the destination database.
4. In the **Query properties** area, in the **Path** box, enter the location of the query file (`.qry`) for the database role, if necessary. By default, the query files are located in the `Query Files` folder in `C:\Program Files\OpenText\Exstream\Exstream <version>\Query Files`. The Database Administrator utility selects the appropriate query file based on the database role and language.
5. In the **File name** box, enter the name and location of the log file.
6. At the bottom of the **Copy** tab, click one of the following buttons:
   - **Copy database**—Copies the entire database
   - **Copy specific tables**—Copies the selected table(s)

   You see the transfer progress by table and record number.

2.7 Selecting the Application Mode for a Database

The application mode determines whether certain database objects within the design environment—namely, outputs, output queues, and data files—are single-byte or double-byte. In addition, the application mode dictates which engine (SBCS or DBCS) will be used to run applications within the database.

To select the application mode for a database:

1. In Design Manager, in the Library, go to **Environment > System > System Settings**.
2. Drag the **System Settings** heading to the Property Panel.
3. Click the **Workflow** tab.
4. From the **Application Mode** drop-down list, select the application mode. Select from the following options:
   - **SBCS**—Select this option if your database contains only single-byte data and objects.
   - **DBCS**—Select this option if your database contains only double-byte data and objects.

- **SBCS/DBCS**—Select this option if your database contains both single-byte and double-byte data and objects.

2.8 Moving Content Between Design Databases in Design Manager

If your company uses multiple design databases, you can move items from one database to another. To move items between databases, you must export (unload) an object from the source database, and then import (load) it into the destination database. Using these features can save design time by allowing you to copy objects and settings to multiple design databases—even those of different types. You can move content between database types, such as SQL and Oracle, but not between SBCS and DBCS databases. You can move an object between databases in SBCS mode and databases in DBCS mode, unless the object references a mode-dependent object. The following objects are mode-dependent: data files, outputs, output queues, languages, and font name tables (defined as part of font properties).

For information about determining application mode, see "Selecting the Application Mode for a Database" on the previous page.

When you unload objects, they are saved to an external file with a `.xob` extension (known as an XOB file). You can then use the XOB file to load the objects into another database.

The versions of Design and Production you have installed are very important during the unload and load process. The XOB file created during unloading can be loaded into databases either in the same or later versions of Design and Production. For example, if you are working in version 8.0.031, you can load an XOB file that was created from any version 8.0.031 or earlier, but not from an XOB file created from versions 8.0.032 or later.

To move content between databases, you must complete the following tasks:

- "Unloading an Object from a Source Database" on the next page
- "Loading an Object into a Destination Database" on page 26
- "Resolving Conflicts Encountered During Loading" on page 29

2.8.1 Unloading an Object from a Source Database

You unload objects from a database so that you can load them into another database. Unloaded objects are placed in an XOB file, which can then be loaded to another database. You do not need any special privileges to create a new XOB file; however, to add unloaded objects to an existing XOB file, you must meet the following requirements:

- You are a super user or you created the original XOB file.
- You are unloading contents from the same database as the original database used to create the XOB file.
- You are unloading contents from the same version of Design and Production used to create the XOB file.
- If the XOB file is password protected, you have the password required to open the XOB file.

When you unload objects that contain or reference other objects, such as documents that reference pages, the lower-level objects are also included in the XOB file. When you load the objects into the destination database, you can choose whether to load specific objects from the XOB file or all of the objects in the XOB file.

During unloading, you can also choose which versions or status of the objects you want to move to another database. The selections you make during unloading affect the options you have for object versioning and status during load. You can choose one of the following options during unloading:

- **Unload the latest version only**—The XOB file contains the version of each object that has the highest version number, regardless of the status. During loading, you can preserve the status of approved objects.
- **Unload approved objects only**—The XOB file contains the version of each object that was approved or archived on or before a specific date. If there are no approved objects that meet the criteria, the XOB file contains objects approved after the designated date. If there are no approved objects, the XOB contains the version of each object that has the highest version number. During load, you can preserve the status of approved objects.
- **Unload all object versions**—The XOB file contains all versions of each object, regardless of status. During load, you can load all versions and retain the original status, preserve the status of approved objects, or load only the latest version and disregard the status.

During unloading, you have the option to add a password to the XOB file. Users must enter the password before they can load the content into a database.

To unload an object from a design database:

1. In the Library, highlight the object you want to unload.
2. Select **File > Unload an Item**.

The **Unload** dialog box opens.

3. Click the **Options** tab.
4. In the **Source** area, select one of the following versioning options for the object to be unloaded:

To	Do this
Unload only the current version of the selected object	a. Clear the **Unload all versions** check box. b. Clear the **Approved only** check box.
Unload all versions of the object	Select the **Unload all versions** check box.
Unload only the most recent approved version of objects during unload	a. Select the **Approved only** check box. b. In the **Approval date** boxes, select a date.

Note: When you unload system variables, only the most recent version is unloaded.

5. In the **Destination** area, click the **XOB file** box.

   The **Exstream XOB file to Unload** dialog box opens.
6. In the **File name** box, enter a file name for the XOB file or select the name of an existing XOB file.
7. Click **Save**.

   The **Exstream XOB file to Unload** dialog box closes.
8. If you selected an existing XOB file and want to add the new content to the file, select the **Append to XOB file** check box. If you clear the check box, the content in the XOB file is overwritten.
9. If you want to reduce the file size of the XOB file, select the **Compress** check box.
10. If you want to require users to supply a password when loading the XOB file, select the **Require a password** to open file check box and enter a password in the **Password** box.
11. Click **Unload**.

    Design Manager unloads the selected object to the XOB file, which can then be loaded to another database.

After unloading, you can view the following tabs on the **Unload** dialog box for more information:

- **XOB file contents**—View a list of all the objects contained in the XOB file, and information such as database version, application version, creator, and creation date.
- **Dependencies**—View a list of objects that were included in the XOB file, such as fonts,

because the object unloaded has required references to them.

- **Log**—View the log file for the unload process.

2.8.2 Loading an Object into a Destination Database

To load an object into a database, you must have unloaded the object from another database to create an XOB file. If the XOB file is password protected, you must enter a password before loading the content into a database.

> **Tip:** You can also use this procedure to load the sample applications provided as XOB files beginning with Design and Production 16.2.0.

When you load higher-level objects that contain other objects, such as applications or documents, you can choose whether to load the lower-level objects. Based on the options selected during unloading, you can also choose which versions or status of the objects you want to load:

- **Load all versions of the object**—All versions of all objects are loaded, and the object status from the original database is preserved. This option is available only if the XOB file contains all versions of the object.
- **Preserve approved status for objects during load**—One version is loaded for objects with a status of Approved, Archived, or Quick Fix, and all other objects receive a Work in Progress status.
- **Load only the latest version of the object**—The latest version of the object is loaded, and assigned a Work in Progress status.

If there are conflicts during the load, such as existing objects with the same name as an object being loaded, Exstream attempts to resolve the conflict using load policies that you define. If you do not define load policies, you must resolve conflicts manually.

For information about handling conflicts during load, see "Resolving Conflicts Encountered During Loading" on page 29.

> **Caution:** When importing a root folder in Exstream, there will always be conflicts between the source root folder in the XOB file and the existing root folder in the destination database, regardless of the folder names.

When loading an XOB file, Exstream also loads design users to the destination database in the following circumstances:

- You have selected to load a design user.
- You have selected to load a design group that contains a design user.

- You have selected to load an object that references a design user.

When Exstream loads a pre-8.0.201 XOB file and encounters a design user name, it searches the XOB file for a matching design user. If Exstream finds a match, it marks the design user to be loaded (if it is not already marked to be loaded). If Exstream does not find a match in the XOB file, it creates an extra user record that represents the design user. The extra design user's password is `Reset-Password`, and the login is disabled. This extra user record is treated exactly like a design user that was found in the XOB file, except that it will always be skipped if it conflicts with a design user that already exists in the target database. Exstream disables the login for any design user that it loads from the XOB file that was not explicitly selected for loading. For example, if you mark a design group to be loaded and you do not select a design user, then any design user loaded as part of the design group will have its login disabled. A super user can enable the login of the loaded design user if needed.

To load an object into a database:

1. In the Library, select the folder into which you want to load the original database contents.
2. Select **File > Load an Item**.

   The **Load** dialog box opens.
3. In the **Source** area, click the **XOB file** box.

   The **Exstream XOB file to load** dialog box opens.
4. Go to the XOB file you want to load.
5. Click **Open**.

   The **Exstream XOB file to load** dialog box closes.
6. If the XOB file is password-protected, enter the password in the **Password** box.
7. In the **Destination** area, select a location in the Library to place the loaded object:

To	Do this
Load all objects into the same folder in the Library and ignore the folder hierarchy from the original database	a. In the **Folder** area, select the **Single folder** radio button. b. Click ... . The **Folders** dialog box opens. c. Select the folder into which you want to load database contents. d. Click **OK**. The **Folders** dialog box closes.
Maintain the folder hierarchy from the original database during load	In the **Folder** area, select the **Original folders** radio button. **Note:** If you select the **Original folders** radio button, any folder restrictions in place from the original database are ignored.

8. If you want to use a database transaction to process the load, select the **Use transaction** check box.

   Caution: Using a database transaction commits all changes to the database at one time, instead of allowing partial updates. Loading an amount of data that exceeds the amount allowed in a single transaction can cause loading failures.

9. Select one of the following versioning options for the object to be loaded:

To	Do this
Load all versions of the object	Select the **Load all versions** check box. Loading multiple versions of objects can increase the amount of space your database uses.
Preserve the approval status of the object during load	Select the **Preserve "approved" version status** check box.
Load only the current version of the object	a. Clear the **Preserve "approved" version status** check box. b. Clear the **Load all versions** check box.

   Note: When you load system variables, only the most recent version is loaded.

10. Specify the objects you want to load:

To	Do this
Load all objects that are stored in the Library under the **Environment** heading, such as paper types or fonts	On the **Options** tab, clear the **Exclude any non-dependent environmental objects** check box.
Load system settings (if they are included in the XOB file)	On the **Options** tab, select the **Include System Settings** check box. **Note:** Loading system settings does not load the key file.
Load design objects	On the **XOB file contents** tab, select the object you want to load from the **Contents** area. To select more than one object, hold down `CTRL` and click the objects you want to select. To select all objects, select the **Load all objects** check box.

11. Optionally, you can check for and resolve conflicts between the object being loaded and existing objects in the destination database.

    For information about handling conflicts during load, see "Resolving Conflicts Encountered During Loading" on the next page.

12. Click **Load**.

Design Manager loads the selected objects from the XOB file.

After loading, you can view the following tabs on the **Load** dialog box for more information:

- **XOB file contents**—View a list of all the objects contained in the XOB file, and information such as database version, application version, creator, and creation date.
- **Conflicts**—View a list of conflicts encountered during the load process and determine how to resolve them.
- **Log**—View the log file for the load process.

You can also complete the following optional task as needed:

2.8.3 Resolving Conflicts Encountered During Loading

During loading, it is possible to encounter conflicts between the objects being loaded and the objects that already exist in the destination database, such as objects with the same name. You can resolve conflicts by selecting one of the following methods for each option on the **Load polices** tab of the **Load** dialog box:

- **Auto rename**—Assign a new name to the object during load. The naming convention is as follows:

  ```
  <original name>_<time stamp>_<object identifier in the XOB file>_<version
  of the object in the XOB file>
  ```

- **Error**—Stop the load and issue an error message.
- **Load to overflow folder**—Place objects in an overflow folder that you specify. If an object with the same name exists in the overflow folder, Exstream attempts to automatically rename the object. Environmental objects are placed in the appropriate heading in the Environment, so if an object with the same name exists in the destination database, you receive an error message.
- **Replace**—Replace objects in the destination database with the objects in the XOB file. This option is the default.
- **Skip**—Do not load the objects and update references to the skipped object with references to the existing object in the destination database. You cannot skip required references.

These methods for handling conflicts can be applied using one or both of the following methods:

- **"Setting Up Load Policies to Automatically Resolve Conflicts During Load" on the next page**—You can define load policies that control how Exstream attempts to resolve conflicts automatically during load. If you do not define load policies, you must resolve all

conflicts manually.

- **"Manually Resolving Conflicts Encountered During a Load" on the next page**—You can review a list of conflicts prior to or after load, and manually select a resolution for conflicts one or more at a time.

Setting Up Load Policies to Automatically Resolve Conflicts During Load

You can define load policies that control how Design Manager attempts to resolve conflicts automatically during loading. Though load policies might not be able to automatically resolve all conflicts, it can save you time by resolving most conflicts during the loading process. If you do not define load policies, you must resolve all conflicts manually. Objects that are read-only, such as those that are checked out, locked, or submitted for approval, cannot be automatically replaced.

To set up load policies to automatically resolve conflicts during loading:

1. With the **Load** dialog box open, click the **Load Policies** tab.
2. From the **Replacement policy** drop-down list, select the default conflict handling method for all load conflicts.
3. If you select **Replace from the Replacement** policy drop-down list, select an alternative conflict handling method for the following types of objects:
   - **Checked out objects**
   - **Locked objects**
   - **Submitted for approval**
   - **Repository objects**
4. If you have selected **Load to overflow folder** as a load policy, specify an overflow folder:
   a. Click the **Overflow folder** box.

      The **Folders** dialog box opens.

   b. Select a folder from the list.

   c. Click **OK**.

      The **Folders** dialog box closes.
5. If you want to use these load policies during other loads, click the **Save these as the default policies** check box.

During load, conflicts that cannot be resolved automatically are listed on the **Conflicts** tab, and must be resolved manually.

Manually Resolving Conflicts Encountered During a Load

You can manually resolve conflicts encountered during a load either prior to loading the object or after you have loaded the object.

To manually resolve conflicts encountered during a load:

1. On the **Load** dialog box, click **Check conflicts and dependencies**.

   Exstream checks for conflicts and lists the conflicts on the **Conflicts** tab.

2. Click the **Conflicts** tab.
3. In the **Conflicts** area, select one or more conflicts to resolve. To select more than one object, hold down `CTRL` and click the objects you want to select or click **Select All** or **Select Same**.
4. From the **Action** drop-down list, select the method to use to resolve the conflict.
5. Click **Apply**.

   The conflicts are resolved using the action that you selected.

2.9 Moving Content Between Design Databases from the Command Prompt

You can also unload or load XOB files from the command line. If Exstream successfully performs the load process, then the next time you launch Design Manager, the database that you have loaded becomes the default database. Design Manager opens during the load or unload process, but unless there are errors, you cannot interact with Exstream during this time. After the process is complete, Exstream closes and you are returned to the command prompt.

> **Tip:** You can bypass the Design Manager login prompt using the EXSTREAMUSER and EXSTREAMPASSWORD command line options.
>
> For example: `DesignManager.exe -EXSTREAMUSER=test -EXSTREAMPASSWORD=password`

To move content between databases from the command prompt, you must complete the following tasks:

- “Unloading an XOB File from the Command Prompt” on the next page
- “Loading an XOB File from the Command Prompt” on page 33

2.9.1 Unloading an XOB File from the Command Prompt

When you specify target object names to unload, you must use the same capitalization that is used in Design Manager in order for Exstream to find the objects. For example, to unload an object named "Credit Card Statement," you cannot enter `Credit card statement.`

To unload an XOB file from the command prompt:

1. At the Windows command prompt, make sure that you are in the directory where Exstream is installed (for example, `C:\Program Files\OpenText\Exstream\Exstream <version>`).
2. At the command prompt, enter `DesignManager`, followed by a space.
3. After the space, enter the first switch, followed by a space.
4. Add additional switches as necessary, with a space between each switch.
5. To begin the unload process, press ENTER.

   When the unload process is complete, you are returned to the command prompt.

Note: If the XOB file should be stored in the current directory, enter a relative file name when you specify the file name for the XOBLOAD command. If you want the file to be placed in a different directory, then you must enter the entire path. If the path contains spaces, enclose the path in double quotation marks (" ").

If you specify an argument with spaces, you must enclose it in quotation marks or it will become truncated. (For example: `-XOBFOLDER="Exstream Samples"`).

The following switches are required with the unload function:

- EXSTREAMUSER
- EXSTREAMPASSWORD
- XOBUNLOAD
- XOBUNLOADTARGET

The following optional switches can be used in addition to the required switches:

- DBAUTHENTICATION
- DBPASSWORD
- DBUSER
- DSN

- XOBFOLDER
- XOBPASSWORD
- XOBUNLOADAPPEND
- XOBUNLOADAPPROVEDONLY
- XOBLOG
- XOBALLVERSIONS

For information about command line switches for database administration, see "Switches for Database Administration and Maintenance" on page 41.

2.9.2 Loading an XOB File from the Command Prompt

To load an XOB file from the command prompt:

1. At the Windows command prompt, make sure that you are in the directory where Exstream is installed (for example, `C:\Program Files\OpenText\Exstream\Exstream <version>`).
2. At the command prompt, enter `DesignManager`, followed by a space.
3. Enter the first switch followed by a space.
4. Add any additional switches necessary to perform the function, with a space between each switch.
5. To begin the load process, press ENTER.

   When the load process is complete, you are returned to the command prompt.

   > **Note:** If the XOB file should be stored in the current directory, enter a relative file name when you specify the file name for the XOBLOAD command. If you want it placed in a different directory, you must enter the entire path. If the path contains spaces, enclose the path in double quotation marks (" ").

   If you specify an argument with spaces, you must enclose it in quotation marks or it will become truncated. (For example: `-XOBFOLDER="Exstream Samples"`).

The following switches are required with the load function:

- EXSTREAMPASSWORD
- EXSTREAMUSER

- XOBLOAD

The following optional switches can be used in addition to the required switches:

- DBAUTHENTICATION
- DBPASSWORD
- DBUSER
- DSN
- XOBFOLDER
- XOBPASSWORD
- XOBLOADENVIRONMENTAL
- XOBLOADSYSTEMSETTINGS
- XOBKEEPAPPROVEDSTATUS
- XOBLOG
- XOBALLVERSIONS

For information about command line switches for database administration, see "Switches for Database Administration and Maintenance" on page 41.

2.10 Setting Default User Names and Passwords

Default user names and passwords make it easier to allow multiple people to access a database with a single login. For example, you can let users connect to a design database using the default user name, `EXSTREAM`, and the default password, `EXSTREAM01`. If security is a concern, you can set up the `EXSTREAM` user name to have read-only access and let reviewers connect to the database without making changes.

To set a default user name and password:

1. Open the Database Administrator utility.
2. Click the **Set default login** tab.
3. Select one of the following **Database role** radio buttons:
    - **Design**—The database is used to store information about objects created and used in Exstream. It includes system settings and other environmental objects such as design users and groups, message and paper types, and output queues.

- **Tracking**—The database is used to store information about the distribution of, and response to, campaigns. The results are used to target future campaigns.

4. If you want to change the default user name and password, enter the default user name and password in the **New default database user and password** area.
5. In the **Action** area, click one of the following buttons to select the method you want to use to set the new user name and password:
   - **Use application default (remove settings)**—Deletes the registry entries that override the default user name and password. The default user is `EXSTREAM` and the default password is `EXSTREAM01`.
   - **Set user and password on this workstation**—Uses the values you entered to create a new default login for the current workstation only. This login is encrypted and stored in the Windows registry.
   - **Choose existing defaults file**—Lets you pick a previously created default file that contains the default user name and password. For security reasons, the file location does not appear. You must go to the correct location.
   - **Create and use new defaults file**—Uses the values you entered to create a new default file. This file is encrypted.

2.11 Setting Keys in Databases

The Design and Production license key is a company-specific alphanumeric string that lets you activate modules and control the total number of workstations. Keys are case-sensitive, so they must consist of the original mixed-case characters. Otherwise, you receive an error.

To set a new key:

1. Open the Database Administrator utility.
2. In the **Database properties** area, click **Connect** to connect to the source database.
3. Click the **Set key** tab.
4. In the **Key** area, click **Import** to browse to the location of your .ekf file.
5. Click **Save key** to save the key in the database, or click **Restore key** to restore the previous key.

2.12 Running Database Maintenance

The Database Maintenance tool in Design Manager lets you check the design database for data integrity and corrects error conditions. It allows you to complete a routine database analysis and fix common errors. You can perform database maintenance in the Design Manager interface, or from the Windows command prompt.

When you run database maintenance, you can choose to only check for errors, or to check for and also fix errors. If you want to fix errors, you must lock the database during database maintenance. If you are only checking for errors, you do not have to lock the database. During database maintenance, maintenance information is stored in a temporary log file. The temporary log file is deleted after maintenance is complete and content from the temporary log file is stored in the Exstream event log. If you are running database maintenance from the Windows command prompt and you do not want the log file to be deleted, you can use the DBMAINT_LOG switch.

For information about viewing the Exstream event log, see "Reviewing Logged Events" on page 39.

For more information about the DBMAINT_LOG switch, see "Switches for Database Administration and Maintenance" on page 41.

Caution: Before running database maintenance, create a backup in case you experience unexpected errors.

2.12.1 Running Database Maintenance in Design Manager

Using the Design Manager interface, you can perform all of the tasks necessary to run database maintenance. Performing database maintenance from Design Manager lets you monitor the process step-by-step and allows you to see immediate results.

To run database maintenance in Design Manager, complete the following steps:

1. From the **Tools** menu, select **Database Maintenance**.

   The **Database Maintenance** dialog box opens.

2. To lock the database during database maintenance, select the **Lock the database** check box in the **Basic options** area.

   When the database is locked, users can still log in, but they cannot create, edit, or delete objects. If you are only checking for errors, you do not have to lock the database.

3. If you want to see summarized results in the **Database maintenance results** area, select

the **Abbreviated results display** check box in the **Basic options** area.

4. To specify the actions that the Database Maintenance tool performs during database maintenance, select the following options as needed:
   - **Check for unreferenced embedded objects**—Finds unreferenced objects and, if possible, repairs the reference. If the reference cannot be repaired, the tool removes the unreferenced object from the database.
   - **Check serialized LOB integrity**—Checks rules and variables in components and removes orphaned records. For design objects containing text, the tool checks hyperlinks, editable areas, checksums, and styles.
   - **Check database referential integrity**—Checks the references between tables, including relationships that might not be enforced through database referential integrity
   - **Check for unused duplicate fonts**—Finds duplicate fonts in the database and deletes any that are not in use. At least one font record is retained from each set of duplicates.
5. If you selected the **Check serialized LOB integrity** check box, select one or both of the following:.
   - **Check for unsynchronized variable references**—Checks variable references with references inside design objects
   - **Check for unsynchronized rule references**—Checks rule references with references inside design objects.
6. If you selected the **Check for unsynchronized rule references** check box, and want to check for unnamed rules that are not used by any objects, select the **Check for orphaned rules** check box.
7. If you selected the **Check for orphaned rules** check box, then you must select one of the following options from the adjacent list:
   - **Convert orphaned rules to named rules**—Changes orphaned rules into Library rules
   - **Delete orphaned rules**—Deletes unnamed rules not used by any objects
8. Click one of the following buttons:
   - **Check for Errors**—Checks for errors but does not fix them
   - **Fix Errors**—Checks for errors and fixes them

   Exstream analyzes your database. Database maintenance results are displayed in the **Database maintenance results** area on the **Database Maintenance** dialog box.

2.12.2 Running Database Maintenance from the Command Prompt

Running database maintenance from the command prompt allows you to save time by constructing scripts for automated database maintenance. For example, suppose an enterprise using Exstream has numerous application design databases, and the administrator who maintains the databases runs preventative maintenance on each database monthly. If this process is done manually in the Design Manager interface, the administrator must be present to interact with the interface. However, if the administrator runs database maintenance from the command prompt, it can be a scheduled, automated process that can run overnight. The administrator can create a single batch script that consecutively logs into each application database, executes database maintenance according to the selected database maintenance options, and writes the temporary log file (describing the checking or fixing of a database).

Using the Windows command prompt, you can perform all of the necessary database maintenance tasks using switches. These switches correspond with the database maintenance options available in Design Manager.

To run database maintenance from the command prompt, on the command line, you must first call executable file, `DesignManager.exe`. You must also include the following required switches:

- DBMAINT=<FIX | CHECK>|
- EXSTREAMUSER=<user name>
- EXSTREAMPASSWORD=<password>
- DSN=<database DSN>

In the following command, database maintenance is set to check and fix errors in a test database while running as the admin user.

```
DesignManager.exe -DBMAINT=FIX -EXSTREAMUSER=admin -EXSTREAMPASSWORD=xxx -
DSN=C:\Temp\Test.dbf
```

Because the DBMAINT_OPTIONS switch was not specified in the previous command, database maintenance defaults to running with the following options from the **Database Maintenance** dialog box enabled:

- **Check for unreferenced embedded objects**
- **Check serialized LOB integrity**
- **Check for unsynchronized variable references**
- **Check for unsynchronized rule references**
- **Check for orphaned rules > Convert orphaned rules to named rules**

- **Check database referential integrity**
- **Check for unused duplicate fonts**

When you use the DBMAINT_OPTIONS switch, only the options specified in the argument are enabled during database maintenance. Any option that is not specified in the switch is disabled during database maintenance.

For more information about database maintenance switches, see "Switches for Database Administration and Maintenance" on page 41.

2.12.3 Reviewing Logged Events

An event log is a record of the events that occur during normal use of the software. For example, you can see who authorized an upgrade and when it was authorized, or the last time and date that database maintenance was performed. To improve accountability and auditing, events are automatically recorded and stored in a single event log. You cannot delete any of the content in the Exstream event log. You can view the Exstream event log either from Design Manager or from the Database Administrator utility.

The Exstream event log also contains the log information from database maintenance. During database maintenance, maintenance information is stored in a temporary log file. The temporary log file is deleted after maintenance is complete, and content from the temporary log file is stored in the Exstream event log. Database maintenance creates the temporary log file whether you are only checking for errors, or checking for and also fixing errors. If you are running database maintenance from the Windows command prompt and you do not want the log file to be deleted, you can use the DBMAINT_LOG switch.

For more information about the DBMAINT_LOG switch, see "Switches for Database Administration and Maintenance" on page 41.

2.12.4 Viewing the Exstream Event Log

To view the Exstream event log from Design Manager, select **Tools > View event log**.

To view the event log from the Database Administrator utility, click  in the upper left corner and select **View event log for Exstream database**. You receive a prompt asking for your user name and password to verify that you are a super user

Tip: To sort the column contents in ascending or descending order, click the column title.

Description of event log information

Column title	Information recorded
Start Time	The time the event started

Description of event log information, continued

Column title	Information recorded
Product User	The user logged in at the time of the event
Details	The contents of the log file for the event. Some events do not have log files. If you see **Double-click to view**, you can double-click in the column to open the log file in a text editor. The default text editor is `NotePad.exe`. To change the default text editor, you can either click **Browse** and select a text editor, or enter the text editor name in the **View details with** box.
Description	A description of an event. For example, "Updated Design database 'Sample.mdb' from version 600001 to version 602001. Error(s) during the update: 2." or "Database maintenance check performed. Repairs needed: 3."
Event Type	The events recorded: database maintenance check, database maintenance fix, authorization of database serialization upgrade, automatic database update, SBCS to DBCS conversion, database update, database copy, or database SBCS to DBCS copy.
End Time	The time the event ended. Some events have the same start and end times.
Product	The product being used
Program	The program being used: the Database Administrator utility, Design Manager, Designer, or Logic Designer
Program Version	The version of the program that recorded the event
Windows User	The Windows user logged in at the time of the event
Event ID	The flag value for an automatic database update
Event ID Status	The status of an automatic database update

The following table lists the programs that record events and the events they record.

Events recorded

Program	Events recorded
Design Manager	• Database maintenance check • Database maintenance fix • Authorization of database serialization upgrade • Automatic database update • SBCS to DBCS conversion
Database Administrator utility	• Database update • Database copy • Database SBCS to DBCS copy

Events recorded, continued

Program	Events recorded
Designer	• Authorization of database serialization upgrade • Automatic database update
Logic Designer	• Authorization of database serialization upgrade • Automatic database update

2.13 Switches for Database Administration and Maintenance

You can complete many database administration tasks from the command line or from a batch file. You can also run database maintenance from the command line or from a batch file.

The following switches are available:

Caution: Do not use spaces between options, values, and successive file names in a command line, as this can cause errors at run time.

For example, use `-DSN=MyDSN,,MyUserName,MyPassword` instead of `-DSN = MyDSN,, MyUserName, MyPassword`

2.13.1 ACCEPT_PRIVACY_STATEMENT

The ACCEPT_PRIVACY_STATEMENT switch acknowledges that you have read and accept the anonymous data collection and usage statement provided at https://analytics.exstream.com/privacy/en-US/index.html. This switch is required to update or create a database from the command line for use with Exstream version 9.5.301 or later.

Syntax:

```
-ACCEPT_PRIVACY_STATEMENT
```

No argument is required for this switch.

> **Note:** If you have additional questions about Exstream usage analytics, contact OpenText Customer Support at http://support.opentext.com.

2.13.2 APPLICATION_MODE

The APPLICATION_MODE switch sets the application mode of Exstream 8.0 or later databases. If APPLICATION_MODE is not specified, the database defaults to DBCS mode.

Syntax:

```
-APPLICATION_MODE=argument
```

You must use one of the following arguments:

APPLICATION_MODE arguments

Argument	Notes
SBCS	Use the SBCS argument to specify the SBCS application mode.
DBCS	Use the DBCS argument to specify the DBCS application mode.
ALL	Use the SBCS/DBCS argument to specify the SBCS/DBCS application mode.

For example:

```
-APPLICATION_MODE=DBCS
```

For more information about application modes, see “Selecting the Application Mode for a Database” on page 22.

2.13.3 AUTOCREATE

The AUTOCREATE switch automatically creates the structure for a database with no interaction. It uses the default Exstream tablespace names, unless you use the TABLESPACE

switch.

Syntax:

```
-AUTOCREATE=DESIGN or TRACKING,Database language,Primary tablespace file name,Index tablespace file name,LOB tablespace file name,Temporary tablespace file name,DB2 z/OS database name
```

You use the following arguments:

AUTOCREATE arguments

Argument	Use	Notes
DESIGN or TRACKING	Required	
Database language	Required	The only valid language code is `en-us` (English).
Primary tablespace file name	Optional	Unless you specify alternate tablespace file names, the default Exstream tablespace file names are used. For DB2 and Oracle databases on Linux, UNIX, and Windows, you use this argument plus the other tablespace arguments. For PostgreSQL databases, this argument is ignored and the default PostgreSQL tablespace (`pg_default`) is used instead.
Index tablespace file name	Required	Unless you specify alternate tablespace file names, the default Exstream tablespace file names are used. For DB2 and Oracle databases on Linux, UNIX, and Windows, you use this argument plus the other tablespace arguments.
LOB tablespace file name	Required	Unless you specify alternate tablespace file names, the default Exstream tablespace file names are used. For DB2 and Oracle databases on Linux, UNIX, and Windows, you use this argument plus the other tablespace arguments.
Temporary tablespace file name	Optional	Unless you specify alternate tablespace file names, the default Exstream tablespace file names are used. For DB2 databases on Linux, UNIX, and Windows, you use this argument plus the other tablespace arguments.
DB2 z/OS database name	Optional	The structure is created in the Exstream default database unless you use this argument to specify another database name.

If you use the AUTOCREATE switch, you must also use the following switches:

- QUERYPATH
- DSN
- ACCEPT_PRIVACY_STATEMENT (Required only if you are creating a database for use with Exstream version 9.5.301 or later.)

For example:

```
-AUTOCREATE=DESIGN,en-us –QUERYPATH=C:\Temp –DSN=MyDSN, , MyUserName,
MyPassword -ACCEPT_PRIVACY_STATEMENT
```

2.13.4 AUTODROP

The AUTODROP switch automatically drops all tables and associated objects for the specified role (design or tracking) with no interaction, but does not drop the database instance.

Syntax:

```
-AUTODROP=DESIGN or TRACKING,DB2 z/OS database
name,DROPTABLESPACES,DROPBUFFERPOOL
```

You use the following arguments:

AUTODROP arguments

Argument	Use	Notes
DESIGN or TRACKING	Required	
DB2 z/OS database name	Optional	Unless you specify alternate tablespace file names, the default Exstream tablespace file names are used.
DROPTABLESPACES	Optional	Use this argument to drop the default Exstream tablespaces. For DB2 databases on z/OS, the structure is dropped in the Exstream default database unless you specify another database name. For PostgreSQL databases, this argument is ignored.
DROPBUFFERPOOL	Optional	For DB2 databases on Linux, UNIX, and Windows, use this argument to drop the default Exstream bufferpool.

If you use the AUTODROP switch, you must also use the following switches:

- QUERYPATH
- DSN

For example:

```
-AUTODROP=TRACKING -QUERYPATH=C:\Temp -DSN=MyDSN,,MyUserName,MyPassword
```

2.13.5 AUTOUPDATE

The AUTOUPDATE switch automatically updates the structure of a database with no interaction. If required, the default Exstream tablespaces are used. If the default Exstream tablespaces do not exist, they will be created.

Syntax:

```
-AUTOUPDATE=DESIGN or TRACKING,Database language,DB2 z/OS database name
```

You use the following arguments:

AUTOUPDATE arguments

Argument	Use	Notes
DESIGN or TRACKING	Required	
Database language	Optional	The only valid language code is `en-us` (English).
DB2 z/OS database name	Optional	The structure is updated in the Exstream default database unless you use this argument to specify another database name.

If you use the AUTOUPDATE switch, you must also use the following switches:

- QUERYPATH
- DSN
- ACCEPT_PRIVACY_STATEMENT (Required only if you are updating a database for use with Exstream version 9.5.301 or later.)

For example:

```
-AUTOUPDATE=DESIGN,en-us -QUERYPATH=C:\Temp -DSN=MyDSN,,MyUserName,MyPassword
-ACCEPT_PRIVACY_STATEMENT
```

2.13.6 COPYDB

The COPYDB switch copies database content from one database to another.

Syntax:

```
-COPYDB=Design query file path,Tracking query file path,COPYONLYSYSTEMTBL
```

You use the following arguments:

COPYDB arguments

Argument	Use	Notes
Design query file path	Required	This argument is required only if the database has the design role. Otherwise, leave the argument blank.
Tracking query file path	Required	This argument is required only if the database has the tracking role. Otherwise, leave the argument blank.
COPYONLYSYSTEMTBL	Optional	Use this argument to specify that you want to copy only the system information.

If you use the COPYDB switch, you must also use the following switches:

- To specify the source database: DSN
- To specify the destination database: COPYTODSN

For example:

```
-COPYDB=C:\Temp,C:\Temp,COPYONLYSYSTEMTBL -DSN=MyDSN,,MyUserName,MyPassword -
COPYTODSN=TheDSN,,TheUserName,ThePassword
```

2.13.7 COPYTODBAUTHENTICATION

The COPYTODBAUTHENTICATION switch lets you specify the database authentication method for the copy target. This switch is optional. If this switch is not specified, the Windows authentication method is the default.

For more information about database authentication methods, see "Connecting to a Database" on page 14.

Syntax:

```
-COPYTODBAUTHENTICATION=<authentication method>
```

You must use one of the following arguments:

- `WINDOWS`
- `PROMPT`
- `DEFAULT`

For example:

```
-COPYTODBAUTHENTICATION=WINDOWS
```

2.13.8 COPYTODSN

The COPYTODSN switch specifies the destination database DSN when using the COPYDB switch to copy database content.

Syntax:

```
-COPYTODSN=Destination DSN,Schema,Database username,Database password
```

You use the following arguments:

COPYTODSN arguments

Argument	Use
Destination DSN	Required
Schema	Optional
Database username	Optional
Database password	Optional
DBAUTHENTICATION	Optional (If you use this argument, then the Database username and Database password arguments are ignored.)

For example:

```
COPYDB=C:\Temp,C:\Temp,COPYONLYSYSTEMTBL -DSN=MyDSN,,MyUserName,MyPassword -
COPYTODSN=SampleDSN,,SampleUserName,SamplePassword
```

2.13.9 DBAUTHENTICATION

The DBAUTHENTICATION switch lets you specify the database authentication method. This switch is optional. If this switch is not specified, the last used database authentication method is the default.

For more information about database authentication methods, see "Connecting to a Database" on page 14.

Syntax:

```
-DBAUTHENTICATION=<authentication method>
```

You must use one of the following arguments:

- `WINDOWS`
- `PROMPT`
- `EXSTREAM`
- `DEFAULT`

For example:

```
-DBAUTHENTICATION=WINDOWS
```

2.13.10 DBMAINT

The DBMAINT switch instructs Design Manager to run database maintenance. This switch is required in order to run database maintenance from the command line. If you use this switch

without using the DBMAINT_OPTIONS switch, database maintenance runs using the default behavior.

The default behavior for database maintenance is to run with the following options from the **Database Maintenance** dialog box enabled:

- **Check for unreferenced embedded objects**
- **Check serialized LOB integrity**
- **Check for unsynchronized variable references**
- **Check for unsynchronized rule references**
- **Check for orphaned rules > Convert orphaned rules to named rules**
- **Check database referential integrity**
- **Check for unused duplicate fonts**

Syntax:

```
-DBMAINT=<FIX | CHECK>
```

You must select one of the following arguments:

- `CHECK`—Run database maintenance to check for errors.
- `FIX`—Run database maintenance to locate and fix errors.

For example:

```
-DBMAINT=FIX
```

2.13.11 DBMAINT_LOCK

The DBMAINT_LOCK switch lets you specify whether a database is locked during database maintenance. This switch is optional. The default option, if the DBMAINT_LOCK switch is not specified, is locked. This switch corresponds to the **Lock the database** check box on the **Database Maintenance** dialog box.

Syntax:

```
-DBMAINT_LOCK=<NO_LOCK | LOCK | FORCE_LOCK>
```

You must use one of the following arguments:

DBMAINT_LOCK arguments

Argument	Notes
`NO_LOCK`	Use this argument to check for errors without locking the database. When you use the NO_LOCK argument, the system status is not changed. The NO_LOCK argument does not set the system status to normal if the system is already locked. This argument is not valid with DBMAINT=FIX; it is only valid with DBMAINT=CHECK.
`LOCK`	This argument sets the system status to locked if there are no active users in the database, and if the database is not already locked. Users who log in during database maintenance receive the following message: *This database has been locked for database maintenance. You may not edit, delete, or create any objects.*
`FORCE_LOCK`	This argument sets the system status to locked even if there are active users in the database. Users who log in during database maintenance receive the following message: *This database has been locked for database maintenance. You may not edit, delete, or create any objects.*

For example:

```
-DBMAINT_LOCK=LOCK
```

2.13.12 DBMAINT_LOG

The DBMAINT_LOG switch lets you specify a log file path and name. If a specific log file is supplied, a log file will be created for both checking for errors and fixing errors. This switch is optional.

If the specified file already exists, it will be overwritten. If you do not want the original file to be overwritten, you can specify a unique name in a batch script file. If no log file path is specified, the log file is placed in the versioned Exstream folder under the user's personal documents folder.

For example:

```
C:\Users\Public\Documents\OpenText\Exstream\Exstream <version>
```

If this switch is not provided, a temporary log file is still created for fixing errors and checking for errors; however, the log file is deleted after database maintenance is complete and content from the temporary log file is stored in the Exstream event log.

For information about viewing the Exstream event log, see “Reviewing Logged Events” on page 39.

The argument for the DBMAINT_LOG switch is the log file name.

Syntax:

```
-DBMAINT_LOG=<log file name>
```

For example:

```
-DBMAINT_LOG=Design_Update.log
```

2.13.13 DBMAINT_OPTIONS

The DBMAINT_OPTIONS switch lets you specify which options from the **Database Maintenance** dialog box are selected. This switch is optional. When you use the DBMAINT_OPTIONS switch, only the options specified in the argument(s) are enabled during database maintenance. Any option that is not specified in the switch is disabled during database maintenance. If you do not use the DBMAINT_OPTIONS switch, database maintenance uses the same default behavior as the default behavior when running from the Design Manager interface.

The default behavior for running from the command line and for running in the Design Manager interface is to run with the following options enabled:

- **Check for unreferenced embedded objects**
- **Check serialized LOB integrity**
- **Check for unsynchronized variable references**
- **Check for unsynchronized rule references**
- **Check for orphaned rules > Convert orphaned rules to named rules**
- **Check database referential integrity**
- **Check for unused duplicate fonts**

Syntax:

```
-DBMAINT_OPTIONS=<CHECK_UNREF_EMBEDDED_OBJS | CHECK_SERIALIZED_LOB |
CHECK_UNSYNC_RULE_REFS | CHECK_UNSYNC_VAR_REFS | CONVERT_ORPHANED_RULES |
DELETE_ORPHANED_RULES | CHECK_REF_INTEGRITY | DELETE_UNUSED_DUPLICATE_FONTS>
```

You must use one or more of the following arguments:

DBMAINT_OPTIONS arguments

Argument	Notes
`CHECK_REF_INTEGRITY`	This argument corresponds to the **Check database referential integrity** check box.
`CHECK_SERIALIZED_LOB`	This argument corresponds to the **Check serialized LOB integrity** check box.
`CHECK_UNREF_EMBEDDED_OBJS`	This argument corresponds to the **Check for unreferenced embedded objects** check box.
`CHECK_UNSYNC_RULE_REFS`	This argument corresponds to the **Check for unsynchronized rule references** check box.

DBMAINT_OPTIONS arguments, continued

Argument	Notes
CHECK_UNSYNC_VAR_REFS	This argument corresponds to the **Check for unsynchronized variable references** check box. If you specify the CHECK_UNSYNC_VAR_REFS argument, you must also specify the CHECK_SERIALIZED_LOB argument.
CONVERT_ORPHANED_RULES	This argument corresponds to the **Check for orphaned rules** check box and the **Convert orphaned rules to named rules** option. If you specify the CONVERT_ORPHANED_RULES argument, you must also specify the CHECK_SERIALIZED_LOB argument. This argument cannot be used with the DELETE_ORPHANED_RULES argument.
DELETE_ORPHANED_RULES	This argument corresponds to the **Check for orphaned rules** check box and the **Delete orphaned rules** option. If you specify the DELETE_ORPHANED_RULES argument, you must also specify the CHECK_SERIALIZED_LOB argument.This argument cannot be used with the CONVERT_ORPHANED_RULES argument.
DELETE_UNUSED_DUPLICATE_FONTS	This argument corresponds to the **Check for unused duplicate fonts** check box.

For information about the database maintenance options, see "Running Database Maintenance in Design Manager" on page 36.

For example:

```
-DBMAINT_OPTIONS=CHECK_UNREF_EMBEDDED_OBJS,CHECK_SERIALIZED_LOB,CHECK_UNSYNC_
RULE_REFS,CHECK_UNSYNC_VAR_REFS,CONVERT_ORPHANED_RULES,CHECK_REF_
INTEGRITY,DELETE_UNUSED_DUPLICATE_FONTS
```

2.13.14 DBPASSWORD

The DBPASSWORD switch lets you specify a password for password-protected databases. This switch is optional. The argument for this switch is the database password.

Syntax:

```
-DBPASSWORD=<database password>
```

For example:

```
-DBPASSWORD=xxx
```

2.13.15 DBSCHEMA

The DBSCHEMA switch lets you specify a database schema. This switch is optional. You might need to specify a database schema for SQL Server, DB2, or Oracle databases. The argument for this switch is the name of the database schema that you want to specify.

Syntax:

```
-DBSCHEMA=<database schema>
```

For example:

```
-DBSCHEMA=Customer_list
```

2.13.16 DBUSER

The DBUSER switch lets you specify a user name. This switch is optional. You might need to specify a user name for SQL Server, DB2, or Oracle databases. The argument for this switch is the user name.

Syntax:

```
-DBUSER=<database user name>
```

For example:

```
-DBUSER=DB_admin
```

2.13.17 DESIGNKEY

The DESIGNKEY switch automatically sets a new key in a design database.

Syntax:

```
-DESIGNKEY=Key
```

You use the following argument:

DESIGNKEY argument

Argument	Use
Key	Required

For example:

```
-AUTOCREATE=DESIGN,en-us -QUERYPATH=C:\Temp -DSN=MyDSN,,MyUserName,MyPassword
-DESIGNKEY=KeyExample1
```

2.13.18 DSN

The DSN switch opens the Database Administrator utility and selects the specified database DSN. The DSN switch is also used to specify the database on which to run database maintenance. The DSN switch is required to run database maintenance from the command line.

Syntax:

```
-DSN=Database DSN,Schema,Database username,Database password
```

You use the following arguments:

DSN arguments

Argument	Use
Database DSN	Required
Schema	Optional
Database user name	Optional
Database password	Optional
DBAUTHENTICATION	Optional (If you use this argument, then the database user name and database password arguments are ignored.)

For example:

```
-DSN=MyDSN,,MyUserName,MyPassword
```

2.13.19 ERRORLOG

The ERRORLOG switch creates a log that contains all of the errors and the messages that normally appear in interactive mode. If you enter an existing file name, then the file is overwritten. If you use the ERRORLOG switch, then you must specify it before all other switches.

Syntax:

```
-ERRORLOG=ERROR log file name
```

You use the following argument:

ERRORLOG argument

Argument	Use
Error log file name	Required

For example:

```
-ERRORLOG=SAMPLE –AUTOUPDATE=DESIGN,en-us –QUERYPATH=C:\Temp -
DSN=MyDSN,,MyUserName,MyPassword
```

2.13.20 EXSTREAMUSER

This switch lets you specify an Exstream super user name. This switch is required to run database maintenance from the command line. The argument for this switch is the Exstream user name.

Syntax:

```
-EXSTREAMUSER=<user name>
```

For example:

```
-EXSTREAMUSER=admin
```

2.13.21 EXSTREAMPASSWORD

This switch lets you specify an Exstream password. This switch is required to run database maintenance from the command line. The argument for this switch is the password for the Exstream user name specified in the EXSTREAMUSER switch.

Syntax:

```
-EXSTREAMPASSWORD=<user password>
```

For example:

```
-EXSTREAMPASSWORD=xxx
```

2.13.22 LANGUAGE

The LANGUAGE switch sets the language on the interface.

Syntax:

```
-LANGUAGE=Language code
```

You use the following arguments:

LOGFILE arguments

Argument	Use	Notes
Language code	Required	The following are the valid language codes: • `de-de` (German) • `en-us` (English) • `fr-fr`(French) • `ja-jp` (Japanese) • `nl-nl` (Dutch) The default is `en-us`.

For example:

```
-LANGUAGE=en-us
```

2.13.23 LOGFILE

The LOGFILE switch specifies the file used to log the create, update, copy, and drop processes.

Syntax:

```
-LOGFILE=Log file path and name,OVERWRITE
```

You use the following arguments:

LOGFILE arguments

Argument	Use	Notes
Log file path and name	Required	
OVERWRITE	Optional	Unless you specify the OVERWRITE argument, the LOGFILE switch appends to the file, if it already exists. This argument is not valid with copies. When you copy a database, the log file is always overwritten.

For example:

```
-LOGFILE=C:\temp\DBAdmin.log,OVERWRITE
```

2.13.24 NOPROMPTS

The NOPROMPTS switch suppresses interactive user prompts.

2.13.25 QUERYPATH

The QUERYPATH switch specifies the query path to use for the create, update, and drop processes.

Syntax:

```
-QUERYPATH=Query file path
```

You use the following argument:

QUERYPATH argument

Argument	Use	Notes
Query file path	Required	When entering the path, do not include a backlash (\) at the end.

For example:

```
-QUERYPATH=C:\Temp
```

2.13.26 REDOUPDATE

The REDOUPDATE switch lets you specify the type of update to perform on a database.

Syntax:

`-REDOUPDATE=CURRENT` or `<version number>`

You use the following argument:

REDOUPDATE argument

Argument	Use	Notes
CURRENT or <version number>	Required	• CURRENT will redo the update actions for the current version, in addition to any newer updates. • Specifying a database version number will redo the update actions from that database version forward. This is only used for the `-AUTOUPDATE` switch.

For example:

```
-REDOUPDATE=CURRENT or –REDOUPDATE=601001
```

2.13.27 TABLESPACE

The TABLESPACE switch lets you specify the tablespace you want the Database Administrator utility to use when it creates a new Oracle or DB2 database. The tablespace you specify in the switch is used for all of the Exstream tables created in the new database.

Syntax:

```
-TABLESPACE=Primary,Index,LOB
```

You use the following arguments:

TABLESPACE arguments

Argument	Use	Notes
Primary	Required	This argument is required only for Oracle databases. If you leave this argument empty when creating a new DB2 database, the Database Administrator utility uses the default tablespace specified in the query file.
Index	Optional	This argument is applicable for DB2 and Oracle databases only. If you leave this argument empty, the Database Administrator utility uses the default tablespace specified in the query file.
LOB	Optional	This argument is applicable for DB2 and Oracle databases only. If you leave this argument empty, the Database Administrator utility uses the default tablespace specified in the query file.

If you use the TABLESPACE switch, you must also use the following switch:

- AUTOCREATE

For example:

```
-AUTOCREATE=DESIGN,en-us -QUERYPATH=C:\Temp -DSN=MyDSN,,MyUserName,MyPassword
-TABLESPACE=
```

2.13.28 TABLESPACELIST

The TABLESPACELIST switch lists all of the available tablespaces for a DSN in a log file. If you want to specify the location of the log file, use the LOGFILE switch; otherwise, the Database Administrator utility uses the last log file defined. The log file lists one tablespace per line.

For example:

```
Begin Tablespaces
TABLESPACE:PRIMARY,USERSPACE1
TABLESPACE:PRIMARY,EXSTREAM_TS
TABLESPACE:PRIMARY,EXSTREAM_INDEX_TS
TABLESPACE:INDEX,USERSPACE1
TABLESPACE:INDEX,EXSTREAM_TS
TABLESPACE:INDEX,EXSTREAM_INDEX_TS
TABLESPACE:LOB,EXSTREAM_LOB_TS
End Tablespaces
```

Syntax:

```
-TABLESPACELIST
```

If you use the TABLESPACELIST switch, you must also use the following switch:

- DSN

For example:

```
-DSN=MyDSN,,MyUserName,MyPassword -LOGFILE=C:\temp\DBAdmin.log,OVERWRITE -
TABLESPACELIST
```

2.13.29 XOBALLVERSIONS

During the unloading process, the XOBALLVERSIONS switch unloads all of the versions of a versioned object. If you do not include this switch, Design Manager unloads the latest version of the object. If you use this switch, you cannot use the XOBKEEPAPPROVEDSTATUS switch.

Syntax:

```
-XOBALLVERSIONS
```

2.13.30 XOBFOLDER

The XOBFOLDER switch specifies the folder where the target object resides. Folders are specified by a forward slash ("/"). If this switch is not specified, it defaults to the root folder. The argument for this switch is the folder name of the folder where the target object resides.

Syntax:

```
-XOBFOLDER=<folder name>
```

For example:

```
-XOBFOLDER=/XOB_FOLDER_2011
```

2.13.31 XOBKEEPAPPROVEDSTATUS

The XOBKEEPAPPROVEDSTATUS switch specifies that any approved objects retain their approved status when loaded.

Syntax:

```
–XOBKEEPAPPROVEDSTATUS
```

2.13.32 XOBLOAD

The XOBLOAD switch specifies the name of the XOB file to load into the database. The argument for this switch is the XOB file name.

Syntax:

```
-XOBLOAD=<XOB file name>
```

For example:

```
-XOBLOAD=JanEndorsementApp.xob
```

2.13.33 XOBLOADENVIRONMENTAL

The XOBLOADENVIRONMENTAL switch loads environmental objects (objects that cannot be placed into folders). If this switch is not specified, environmental objects are excluded from the load unless they are required as a dependency for another object that is being loaded.

Syntax:

```
-XOBLOADENVIRONMENTAL
```

2.13.34 XOBLOADSYSTEMSETTINGS

The XOBLOADSYSTEMSETTINGS switch loads system settings if they are present in the XOB file. If the system settings are not present in the XOB file, then this switch is ignored. This switch is optional.

Syntax:

```
-XOBLOADSYSTEMSETTINGS
```

2.13.35 XOBLOG

The XOBLOG switch specifies the file that is generated to report either unload activity and errors or load activity and errors. The argument for this switch is the log file name.

Syntax:

```
–XOBLOG=<log file name>
```

For example:

```
–XOBLOG=June2Log.txt
```

2.13.36 XOBPASSWORD

The XOBPASSWORD switch lets you specify a password to protect the XOB file that is created. You must also use this switch to specify the password for loading a password-protected XOB file. This switch is optional. The argument for this switch is the database password.

Syntax:

```
-XOBPASSWORD=<XOB password>
```

For example:

```
-XOBPASSWORD=xxx
```

2.13.37 XOBUNLOAD

The XOBUNLOAD switch specifies the name of the XOB file to which the object will be loaded. You can unload any object type that is available in the Design Manager Library. The argument for this switch is the XOB file name.

Syntax:

```
-XOBUNLOAD=<XOB file name>
```

For example:

```
-XOBUNLOAD=JanEndorsementApp.xob
```

2.13.38 XOBUNLOADAPPEND

The XOBUNLOADAPPEND switch specifies that unloaded files are appended to an existing XOB file.

Syntax:

```
-XOBUNLOADAPPEND
```

2.13.39 XOBUNLOADAPPROVEDONLY

The XOBUNLOADAPPROVEDONLY switch specifies that only approved versions that were approved on or before the specified date are unloaded.

Syntax:

```
-XOBUNLOADAPPROVEDONLY=<approval date in the format of YYYYMMDD>
```

For example:

```
-XOBUNLOADAPPROVEDONLY=20110927
```

2.13.40 XOBUNLOADTARGET

The XOBUNLOADTARGET switch specifies the target object to unload from the database. If the object name is omitted, then all of the objects of that type are unloaded from the specified folder.

You can specify the following object types as arguments:

- APPLICATION
- APPROVALPROCESS
- APPROVALSTATE
- BANNER
- BARCODE
- BIN
- CAMPAIGN
- COLORFAMILY
- COLORTABLE
- CONNECTOR
- DATAFILE
- DESIGNLAYER
- DICTIONARY
- DOCUMENT
- DLFKEY
- ENCODING
- FOLDER
- FONT
- FLOWTARGET
- FORMFIELD
- FUNCTION
- GROUP
- INSERTER
- JURISDICTION
- LANGUAGE
- LIBRARYCOMPONENT
- LIBRARYRULE
- LIBRARYSEARCHKEY
- LIST
- LIVEACTION
- LIVESETTINGS
- LIVETHEME
- LIVETOOLBAR
- LIVEVIEW
- LOCALE
- MESSAGE
- MESSAGETYPE
- METADATA
- MULTIPLEUP
- NAMEDCOLOR
- OUTPUT
- OUTPUTQUEUE
- PAGE
- PAGETEMPLATE
- PAPERTYPE
- PARAGRAPH
- RECIPIENTPROFILE
- SECTION
- STYLE
- STYLESHEET
- SYSTEMSETTINGS
- TAGSET
- TEMPLATE
- USER
- VARIABLE

Syntax:

```
-XOBUNLOADTARGET=<object_type/object_name
```

For example:

```
-XOBUNLOADTARGET=PAPERTYPE
```

2.14 Troubleshooting

This chapter contains recommended solutions to some common issues you might experience. If these recommendations do not solve your problem, try running a debug file for your application. If the issue persists, create a case in OpenText Customer Support website at http://www.opentext.com/support.

For more information about the trace/watch/debug feature, *Preparing Applications for Production* in the Exstream Design and Production documentation.

My license key has expired

Design and Production validates the license key right after you log in or change databases in Design Manager and Designer. If the key is expired or invalid, the **Enter a New License Key** dialog box opens, indicating the reason the key cannot be used. Click **Clear** to remove the old key and import a new one. Click  to browse to the file where the last license key was imported. In all places where you can import a key, the software remembers the last path used and defaults to that folder for the file selection.

When opening a database in Design Manager, I receive a message stating that I am using the wrong type of tracking database and that it will be disabled.

You might receive one of the following two messages:

- "You are attempting to use a DBCS tracking database with an Exstream database being used in SBCS mode. The Tracking Database will be disabled."
- "You are attempting to use an SBCS tracking database with an Exstream database being used in DBCS mode. The Tracking Database will be disabled."

Switch to a tracking database that matches the application mode of your design database.

For information about determining application mode, see “Selecting the Application Mode for a Database” on page 22.

For information about setting up and using tracking databases, see *Managing Marketing Messages* in the Exstream Design and Production documentation.

When I try to connect to a design database over a Wide Area Network (WAN) environment, performance is much slower than expected.

The fundamental Design and Production architecture acts as a thick client to the design database and WAN connections usually do not provide the required bandwidth for an efficient working environment. A low-latency Local Area Network (LAN) typically provides the most responsive user experience. To enable efficient connections for remote users, use one of the following solutions:

- Use Remote Desktop to connect to a dedicated PC on the same LAN as a design database and then run Design and Production in the remote environment.

- Use a Citrix or Terminal Server environment to enable remote user connections to a design database.

When using the Database Administrator utility, I receive the following message: "The schema you are trying to connect to the database is not a valid schema. Try one of the following schemas; dbo."

Log in as System Administrator with the correct ID and password.

For more information about using the Database Administrator utility, see “Database Administration and Maintenance” on page 10.

When using the Database Administrator utility, I receive a message that I do not have the correct permissions to perform a task.

Log in as System Administrator with the correct ID and password.

Chapter 3: Keys and Licensing

After your Design and Production software purchase is complete, you will receive an email that contains a Software Delivery Receipt. The Software Delivery Receipt email contains a URL that will take you to the electronic download page where you can redeem your licenses for the software you have purchased. After you have completed the license redemption process, you will receive a key file and license file(s) that will allow you to start using Design and Production.

This chapter discusses the following topics:

3.1 Key Files

A key file is a text file that contains a key that is a company-specific, alphanumeric string. This key file lets you activate the modules your company has purchased. Keys are case-sensitive, so you must enter them correctly or you receive an error.

> **Note:** In z/OS, characters are converted to uppercase; however, the license key must consist of the original, mixed-case characters. To prevent the key from being converted to uppercase, you can set the z/OS command to CAPS OFF.

You must use your key at the following times:

- The first time you log in to Design Manager, Designer, or Logic Designer
- The first time you open a database
- When you license new modules
- When you upgrade your software
- When your previous key expires
- When you validate your license key in a control file for packaging or for a production run

For more information about logging in to Design and Production for the first time, see "Initially Logging in to Design and Production" on page 74.

For more information about selecting a key when you open a database, see "Setting Keys in Databases" on page 35.

For more information about keys in control files, see *Preparing Applications for Production* in the Exstream Design and Production documentation.

Note: OpenText emails a new key to the technical contact listed in the software agreement (or to people authorized by the contact) 15 to 30 days before an old key expires. If you do not receive a new key, send an email to the following address: software.keys@opentext.com.

3.2 Licensing

To provide the flexibility your organization needs, Design and Production offers two types of licenses:

- **Node-locked**—This license type allows the software to run on a specific workstation. For more information about node-locked licenses, see "Node-locked Licensing" below.
- **Floating**—This license type allows the software license to be issued on an on-demand basis. For more information about floating licenses, see "Floating Licensing" on page 71.

3.2.1 Node-locked Licensing

Node-locked licenses are dedicated licenses for running the software on a specific workstation. They cannot be used on other workstations unless you unlicense the workstation to which it is currently dedicated. The license is locked to the workstation's MAC ID (unique network adapter ID).

You must perform a one-time process to download licenses managed by the external license server. The server licenses the features using the MAC address of your workstation.

The first time you connect to a design database that requires a node-locked workstation license, the **License option** dialog box opens after you select the key. In the **License option** dialog box, you can license your workstation over the Internet or using a license request file. In Design and Production 7.0 and later, if you request licenses for multiple features and some of the licenses are unavailable, then your license request for the available licenses will succeed, but your request(s) for the unavailable license(s) will fail. When the unavailable licenses become available, you can successfully request those licenses.

This section discusses the following topics:

Licensing a Feature

If the key in the Design and Production database you opened requires you to license your workstation, the **License option** dialog box opens and you must request a license file.

You can request a license in the following ways:

- **Using the Internet**—If an Internet connection is available, you can request a license file directly from the Exstream licensing server to avoid potential delays in receiving your license. Online requests are handled immediately.
- **Using a request file**—If an Internet connection is not available, you can request a license by creating a request file that you can email from another workstation to the following address: software.keys@opentext.com. Requests are addressed within one business day. After you receive the authorization file, select **Load a license authorization file from OpenText** from the **License option** dialog box to load the license.

Tip: If you lose a license because you reinstalled Windows or restored from a backup, you can request a replacement of your original license. When you place your request from that same computer, you will receive the license that you previously lost. Additional licenses are not deducted from the license server.

This section discusses the following topics:

- "Requesting a License File Using the Internet" below
- "Requesting a License File Using a Request File" on the next page

Requesting a License File Using the Internet

1. To license features, go to **Tools > Licensing > License node-locked features**.

   The **License option** dialog box opens.

2. In the **License option** dialog box, enter your customer password in the **Customer password** box.
3. Select the **Process via Internet** radio button.
4. Click **OK**.

   The **Request licenses** dialog box opens.

5. In the **License status** area, review the status of each feature to make sure that there are enough licenses available for you to license. You can also view the following information for each feature:
   - Whether you previously licensed the feature
   - Maximum number of users

- Number of licenses used
- Number of licenses remaining
- License expiration date (if applicable)

6. In the **Features to license** area, select which features to license on your workstation.
7. If you are running Design and Production from a central server using Windows Terminal Services or you are running on a Citrix server, complete the following steps:
   a. In the **Request license** dialog box, select the **Will be used with Terminal Services or Citrix** check box.

      The **Number of license** box becomes available.

   b. If multiple users will be using licensed features at the same time, specify a license quantity equal to the highest number of simultaneous users in the **Number of license** box.
8. If you have multiple MAC addresses, select the MAC address of a permanently connected network adapter from the **PC network card MAC address** drop-down list.

   Your license is linked to this MAC address.
9. Click **OK**.

   The **User Information** dialog box opens.
10. In the **User Information** dialog box, enter or review your user information to make sure it is accurate.
11. Click **OK**.

    Your license file is downloaded from the license server and installed.

Requesting a License File Using a Request File

1. To license features, go to **Tools > Licensing > License node-locked features**.

   The **License option** dialog box opens.
2. In the **License option** dialog box, enter your customer password in the **Customer password** box.
3. Select the **Create a license request file** radio button.
4. In the **License status** area, verify the license status of each feature that you have checked out.
5. In the **Features to license** area, select the features you want to license on your workstation. The options vary based on which features you have available.
6. If you are running Design and Production from a central server using Windows Terminal

Services or you are running on a Citrix server, complete the following steps:

a. In the **Request license** dialog box, select the **Will be used with Terminal Services or Citrix** check box.

   The **Number of license** box becomes available.

b. If multiple users will be using licensed features at the same time, specify a license quantity equal to the highest number of simultaneous users in the **Number of license** box.

7. If you have multiple MAC addresses, select the MAC address of a permanently connected network adapter from the **PC network card MAC address** drop-down list.

   Your license is linked to this MAC address.

8. Click **OK**.

   The **User Information** dialog box opens.

9. In the **User Information** dialog box, enter or review your user information to make sure it is accurate.

10. Click **OK**.

    The **Create Exstream license transaction file**dialog box opens.

11. In the **Create Exstream license transaction file**dialog box, enter a file name and select the folder in which to save the file.

12. Click **Save**.

    You receive a message indicating that the transaction file was successfully created.

13. Email the transaction file to software.keys@opentext.com for processing.

    After OpenText receives and processes the transaction file, you receive an email containing a license authorization response file.

14. In the **License option** dialog box, select **Load a license authorization file from OpenText**.

    The **Open Exstream license transaction file** dialog box opens.

15. In the **Open Exstream license transaction file** dialog box, select **admin_response file** and click **Open**.

    Exstream loads the licenses into the system and you receive a confirmation message.

> **Caution:** When you send a request file, make sure you enter the correct password, which is not verified until OpenText receives the file. If you entered an incorrect password, you must repeat the request file creation process.

Unlicensing a Feature

Sometimes it is necessary to unlicense a workstation. The process to unlicense a feature is similar to the process to license a feature. You might want to unlicense a workstation under the following circumstances:

- The computer will no longer be used.
- You want to change your network card.
- You no longer need a feature.

To unlicense a feature:

1. Select **Tools > Licensing > Unlicense node-locked features**.

   The **License option** dialog box opens.

2. Select how you want to unlicense a feature. The method you choose depends on the availability of an Internet connection:

   - **Process via Internet**
   - **Create a license request file**

   For information about the **Process via Internet** or **Create a license request file** options, see "Licensing a Feature" on page 67.

Viewing License Status

You can view your license status to review your licensing information. For example, you can view which features you have licensed, how many licenses are available, and when your license expires. If you want to view the license status, your workstation must be able to connect to the OpenText Licensing server.

To view the license status:

1. Go to **Tools > Licensing > View License node-locked status**.

   The **License option** dialog box opens.

2. To open the **License status** dialog box, enter your customer password.

   The **License status** dialog box lets you view the following information:

   - Whether you previously licensed the feature
   - Maximum number of users
   - Number of licenses used

- Number of licenses remaining
- License expiration date (if applicable)

3.2.2 Floating Licensing

Floating licensing allows the software license to be issued and returned automatically and only when needed. A license file that is installed on each workstation points to a license server machine on the local network. The license server that hosts the licenses is node-locked by the MAC ID and controls all licenses available for your Design and Production products. If you use floating licensing, you can choose from two license server setups: a one-server setup or a three-server setup. If the primary license server fails in the three-server setup, a backup server will take over for it. In this arrangement, at least two servers must be functional at the same time in order to serve licenses.

Keep in mind that if you are using the three-server setup, borrowing is not supported.

For more information about borrowing, see "Borrowing a Floating License" on the next page.

Design and Production supports floating licensing on the following platforms:

- Windows x86 (32-bit SBCS and DBCS)
- Windows x64 (64-bit SBCS and DBCS)
- Linux x86 (32-bit SBCS and DBCS)
- Linux x86-64 (64-bit SBCS and DBCS)
- HP-UX ia64 (64-bit SBCS and DBCS)
- AIX (32-bit SBCS and DBCS)
- AIX (64-bit SBCS and DBCS)
- Solaris (SPARC) (32-bit SBCS and DBCS)

When you log in to Design Manager, Designer, or Logic Designer, you must have a Design and Production workstation floating license file installed in the default license path. This license file identifies the floating license server on your local network. If Design and Production does not detect a workstation floating license file, you will be prompted at login to select a workstation license file to copy to the default license path. If you do not have a workstation floating license file, contact your system administrator.

Floating licenses for design tools are checked out automatically. If one of the design tools attempts to check out a floating license and all licenses are in use, the **Waiting for a License** dialog box opens, showing the current users who hold licenses. Design and Production checks for a free license every 15 seconds. You can manually check for a free license at any time by clicking **Refresh** on the **Waiting for a License** dialog box.

If you are using a three-server setup and the primary server is unavailable, license requests for the engine, design tools, and PDF converter licenses are not queued automatically if all licenses are in use. If this situation occurs, you must exit the program and restart it when a license becomes available.

Floating licenses for engines are also checked out automatically. To manage licensing settings from the command line, you can use the following engine switches:

- LICENSE_PATH
- LICENSE_WAIT
- REALTIME_LICENSE_MODE

When a license cannot be checked out because all licenses are in use, all users currently holding licenses will be displayed to the console and the engine will attempt to check out a license every 15 seconds until one becomes available or until the process times out (depending on the argument you are using with the LICENSE_WAIT switch).

For more information about the LICENSE_PATH, LICENSE_WAIT, and REALTIME_ LICENSE_MODE engine switches, see *Preparing Applications for Production* in the Exstream Design and Production documentation.

Borrowing a Floating License

If you want to use Design and Production when you do not have access to your local network, you can check out a license for a specific time period. For that time period, the license that you have checked out is unavailable to other users. Checking out a license in this way is called "borrowing." Borrowing allows you to check out a licensed feature for a fixed period of time without the need to access your local network to contact the license server after the initial check. At the end of the time period that you have specified when you borrowed the license, the license is automatically checked in. You can also choose to return borrowed licenses before the borrow time period is over.

To borrow a floating license:

1. In Design Manager, from the **Tools** menu, select **Licensing > Borrow floating licenses**.

   The **Borrow a Floating License** dialog box opens and the licenses that are available appear in the **Licenses to borrow area**.

2. In the **Licenses to borrow** area, select which licensed features you want to borrow, or click **Select All** to borrow all licensed features.
3. In the **Return date** box, enter or select the date that you want to return the borrowed licensed features.
4. In the **Return time** box, enter or select the time that you want to return the borrowed licensed features.
5. Click **Borrow**.

You receive a message that states which licensed features you have successfully borrowed and which features (if any) that were not available to be borrowed.

Returning a Borrowed Floating License Prior to the Borrow Expiration Date

1. In Design Manager, from the **Tools** menu, select **Licensing > Return floating licenses**.

   The **Return a Borrowed Floating License** dialog box opens and the licenses that you have borrowed appear in the **Licenses to return** area.

2. In the **Licenses to return** area, select which of the borrowed license features that you want to return, or click **Select All** to select to return all borrowed licensed features.

3. Click **Return license**.

   You receive a message that states which licensed features you have successfully returned and which features (if any) that could not be returned.

Chapter 4: Initially Logging in to Design and Production

When you access Exstream Design and Production for the first time as the system administrator, you log in using the `admin` design user account. This design user is created by default with each new database and gives you access to Exstream Design and Production. When logging in, the design user name is not case-sensitive, but the password is case-sensitive.

To log in to Exstream Design and Production:

1. From the Windows Start menu, navigate to **Start > Programs > OpenText Exstream x.x.x > Design Manager**.

   The User Login splash screen opens.

2. In the **User** box, enter `admin`.
3. In the **Password** box, enter `xxx`.
4. Click **OK**.

   Design Manager opens.

   For more information about Design Manager, see *Getting Started* in the Exstream Design and Production documentation.

4.1 Changing Design User Passwords

As system administrator, you should immediately change all of the default design user passwords, (including the `admin` design user password) to preserve security. Some organizations also require that all passwords be changed periodically.

To change a password:

1. In the Library, navigate to **Environment > System > Design Users**.
2. Drag the appropriate design user to the Property Panel.
3. In the **Password** box, enter a new password. Passwords are case-sensitive.
4. From the **Edit** menu, select **Save**.

4.1.1 Using Double-Byte Characters in File Paths and Passwords

When you set up a design user or design group, Exstream Design and Production supports passwords that contain single-byte characters or double-byte characters. You can set up and change passwords that contain double-byte characters in the same way that you would set up and change those that contain single-byte characters. You can also use double-byte characters when specifying file paths.

Because single-byte and double-byte characters are encoded and interpreted differently, Exstream Design and Production uses two different production engines (an SBCS engine and a DBCS engine) to process documents. These engines are based on whether or not an application uses single-byte or double-byte characters. The single-byte engine processes comparable documents more quickly than the double-byte engine.

Keep in mind the following behaviors when using double-byte characters in passwords or file paths:

- If the application mode is set to DBCS and a design user or design group is using double-byte characters in a password, file path, or control file, then the DBCS engine must be used to process the application. If you attempt to use the SBCS engine with double-byte characters, then the SBCS engine issues an error message and stops processing the application.
- When packaging a Live application and a design user or designer in a design group uses a DBCS password, Exstream Design and Production issues an error message and locks the user out of the application. To access the application again, the user must change the password to contain single-byte characters only.

For more information about producing Live applications, see *Designing for LiveEditor* in the Exstream Design and Production documentation.

For more information about application mode settings, see "Features on the Workflow Tab—General Workflow Area" on page 100.

4.2 Logging in as a Different Design User

You can change to a different design user at any time. By logging in as a design user, you change the type of access you have to various functions in the system. You can see how that specific design user experiences the system.

To log in as a different design user:

1. From the **File** menu, select **Login as Different User**.

   The User Login splash screen opens.
2. In the **User** field, enter a different design user ID.
3. In the **Password** field, enter the password.
4. Click **OK**.

   Your design user ID and access are changed.

4.3 Viewing Your Access Privileges

You can check your system access at any time to determine your logged in design user ID and which functions you are allowed to perform.

To view your access privileges:

1. From the **File** menu, select **User Access Report**.

   The **Your System Access** dialog box opens.
2. In the **Your System Access** dialog box, you can view the following information:
   - User name
   - Group
   - Functional access permissions
   - Permissions

4.4 Compiling a Sample of the Usage Data Collected by OpenText

To continually improve the performance and functionality of Exstream, OpenText collects and analyzes anonymous data about how Designer and Design Manager are being used. You can write a sample of the usage data being collected by OpenText to a local file, so that you can review the kinds of data being collected and verify that no sensitive information is included.

When you enable the feature to compile a usage data sample, the usage data is written to a local file that you specify. The data is written to the file continuously as you use the software, until either the maximum sample size is reached or you exit Exstream.

You can control the size of the sample, within the range of 1KB to 100,000KB, depending on how much data you want to review. After the maximum sample size is reached, you must re-enable the feature and specify a different local file if you want to continue compiling usage data locally.

Likewise, if you want to continue compiling usage data locally after restarting Exstream, you must re-enable the feature the next time you log in. If the sample created in previous sessions did not reach the maximum size, Exstream will append the data for the current session to the same file; otherwise, you must specify a different file to continue compiling data.

If you want to compile usage data samples for both Designer and Design Manager, you must enable this feature in each program independently, following the procedure provided below. You can compile the usage data for both programs in the same file, or use two different files.

If you have additional questions about Exstream usage analytics, contact OpenText Customer Support at http://support.opentext.com.

To compile a sample of usage data in a local file:

1. In Design Manager or Designer, from the Menu bar, select **Tools > Compile sample of usage data**.

   The **Compile Sample of Usage Data** dialog box opens.

2. To learn more about what kinds of data are collected and how this information is used by OpenText, click **View OpenText privacy policy**.

3. Select the **Write usage data sample to a local file** check box.

4. In the adjacent box, specify the name and location of the text file where you want to write a sample of the usage data being collected by OpenText, or accept the default file name and location.

5. In the **Maximum sample size** box, enter a number to control the size of the sample, from 1KB to 1000,0000KB, depending on how much data you want to review.

6. Click **OK**.

Chapter 5: Implementing the OpenText Private Help Server

Exstream documentation is delivered using the OpenText Global Help Server system, which provides users with live access to the latest version of the online help.

If you cannot use the Global Help Server system (for example, if your site does not have Internet access), or if you want to access online help locally, you can install the OpenText Private Help Server, which is a local version of the help system that can host the online help for your OpenText product on your organization network.

After the Private Help Server is installed, you can then redirect help requests from your OpenText product to the Private Help Server instance rather than the Global Help Server.

To set up the Private Help Server to host Exstream documentation:

1. Download the OpenText Private Help Server Installer from My Support and install a local Private Help Server instance.

   For information about installing the Private Help Server, see the *OpenText Help System - Private Help Server Administration Guide*.

   Note: Keep the following considerations in mind:

   - The Private Help Server can support multiple OpenText products. If the Private Help Server has already been installed within your organization to support another OpenText product, you can add your product documentation to the existing installation.
   - If you are replacing a previous installation, see "Upgrading a Private Help Server installation" in the *OpenText Help System - Private Help Server Administration Guide*.
   - If the server you want to use for the installation cannot connect to the Internet, see "Adding online helps to a Private Help Server running on a secure network" in the *OpenText Help System - Private Help Server Administration Guide*.

2. Add your documentation to the Private Help Server instance.

   To deploy documentation to the Private Help Server, use the help code for your product in the Online Help Deployer application.

   For more information about using the Online Help Deployer application, see the *OpenText Help System - Private Help Server Administration Guide*.

Software product	Help code
Communications Designer	`ex-cdr-16410-help`
Content Author	`ex-bca-16410-help`
Design and Production	`ex-dnp-16410-help`
Design and Production add-ins	`ex-addins-141-help`
Empower	`ex-emp-16410-help`

3. Configure your product to use the Private Help Server. For more information about how to configure specific products, see the following documentation:
   - For Communications Designer and Content Author, see *Using Exstream Web Applications* in the Exstream Design and Production documentation.
   - For Design and Production and Design and Production add-ins, see "Configuring online help for Design and Production" on the next page.
   - For Empower, see the Empower documentation.

5.1 Configuring online help for Design and Production

After you have successfully installed the Private Help Server and deployed the product documentation to it, you are ready to modify the software to redirect help requests to your Private Help Server.

For Design and Production, you must update the help configuration file in your Design and Production installation directory to redirect help requests from Design Manager, Designer, and Logic Designer. If you have deployed Design and Production add-ins documentation, updating the help configuration file also redirects help requests from Chart Designer.

To update the help configuration file:

1. Verify that the following items are present in the help directory:

Software product	Help directory	Required items
Design and Production	`<help root>\help\ex-dnp\<version>\<language>`	• `core` folder • `context.properties` file
Design and Production add-ins	`<help root>\help\ex-addins\<version>\<language>`	• `chart-bar` folder (for Advanced Bar Chart documentation) • `chart-line` folder (for Advanced Line Chart documentation) • `chart-pie` folder (for Advanced Pie Chart documentation) • `context.properties` file

2. Go to your Design and Production installation directory. By default, this is `C:\Program Files\OpenText\Exstream\Exstream <version>`.
3. Locate the `HelpConfig.ini` file and open it in a text editor.
4. Update the `Root` parameter with the following value:

   `http://<host>:<port>/docsapimapper/mapper`

   The `<host>` and `<port>` values should specify the server where the Private Help Server is deployed.
5. Save and close the `HelpConfig.ini` file.

Now, when you press F1 or click **Help > Search Documentation** in Design Manager, Designer, Logic Designer, or when you click **Help** within the Chart Designer interface in Designer, the local documentation that is hosted on the Private Help Server is displayed in your browser, and you do not require an internet connection to view the online documentation.

Chapter 6: Using Design and Production in the Exstream platform

Beginning with the 16.2.0 release, Design and Production is part of the Exstream platform. With this integration, Design and Production users have access to additional software components in the platform and new resource management and orchestration features. The following table provides a high-level overview of the steps required to install and configure the Exstream platform.

Setting up the Exstream platform

Step	Explanation	Related information
1. Set up the Exstream platform environment.	This step involves installing and configuring multiple Exstream platform components.	*OpenText Exstream: Communications Server Administration Guide*
2. Configure secure server connections for the Exstream platform environment.	This step involves configuring your server(s) to use secure server connections and installing the correct certificates on all workstations that will be used to connect to the server(s).	"Configuring secure server connections" below
3. Set up OTDS user authentication for Design and Production.	This step involves enabling OTDS user authentication, which is required to use any of the integration features available in the Exstream platform.	"Using OTDS Authentication for User Management" on page 118
4. Configure server connection settings in the **System Settings** in Design Manager.	This step involves configuring the connection settings on the **Integration** tab for the management gateway service and the CAS Browser web application.	"Configuring connection settings in Design Manager" on the next page

6.1 Configuring secure server connections

After you set up your Exstream platform environment, you must configure your server(s) to use secure server connections before you can set up your platform connection settings in Design Manager. You must also install the correct certificates on all workstations that will be used to connect to the servers.

Complete the following steps to set up your servers and install the required certificates on workstations that will be used to connect to Exstream platform services:

6.1.1 Enabling Secure Server Connections

1. Set up HTTPS communication for OTDS.

   For complete information about setting up a secure connection for OTDS, see *OpenText Directory Services Installation and Configuration Guide*.

2. Set up a secure channel for management gateway.

   For complete information about setting up the secure channel for management gateway, see *Setting up a secure channel for management gateway* in *OpenText Exstream: Communications Server Administration Guide*.

3. Enable secure mode for service gateway.

   For complete information about configuring secure mode properties for a service gateway, see *Service gateway secure mode* in *OpenText Exstream: Communications Server Administration Guide*.

6.1.2 Configuring Certificates on Client Systems

Note: Design users might need to contact an Exstream system administrator for the information required to complete these steps.

1. Copy each certification authority (CA) certificate, including any intermediate CA certificates, to the following location:

   ```
   [Exstream installation folder]\Platform\Core\16.2.0\bin\security\certificatestore\trusted\authorities
   ```

2. Add each CA certificate, including any intermediate CA certificates, to the Trusted Root Certification Authorities store in the Certificate Manager tool (certmgr.msc) in Windows.

6.2 Configuring connection settings in Design Manager

After you set up the Exstream platform environment, you must configure the connection settings for the management gateway service and the CAS Browser web application in the **System Settings** in Design Manager on your workstation.

The *management gateway* is a service that is installed as part of the Communications Server installation component in the Runtime Tools installer. The management gateway connects Exstream Design and Production to the common asset service (CAS) and enables access to resources stored in the CAS. You must configure your management gateway connection settings to upload your package files to the CAS.

The *CAS Browser web application* is required to access image resources stored in the CAS (or in another external repository connected through the CAS) and use the Resource Browser interface within Designer to insert the images into a design. If you want to use Designer to insert images from the CAS into your design, you must specify the Resource Browser settings—in addition to the management gateway connection settings—in the **System Settings** in Design Manager on your workstation.

Keep in mind that OTDS user authentication is required to use the integration features available in the Exstream platform. In addition, an OTDS user must be a member of the `strstenantuser` or `strstenantadmin` OTDS groups in order to have access to CAS.

Note: Design users might need to contact an Exstream system administrator for the information required to complete the following steps.

6.2.1 Connecting to the Management Gateway

1. In Design Manager, in the Library, navigate to **Environment > System > System Settings**.
2. On the **Integration** tab, in the **Management Gateway** area, specify the following connection settings to enable users to connect to a repository using the CAS:
    a. In the **Management Gateway URL** box, enter the URL for the management gateway server.

    The connection to the management gateway is authenticated using OTDS. The format for the URL is `https://<host>:<port>` where `host` is the fully qualified domain name (FQDN), host name, or IP address of the management gateway server, and `port` is the management gateway port used for REST API connections. Open Text recommends that you use the FQDN to specify the host, and that you do not use `localhost`. The management gateway port number is dependent on the configuration of your Exstream environment:

    - If reverse proxy is not enabled for your environment, the port number depends on the default management gateway communications port specified during the Communications Server installation. The port number used for REST API connections is always one port higher than the default port. For example:

      `https://sampleserver.example.com:28801`

- If reverse proxy is enabled for your environment, you must use the port number of the proxy port that is used for external communications. By default, this port number is 443. For example:

  ```
  https://sampleserver.example.com:443
  ```

b. In the **Tenant Name** box, enter the name of the tenant that corresponds to the CAS repository to which you want to connect.

c. In the **Application Domain** box, enter the name of the application domain. This must be a domain within the tenant that is specified in the **Tenant Name** box.

d. To check your management gateway connection settings, click **Test Connection**.

e. In the **Enter Management Gateway Credentials** dialog box, enter your OTDS user name and password and click **OK**.

- If the connection is successful, click **OK** and continue to step 3.
- If the connection is not successful, review the error message, make any needed corrections to the OTDS or management gateway connection settings, and then perform step d through step e again.

3. From the **Edit** menu, select **Save**.

6.2.2 Specifying Resource Browser Settings

1. In Design Manager, in the Library, navigate to **Environment > System > System Settings**.
2. On the **Integration** tab, in the **Resource Browser** area, specify the following connection settings required to use the Resource Browser interface in Designer:

   a. In the **Resource Browser URL** box, enter the URL for the CAS Browser web application.

   The format for the URL is `https://<host>:<port>/casbrowser`.

   For example:

   ```
   https://sampleserver.example.com:8443/casbrowser
   ```

   b. To check your Resource Browser connection settings, click **Test Connection**

   c. In the **Enter Resource Browser Credentials** dialog box, enter your OTDS user name and password and click **OK**.

- If the connection is successful, click **OK** and continue to step 4.
- If the connection is not successful, review the error message, make any needed corrections to the OTDS, management gateway, or Resource Browser connection settings, and then perform step b through step c again.

3. From the **Edit** menu, select **Save**.

Chapter 7: Configuring Design and Production for Your Organization

As an administrator, you have access to the **Environment** heading. The **Environment** heading lets you access the Exstream Design and Production system configuration settings. These are settings that are available only to the `admin` user, to a design user who has been made a super user, or to a design user who has been given access to these headings by the system administrator.

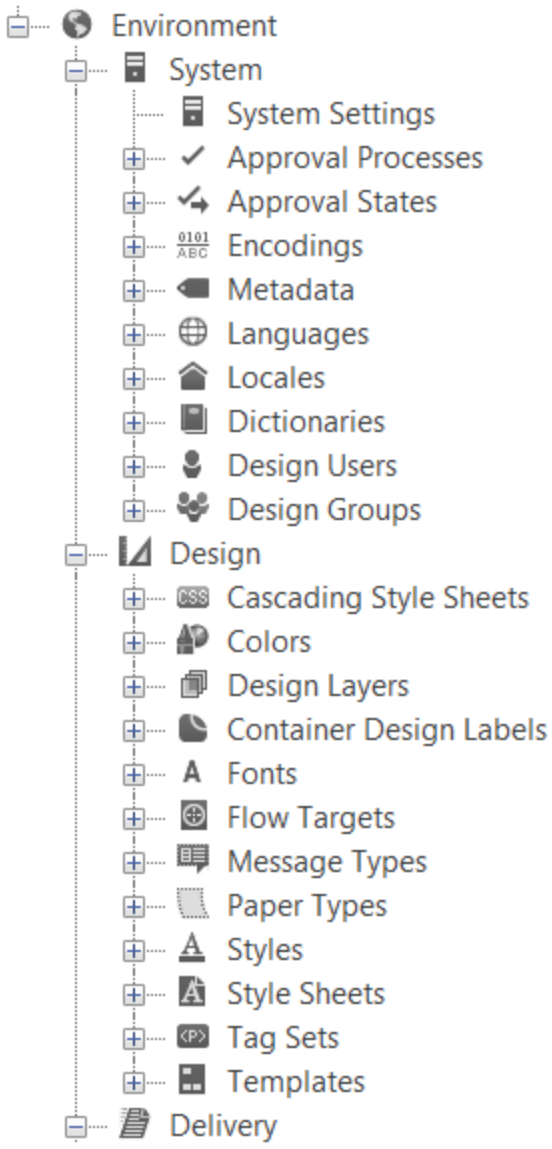
You can set access permissions in Exstream Design and Production to include only those functions and features your company needs. The features and functions that are part of the modules you have not licensed are inactive on the **System Configuration** dialog box. For example, if you have not licensed the Dynamic Charting module, the **3D charts** check box is inactive.

The subheadings under the **Environment** heading categorize several types of system settings:

- **System** heading—Controls system configuration options that affect system settings
- **Design** heading—Controls how users design output
- **Delivery** heading—Controls how output is processed by output equipment such as inserters and printers

For more information about the **Delivery** environment, see *Creating Output* in the Exstream Design and Production documentation.

Environment settings in the Library



For more information about **Flow Targets**, see *Designing Customer Communications* in the Exstream Design and Production documentation.

For more information about **Tag Sets**, see "Tag Sets" on page 154.

This chapter discusses the following topics:

7.1 Configuring User Login and Authentication Settings

The **System Settings** options, available under the **Environment** heading of the Library, let you configure system-wide features that affect every application and every design user within an individual database.

To configure how users log in and are authenticated:

1. In the Library, navigate to **Environment > System**.
2. Drag the **System settings** heading to the Property Panel.
3. On the **Basic** tab, complete the following tasks:

To	Do this
Enter a message that you want to appear when users log in to the database	In the **Login message** box, enter a message.
Enter a description for this database (optional)	In the **Description** box, enter descriptive text. This information is useful if you use multiple databases.
Set the seconds between access time to prevent Design Manager and/or Designer from being disconnected from the database due to inactivity	In the **Database idle disconnect prevention** box, enter the number of seconds that the database connection can be idle before it is disconnected. If you enter a value other than `0`, the database is queried at the time interval you specify to ensure the connection remains open. Enter `0` to disable the feature or enter `15` to `65535` to enable it. The default is `0`. **Tip:** If you are using a DB2 database on z/OS, set the database idle disconnect prevention value to a value slightly lower than the IDTHTOIN setting to avoid intermittent database communication errors.

4. On the **Security** tab, you can control the behavior of design user passwords and external user authentication:

To	Do this
Set the number of days after which design user passwords expire	In the **Default days until passwords expire** box, enter the number of days after which you want the design user passwords expire. When a password expires, the design user must select a new one at the next login. The password cannot be the same as one of the last five passwords. The default for this option is `0`, which means the passwords never expire.

To	Do this
Set the minimum length of design user passwords	In the **Minimum password length** box, enter the minimum character length of a password. The default is 3.
Set the number of failed login attempts to allow before disabling login	In the **Maximum login failures before disabling login** box, enter the number of login failures that can occur before a user account is automatically disabled. The default is 0, which means that login is never disabled due to login failures.
Set how users are authenticated	In the **User authentication** area, select one of the following options: • **Exstream only**—If you select this option, only users created in Exstream Design and Production can obtain access. The default is **Exstream only**. • **Windows and OpenText Exstream**—If you select **Windows and OpenText Exstream** both Windows users and Exstream Design and Production design users are used for authentication. With this method, the current Windows user can log in to Exstream Design and Production by supplying his/her Windows user name and no password to the Exstream Design and Production login screen. For more information about managing users using Windows authentication, see "Using Windows Authentication for User Management" on page 116. • **Authentication DLL and OpenText Exstream**—If you select **Authentication DLL and OpenText Exstream**, you can use a custom DLL for authentication. Provide a path to the DLL in the **Authentication DLL name** box. For added security, the DLL location is encrypted in the design database. External authentication sources are attempted before authenticating against users. • **OTDS and OpenText Exstream**—If you select **OTDS and OpenText Exstream**, you can use OpenText Directory Services (OTDS) for authentication. In order to use this method, you must provide OTDS connection information on the **Integration** tab. For more information about configuring OTDS authentication settings and managing users using OTDS authentication, see "Using OTDS Authentication for User Management" on page 118. **Note:** Keep in mind that when you select an option other than **Exstream only**, that authentication method is enabled in addition to Exstream Design and Production design user authentication.

For more information about external user authentication, see "Adding External Users to a Design Group" on page 115.

5. From the **Edit** menu, select **Save**.

7.2 Enabling Access to Features and Functions in Exstream Design and Production

Clicking **System Configuration** on the Property Panel of **System Settings**, or clicking **Group Configuration** on the Property Panel of a design group lets you enable and disable features and functions in Exstream Design and Production that affect every application and design user within an individual database.

7.2.1 Setting System-Wide Access to Features and Functions

To set access permissions at the system level so that all users are affected:

1. In the Library, navigate to **Environment > System > System Settings**.
2. Drag the **System Settings** heading to the Property Panel.
3. Click the **Basic** tab.
4. Click **System Configuration**.

   The **System Configuration** dialog box opens.
5. In the **System Configuration** dialog box, select the appropriate feature and function check boxes to enable the features and functions for the your organization.

   For details about the available options, see "Features and Functions Available in Exstream Design and Production" on the next page.
6. From the **Edit** menu, select **Save**.

7.2.2 Setting Design Group Access to Features and Functions

To set access at the design group level so that only those design users in that group are affected:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the design group you want to configure to the Property Panel.
3. Click **Group Configuration**.

   The **System Configuration** dialog box opens.

4. In the **System Configuration** dialog box, select the appropriate feature and function check boxes to enable the features and functions for the design group.

   For details about the available options, see "Features and Functions Available in Exstream Design and Production" below.

5. From the **Edit** menu, select **Save**.

7.3 Features and Functions Available in Exstream Design and Production

Clicking **System Configuration** on the Property Panel of **System Settings**, or clicking **Group Configuration** on the Property Panel of a design group, lets you enable and disable features and functions. Features and functions in Exstream Design and Production are divided into the following five tabs on the **System Configuration** dialog box:

- **Design Manager**—Lets you turn on and off features and functions available in the Library
- **Data**—Lets you set variable and data file features and limitations
- **Content**—Lets you set the features and functions available for pages, documents, messages, and campaigns
- **Workflow**—Lets you set design workflow and packaging features and functionality
- **Designer**—Lets you set the features and functions of Designer objects, features, and tables
- **Key**—Lets you see which suites and modules you have licensed. You can also enable or disable any module that is available through your key

Some options on the **System Configuration** dialog box are hierarchical. For example, clearing the **Relative positioning** check box on the **Designer** tab disables the functionality of the **Left/right relativity** check box.

If you disable an option that is already in use in an application, it remains in use in existing designs, but design users cannot use that option in future designs. When options are disabled for a design group, those design users cannot change objects controlled by the disabled options, but the objects themselves remain intact.

Features on the Design Manager Tab—Library Area

The **Library** area lets you customize the availability of specific features stored in the Library. Select the check boxes based on what you want design users to do.

Option	Description
Component library check box	Lets design users create components and store them in the Library
Rules library check box	Lets design users create rules and store them in the Library
Allow user fonts check box	Lets design users use any workstation font, including those not set up under the **Design** heading in the Library
User security check box	Enables user login and tracking
Database import and export check box	Lets design users import and export database objects using the load/unload feature (XOB)

For more information about the Library, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Design Manager Tab—Languages and Locales Area

The **Language and locales** area lets you customize the availability of features related to design in multiple languages and locations.

Option	Description
Multi-language content check box	Lets design users design pages and messages with language layers
Multiple locales check box	Lets design users use multiple locales during design
Currency conversion check box	Converts currency values automatically using the customer's locale

For more information about languages and locales, see "Working with Languages and Locations" on page 177.

Features on the Design Manager Tab—Applications Area

The **Applications** area lets you customize the availability of application-level features.

Option	Description
Application version labels check box	Lets design users create application version labels for packaging
Application variables check box	Lets design users use variables at the application level
Package profiles check box	Lets design users create and use packaging profiles

Option	Description
Weight and postage control check box	Lets design users use weight computations and postage controls

For more information about applications, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Design Manager Tab—Objects Area

The **Objects** area lets you customize the availability of specific objects.

Option	Description
Color families check box	Lets design users use color families for named color processing
Color tables check box	Lets design users use color tables to perform color tuning on outputs
Connectors check box	Lets design users use connect to existing enterprise architecture
Design layers check box	Lets design users use design layers in Designer
Inserters check box	Lets design users use inserter objects to control inserter devices
Lists check box	Lets design users use lists for workflow and reporting
Functions check box	Lets design users store functions in the Library
Jurisdictions check box	Lets users instruct the engine to select specific versions of paragraphs, sections, messages, pages, and documents based on geographical or virtual locations
Multiple up output check box	Enables multiple-up output processing
Paragraphs and sections check box	Lets design users use document paragraph and section objects
Search keys check box	Lets design users add non-printing data around content in the print stream
Locator search keys check box	Lets design users add non-printing data within content in the print stream
Styles and stylesheets check box	Lets design users use styles and style sheets
Tag sets check box	Lets design users define tag sets
Dictionaries check box	Lets design users use custom spelling and excluded words dictionaries

Tip: To find more information about these objects, search the Exstream Design and Production documentation set using the object as the search keyword.

Features on the Design Manager Tab—Color Models Area

The **Color Models** area lets you customize the availability of color options. By default, all the options are selected, which lets users choose from all color options. To restrict users to specific color models, clear the appropriate color model check box. For example, if you want a design user to use only CMYK, clear the **RGB** check box and the **PANTONE** check box.

You must select at least one of the options. If no color model options are selected, you receive a message and the last option cleared is selected.

Option	Description
RGB check box	Red, Green, Blue. RGB color models are generally used for output going to electronic devices, such as webpages.
CMYK check box	Cyan, Magenta, Yellow, Black. CMYK color models are generally used for printed output.

PANTONE check box	• **PANTONE®**—A wide variety of colors defined by Pantone that produce standardized color reproduction. Pantone organizes these colors into libraries using a name and number system. The following PANTONE color libraries are available:
	  • PANTONE® solid coated
	  • PANTONE® solid uncoated
	  • PANTONE® Goe™ coated
	
	Note: PANTONE Colors are supported only in PostScript, PostScript-based, PDF, and PDF-based outputs, and only if your output device is Pantone-approved and Licensed. If you use a PANTONE Color in a design for output that does not support PANTONE Colors, Exstream Design and Production substitutes an equivalent color value. If Pantone upgrades an existing color library or adds a new color library, you must upgrade your version of Exstream Design and Production to use the new colors.

For more information about color options, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Data Tab—Variables Area

The **Variables** area lets you customize the availability of variable-related features.

Option	Description
Allow static arrays check box	Lets design users use static and growing arrays
Formula and counter variables check box	Lets design users use formulas and counter variables

Option	Description
Variable validation check box	Allows automatic variable validation when data changes
Variable string lookups check box	Allows string lookups to convert codes to values automatically
PDF dynamic import check box	Allows dynamic content import for PDF
Placeholder variables check box	Allows placeholders and placeholder variables

For more information about formulas, see *Using Logic to Drive an Application* in the Exstream Design and Production documentation.

For more information about counter variables, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

Features on the Data Tab—Data Files Area

The **Data files** area lets you customize the availability of data file-related features.

Option	Description
Data sections check box	Allows data section processing
Non-native character sets check box	Allows ASCII and EBCDIC processing in non-native environments
Record transforms check box	Allows data records to be pre-processed as part of input or output
Reference data files check box	Lets design users create reference data files
Updatable driver & reference files check box	Allows the processing of customer driver files and allows reference files to be used to update external data sources
Viewer data files check box	Lets design users create data files for AFP and Metacode analysis
Data aggregation check box	Lets design users set up section-based documents for data aggregation For more information about data aggregation, see *Designing Customer Communications* in the Exstream Design and Production documentation.
File layouts permitted drop-down list	Restricts the types of data file layouts. Select one of the following options: • **Any**—Design users can select any type of file layout. • **Columnar only**—All data files must be columnar. • **Delimited only**—All data files must be delimited.

For more information about data files, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

Features on the Content Tab—Pages Area

The **Pages** area lets you customize the availability of page-related features.

Option	Description
Duplex page designs check box	Lets design users create duplex pages
Multi-page flow check box	Allows content that can span more than one page
RTF header processing check box	Lets design users specify the RTF header size on editable RTF pages
Multiple design resolutions check box	Lets design users use different design resolutions
Multiple flow margins check box	Lets design users design pages with different flow margins
Default page flow margin box	Specifies the default amount of space to leave at the bottom of all pages during an engine run

Features on the Content Tab—Documents Area

The **Documents** area lets you customize the availability of document-related features.

Option	Description
Documents structure variables check box	Lets design users use variables for naming document structures
Placeholder documents check box	Lets design users use placeholder documents in applications
Variable-based document assembly check box	Allows variable arrays to specify which paragraphs to include
Variable-based paragraph selection check box	Allows variable arrays to specify which paragraphs to include

Option	Description
Frame fill method drop-down list	Specify the frame fill method for documents using one of the following options: • **Sequential**—Fills frames in the order in which they are placed in the document • **Article**—Lets previously composed frames accept overflow from text messages placed later in the document • **Prompt by document**—Lets design users select which method to use
Graphic float drop-down list	Specify the graphic floating method for documents using one of the following options: • **May float**—A graphic message can move from the first frame in which it is placed to a subsequent frame when a text message causes it to move. • **May not float**—A graphic message must remain in the first frame in which it is placed. • **Prompt by document**—Design users can select whether or not graphic messages can float.

For more information about documents, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Content Tab—Messages Area

The **Messages** area lets you customize the availability of message-related features.

Option	Description
Document messages check box	Lets documents include messages for content
Insert messages check box	Lets design users create insert messages to control inserters or for external messages
Message tracking check box	Lets Design Manager track messages
URL links for message objects check box	Allows URL links for message areas
Variable-based messaging check box	Lets variable arrays specify which messages to include

For more information about messages, see *Managing Marketing Messages* in the Exstream Design and Production documentation.

Features on the Content Tab—Campaigns Area

The **Campaigns** area lets you customize the availability of campaign- and tracking-related features.

Option	Description
Rule execution timing check box	Lets design users specify when campaign target rules are run
Campaign dates check box	Lets design users use dates to specify when campaigns can be sent
Campaign-driven page limitation check box	Lets design users limit the number of pages to be driven by campaigns
Distribution analysis check box	Allows analysis of campaign results
Distribution limits check box	Lets design users limit the number of campaigns sent in total or over a period of time
Manage messages sent by other systems check box	Lets the engine produce message information to be delivered by another system
Allow campaign copies to same customer check box	Lets design users specify how often a customer can receive copies of a campaign per engine run
Priority rules check box	Lets design users use rules to specify campaign priorities
Targeting based on previous campaigns check box	Lets design users target content based on previous campaigns
Targeting based on customer responses check box	Lets design users use previous responses from customers to target messages and campaigns
Targeting by file check box	Lets design users use customer lists to drive campaign targeting
Teaser messages check box	Lets design users use campaign teaser messages
Tracking periods check box	Lets design users control campaign and message tracking periods

For more information about campaigns and tracking, see *Managing Marketing Messages* in the Exstream Design and Production documentation.

Features on the Workflow Tab—General Workflow Area

The **General workflow** area lets you customize the availability of design workflow-related features.

Option	Description
Allow accessibility warning messages check box	Allows design users to view the accessibility warning messages when changing the accessibility tag option to anything other than **Read object text** on Library objects. If the accessibility warning messages have been disabled (by a design user selecting the **Do not show this message again** check box), you can re-enable them by selecting this check box. By default, this check box is selected.
Check-in and check-out check box	Requires design users to check out objects before they can change them
Exact test submission check box	Allows design users to submit Exact test cases to Exstream Design and Production
Expiration dates check box	Lets design users specify expiration dates for objects
Object locking check box	Lets design users lock objects so they cannot be changed by other design users at the same time
Quick Fixes check box	Lets design users create Quick Fixes from objects with the status of Approved or Archived
Revision history check box	Allows the creation of automatically generated revision notes, such as when an object is cloned
Revision note prompts check box	Prompts design users to write revision notes when they save versioned objects
Soft delete check box	Lets design users retrieve deleted objects from the Trashcan. If this feature is disabled, the contents of the Trashcan cannot be restored.
Version control and approval check box	Lets design users create and approve multiple versions of objects For more information on version control, see *Designing Customer Communications* in the Exstream Design and Production documentation.
Enable document change-control values drop-down list	Allows a unique value to determine whether a document will change. Select one of the following options: • **Disable in all applications** • **Enable**

Option	Description
Application Mode drop-down list	To help distinguish between the two types of databases available within the single executable, Exstream Design and Production assigns an application mode to each. Additionally, you can select a dual mode option which allows you to integrate content from both an SBCS database and a DBCS database. You can choose to operate in the following application modes: • **SBCS**—SBCS databases run in SBCS application mode • **DBCS**—DBCS databases run in DBCS application mode • **SBCS/DBCS** (Dual Mode)—Both SBCS and DBCS databases run in SBCS/DBCS application mode. Application mode determines the types of objects available within the design environment, including outputs, output queues, data files, and languages. For example, in SBCS mode, only SBCS object types are available. In SBCS/DBCS mode, both SBCS and DBCS object types are available. In addition, selecting either SBCS or DBCS application mode dictates which engine (SBCS or DBCS) will be used to package and run applications within the database. SBCS applications always use the SBCS engine, and DBCS applications always use the DBCS engine.

For more information about design workflow, see "Setting Up Design Workflow" on page 220.

Features on the Workflow Tab—Packaging Area

The **Packaging** area lets you customize the availability of package-related features.

Option	Description
AFP Viewer font support check box	Allows packaging to create font maps for AFP Viewer
Exclude non-jurisdictional versions when jurisdictional versions present check box	Excludes versions without specific jurisdictions from the package file when objects have both jurisdictional and non-jurisdictional versions
Exstream Viewer Output check box	Lets design users view output in the Exstream Viewer
Generate manifest for AQS check box	Creates an XML manifest inserted into the package file that outlines the application, variables, rules, data files, messages (including types), pages, campaigns, sections, documents and their relationship
Incremental packaging check box	Allows incremental packaging support
Multi-package applications check box	Lets the engine process multiple package applications
Packages may include data files check box	Lets package files include a copy of data files
Package tracking check box	Lets package tracking report the date that applications are packaged

Option	Description
Standalone resource packaging check box	Lets resources be created independently during packaging
Distributed database ID box	Identifies the master database (0) or child databases (> 0). Leave as (-1) if you do not use the distributed database feature.

For more information about packaging, see *Preparing Applications for Production* in the Exstream Design and Production documentation.

Features on the Designer Tab— Designer Objects Area

The **Designer objects** area lets you customize the availability of objects created in Designer.

Option	Description
Barcode objects check box	Lets design users use barcode objects in Designer For more information about barcodes, see *Creating Output* in the Exstream Design and Production documentation.
Cross references check box	Lets design users use cross-references
Embedded objects check box	Lets design users embed objects
Footnotes check box	Lets design users use footnotes
Page frames check box	Lets design users add frames to page designs
TOCs and indexes check box	Lets design users use tables of contents (TOCs) and indexes For more information about TOCs and indexes, see *Designing Customer Communications* in the Exstream Design and Production documentation.
3D charts check box	Lets design users use three-dimensional (3-D) charts For information about 3-D charts, see *Designing Customer Communications* in the Exstream Design and Production documentation.

For more information about design objects, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Designer Tab— Designer Features Area

Option	Description
Autofit text check box	Lets design users automatically fit text in text boxes and table cells

Option	Description
Conditional colors check box	Lets design users use conditional colors
Composition times check box	Lets design users specify object composition times
Flow-around text and objects check box	Allows text to flow around objects
Left/right relativity check box	Lets design users use left/right relativity for flow processing
Readability check box	Enables options in Designer that measure of how easily text can be read
Relative positioning check box	Allows relative positioning in Designer
RTF import check box	Lets design users import RTF tables and text in Designer
Font scaling check box	Lets Designer resize fixed-size fonts
Text revision tracking check box	Lets design users track changes made to text
Save all original image color data check box	Allows Designer to save image color information
Allow Spot color tints	Allows designers to apply unique spot color tints from Designer other than the pre-defined spot color tints stored in the Design Manager Library.

For more information about Designer, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Designer Tab—Tables Area

Option	Description
Advanced table sections check box	Lets design users create multiple sections from array and section grouping
Automatic joining of table cells check box	Lets design users join adjacent table cells when the content is the same
Automated table columns check box	Allows automated table columns
Horizontal splitting tables check box	Allows automatic table splitting when tables are too wide to fit in the frame

Option	Description
Multi-column table cells check box	Lets design users create multi-column table cells
Overlapping table headers check box	Lets design users use overlapping headers in tables
Table legend boxes check box	Lets design users use legends with tables
Table ordering check box	Allows automatic calculation of running and page totals within flowing tables
Table totals check box	Allows automatic calculation of running and page totals within flowing tables
Splitting rows check box	Lets table rows split across pages
Table types drop-down list	Restricts the types of tables that can be created (from the **Table Type** dialog box). The options are inclusive of lower-level options. For example, the **Automated Sections** option indicates that simple, automated, and automated sections tables can be created.

For more information about tables, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Features on the Designer Tab—Dictionaries Area

The **Dictionaries** area lets you select the type of spell checking and excluded word checking the design users can use.

Option	Description
Allow user spelling dictionaries check box	Lets design users turn on and off their local dictionaries. Local dictionaries are dictionaries to which individual users have made modifications by right-clicking a misspelled word and entering the preferred spelling.
Require Exstream spelling dictionaries check box	Requires design users to use the custom spelling dictionary when they run spell check

For more information about dictionaries, see "Enforcing Corporate Standards" on page 125.

Key Tab

On the **Key** tab of the **System Configuration** dialog box, you can see which suites and modules you have licensed. You can also enable or disable any module that is available through your key. For example, you can limit the output drivers available to design groups by clearing the check boxes of the pDrivers and eDrivers you do not want design users in that group to access. When an output driver is selected, design users can access that driver in the Library and from the **Build Package** dialog box.

For more information on licensing options, see *Getting Started* in the Exstream Design and Production documentation.

7.4 Configuring Design Environment Options

You can set preferences for the design environment, such as specifying default programs, enabling functionality, and setting personal preferences by selecting **Tools > Options** in Design Manager or Designer. Each program has a different set of options that you can define.

7.4.1 Design Manager

The **Options** dialog box in Design Manager is divided into the following areas:

Area	Options
General	• **Auto-restore panels**—Automatically restore the panels that were open in the previous session when you begin a new session. • **Allow drop on active panels**—Allow Library objects to be dragged and dropped on the Property Panel and Edit Panel. • **Heading double-click action**—The behavior to enforce when a Library heading is double-clicked. You can specify that no action is taken or that all objects in that heading are listed in the Edit Panel. • **Object double-click action**—The behavior to enforce when a Library object is double-clicked. You can specify that no action is taken, that the object is opened in the Property Panel, or that the object is opened in the Edit Panel. • **Default Units**—The default unit of measure. You can specify inches, centimeters, points, picas, or pixels. • **Add-in directory**—The directory where add-ins are stored.
Data mapping	• **Top panel initialization**—The behavior to enforce in the Property Panel when you edit the data mapping in the Edit Panel. You can choose to list all variables in the database or show the mapped variable layouts. • **Text editor**—The default program to use when viewing or editing a data file. • **Text editor for EBCDIC files**—The default program to use when viewing or editing a data file with EBCDIC encoding.

Area	Options
Packaging\Engine	• **Packaging directory**—The default directory for storing package files and package profiles, if no directory is specified on the **Build Package** dialog box in Design Manager. Clear this box to use your personal Exstream directory. • **Archived package file directory**—The default directory for storing archived package files. Clear this box to disable the package archiving feature. • **Build AFP font map for AFP viewer**—Build an AFP font mapping file when creating AFP output. If you select this check box, the **AFP font map directory** box becomes active. • **AFP font map directory**—The directory in which the AFP font mapping file is stored. Clear this box to use your personal Exstream directory. • **Do not refresh font metrics**—Do not refresh the font metrics during packaging. • **Alternative output viewer**—The AFP viewer format to use when packaging. If you select **AFP Viewer** from the list, you must also specify the path of the executable file. • **CAS package upload timeout (seconds)**—The amount of time to wait when a package file to finish uploading to the common asset service (CAS). This option is available only if you are logged in as an OpenText Directory Service (OTDS) user.
Database	• **Automatically open last database used when application starts**—Automatically open the database that was used in the previous session. • **Query timeout (sec.)**—The number of seconds after which the open database session times out (in seconds). Enter **0** to specify that there is no timeout. • **Tracking database**—The DSN and schema for the tracking database.

7.4.2 Designer

The **Options** dialog box in Designer is divided into the following tabs:

- **Properties**—Lets you view the current page object properties that are specified in Design Manager. You can set the page to duplex or set a design height for the page to accommodate flowing objects.
- **Designer**—Lets you select which features and settings to use while working in Designer. This tab is divided into the following areas:

Area	Options
Designer	• **Always maximize design windows**—The design windows are always maximized, even if the main window is not. • **Show popup tips**—Show popup tips for design objects. • **Automatically save**—Automatically save your changes as you work. • **Undo stack**—The number of actions that you can undo. If you specify **0**, the undo feature will become unavailable to users. • **Units**—The default unit of measure. You can specify inches, centimeters, points, picas, or pixels. • **Color display**—The type of color display mode to use. • **Highlight**—The highlight color to use. • **Show page color**—Show the page background in the design color, if one is used. Clear the check box to show the page as white. • **Text editor**—The default text editor to use when editing rules or other text externally. • **Large image processing threshold (MB)**—The image size threshold that determines when to conserve memory when drawing images. • **Message frame drawing**—The fill method to use for message, placeholder, and other types of frames.
Design Indicators	• **Show invisible text characters**—Show hidden characters, such as spaces, tabs, paragraphs, and new lines. • **Show late compose indicators**—Show a clock indicator on objects that are set to compose late. • **Show version icons on library components**—Show indicators of the versions on Library components. • **Show text overflow arrows**—Show blue arrows to indicate when text overflows to the right or bottom when designing.
In-place Active Controls	• **Show active object controls**—Show the delete, property, rule, and paragraph controls when an object is active. • **Show all paragraph controls**—Show paragraph handles on paragraph objects for which no advanced options are set.
Design Assist	• **Automatically move relative objects**—Automatically move objects that have relativity settings applied relative to other objects. • **Run table analyst when table edited**—Automatically run the Table Analyst tool when you save after editing a table. The Table Analyst tool will notify you if there are issues with the table design. • **Show objects from background layers**—Display objects in the design window that are present on background layers of the design. • **Show variables as design sample text**—Always use the design sample text for variable values, as defined in the variable properties in Design Manager

Area	Options
Document Section Editing	• **Highlight across paragraph objects**—Allows you to highlight text across paragraph object boundaries while editing section objects. • **Automatically create WIP version**—Automatically create Work In Progress versions of section objects.
Exstream Live Simulation Mode	• **Exstream Live Simulation Mode**—The theme to use for page designs when editing in Live mode. • **Show Live watermark in Live mode**—Include a watermark on pages when editing in Live mode.
Custom Action Button	• **Batch/executable path**—The executable file to use for a custom button action. • **Show button on toolbar**—Show the custom action button on the actions toolbar.

- **Grid Control**—Lets you show the page design grid and set options for the way that it is displayed. You can specify the grid size, angle, units, and nudge size, as well as specify that objects snap to the grid or angle specified.
- **Grammar**—Lets you enable grammar check, which checks the words used in Designer against the language dictionary
- **Excluded Words**—Lets you enable the excluded words check, which checks the words used in Designer against the excluded words dictionary
- **Spelling**—Lets you enable and set options for spell check, including which dictionary to use
- **Viewers**—Lets you define which programs to use for viewing different output types

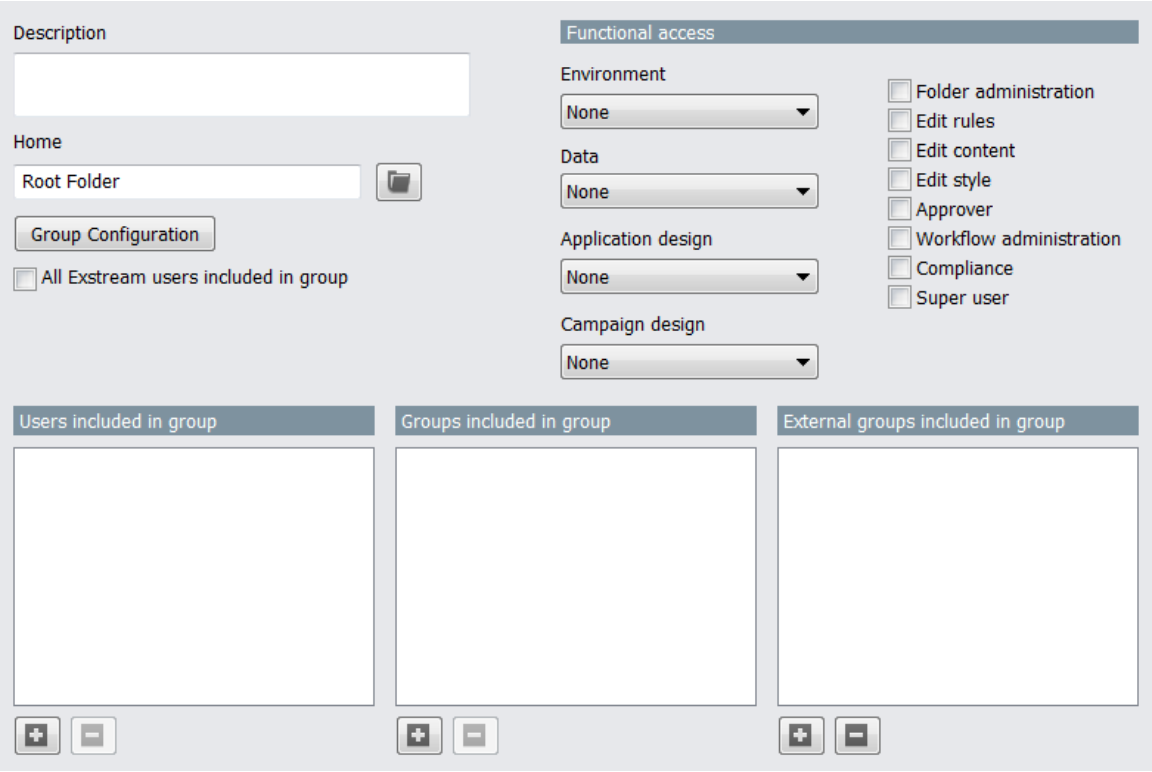
Chapter 8: Managing Design Groups and Design Users

A design group is a list of one or more design users and/or other design groups. Each design group defines access to Exstream Design and Production features and functions for multiple users. Design groups also classify similar employees and define the availability of Exstream Design and Production objects. You can add design users, design groups or external groups to a design group.

A design user can belong to several design groups. Conflicting design group rights do not negate each other. If a design user belongs to two groups, and one group restricts a function, and the other grants access to the same function, the design user has access to the function. A design user is any person who accesses the design environment. As your organization inevitably goes through personnel changes, you will need to add new design users, view a list of current design users, remove design users, or temporarily disable design users.

Creating a design group is the first step in setting the access levels for a group of design users. You can also set the starting folder and customized user interface options during this process. Upon creation, the design group opens in the Property Panel for you to define.

Design group properties



To manage design users in Exstream Design and Production, complete the following tasks as needed:

8.1 Adding Design Groups and Design Users

This topic covers the following tasks:

8.1.1 Adding a Design Group

1. In the Library, navigate to **Environment > System**.
2. Right-click the **Design Groups** heading and select **New Design Group**.

   The **New Design Group** dialog box opens.
3. In the **Name** box, enter a name for the new design group.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The design group opens in the Property Panel for you define.
6. Click  to select the starting folder for design users in the design group.
7. In the **Functional access** area, select a level of access from the **Environment** list, the **Data** list, the **Application design** list, and the **Campaign design** list. The default is **None**.

8. In the **Functional access** area, select the level of departmental access for this group.
9. From the **Edit** menu, select **Save**.

8.1.2 Adding Design Users to Exstream Design and Production

1. In the Library, navigate to **Environment > System**.
2. Right-click the **Design Users** heading and select **New Design User**.

   The **New Design User** dialog box opens.
3. In the **Name** box, enter a name for the design user.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The design user opens in the Property Panel.
6. To make the design user a super user, select the **Super user** check box.
7. To select how to authenticate this design user, select one of the following options from the **User authentication** list in the **Login** area:

   - **Exstream**—If you select this option, this user is authenticated using an Exstream Design and Production user name and password. The default is **Exstream**.
   - **Windows**—If you select this option, this design user represents a Windows user. This design user can log in only if he/she is already logged in to Windows. On the Exstream Design and Production login screen, the user must enter the Windows user name in the **User** box and leave the **Password** box blank.
   - **Authentication DLL**—If you select this option, this design user is authenticated using the authentication DLL specified in the **Authentication DLL name** box on the **Security** tab of the **System Settings** properties.
   - **OTDS**—If you select this option, this design user is authenticated using the OTDS server specified in the OTDS settings on the **Integration** tab of the **System Settings** properties.

   For more information about external user authentication, see “Configuring User Login and Authentication Settings” on page 89.
8. If you selected **Exstream** from the **User authentication** list, enter the design user's password in the **Password** box in the **Password** area. The default is `xxx`.

   Passwords are encrypted in the database and are masked on screen.
9. If you selected an option other than **Exstream** from the **User authentication** list, you must

enter an external user name for this design user in the **External user name** box. Do one of the following:

If you selected	Do this
Windows	Click  to select the Windows user name for this user from the **Select User** box.
Authentication DLL	Enter the external user name expected by the Authentication DLL for this user. This user name serves as the login name when this user logs in to Exstream Design and Production.
OTDS	Enter the OTDS user name for this user. This user name serves as the login name when this user logs in to Exstream Design and Production. **Note:** The external user name for a user must correspond to the user ID for that user in OTDS. However, an OTDS user can use any other OTDS user aliases associated with that user ID when logging into Exstream Design and Production. Keep in mind that when an OTDS user logs in using an alias, the user is still identified using the design user that corresponds to their OTDS user ID. A new design user is not created for the alias.

10. In the **Days until password expires** box, enter the number of days until the design user's password expires and it must change. If you want to use the system default for this setting, select the **Use system default** check box.
11. If you want to force design users to change their password the next time they log in, select the **Force password change on next login** check box in the **Password** area.
12. From the **Edit** menu, select **Save**.

8.1.3 Adding Design Users or Design Groups to a Design Group

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the appropriate design group to the Property Panel.

3. Add one of the following to a design group:

To	Do this
Add all Exstream Design and Production design users (but not external users)	Select the **All Exstream users included in group** check box.
Add a design user	a. In the Users included in group area, click  . The **Select a Design User to add to the list** dialog box opens. b. Select a design user from the list. c. Click **OK**. The design user that you selected appears in the **Users included in group** box.
Add a design group	a. In the **Groups included in group** area, click  . The **Select a Design Group to add to the list** dialog box opens. b. Select a design group from the list. c. Click **OK**. The design group that you selected appears in the **Groups included in group** box.

4. From the **Edit** menu, select **Save**.

8.2 Design Group Access Permissions

Before you add design groups to Exstream Design and Production, you should be aware of each group's function and which areas of Exstream Design and Production the design group needs to access. You can set the design group's access permissions when adding the design group or at any time after the design group has been created. Design groups include the following functional access areas:

Functional access areas

Access areas	Description
Environment	Lets the design users in the group access the administrative functions (below the **Environment** heading). Enable this option only for design groups who require administrative access. While granting environment access to the design users of that group to access administrator objects, only a super user can modify design users, design groups, and system configuration.

Functional access areas, continued

Access areas	Description
Data	Lets the design users in the design group create and modify data files, the Data Dictionary, and connectors
Application design	Lets the design users in the group create applications, documents, pages, sections, paragraphs, messages, and lists For information about application design, see *Designing Customer Communications* in the Exstream Design and Production documentation.
Campaign design	Lets the design users in the design group create campaigns For information about campaigns, see *Managing Marketing Messages* in the Exstream Design and Production documentation.
Folder Administration	The design users can create and delete new folders. For more information about folder administration, see *Getting Started* in the Exstream Design and Production documentation.
Edit Rules	The design users can create and edit rules that apply to paragraphs, sections, messages, campaigns, documents and queues. For information about rules, see *Using Logic to Drive an Application* in the Exstream Design and Production documentation.
Edit Content	The design users can create and edit paragraphs, sections, messages, campaigns, documents. Their design group must have at least **Revise** access.
Edit Style	The design users can add, modify, or delete styles and style sheets. Their design group must have at least **Revise** access selected from the **Environment** drop-down list.
Approver	The design users are allowed to approve, unapprove, reject, and cancel the submission of objects in folders to which they have access. This setting applies to folders that do not have an approval process assigned to it. They can also approve, unapprove, reject, and cancel the submission of objects under the **Environment** heading. The design group must have at least **Revise** access selected from the **Application design** drop-down list.
Workflow Administration	The design users of a group are allowed to cancel the submission status of an object that was submitted by another design user. This setting applies to folders that have an approval process assigned to it. They can also cancel the submission of objects in all folders to which they have access. The design group must have at least **Revise** access selected from the **Application design** drop-down list.
Super User	By selecting this check box, every design user in this design group is designated as a super user: granted unlimited access. If the **Super user** check box is cleared, the design users revert to the previously defined access levels.
Compliance	Edit the regulatory support features if your organization has licensed the Compliance Support module. For this option to appear in Design Manager, you must have the **Jurisdictions** check box selected in the **System Configuration** dialog box.

Environment, **Data**, **Application design**, **Campaign design** each have a functional access levels. For example, if your design group has the **Campaign design** access state set to **None**,

the **Campaign** heading does not appear in the Library view. If a design user does not have at least the **View** access level for an area, the related item does not appear in Design Manager. Functional access levels include the following:

Functional access levels

Access levels	Description
None	Prevents the design group from viewing, editing, creating, and deleting objects in the area
View	Lets the design group view, but not edit, create, or delete objects in the area
Revise	Lets the design group view and edit, but not create or delete objects in the area
Create	Lets the design group view, edit, and create, but not delete objects in the area
Create and Delete	Lets the design group view, edit, create, and delete objects in the area

The highest access selected from the **Application design** or **Campaign design** drop-down list determines the design group's access to messages. For example, if you select **View** from the **Application design** drop-down list and **Edit** from the **Campaign design** box, then the message access level is edit.

If a design group has access to a folder that has other folders in it, the design group also has access to the subfolders unless you restrict access on the subfolder. If a design user is not in a design group or is in multiple design groups, the home folder is the root folder.

8.3 Adding External Users to a Design Group

If you manage your users in an external user repository, such as Active Directory or OpenText Directory Services (OTDS), you can add external groups to a design group to make the management of users more flexible. For example, if your list of users is large or if it changes frequently, you can specify external groups that belong to the design group instead of adding these individual users as design users in Exstream Design and Production.

Keep in mind that when the users in the external group log in to Exstream Design and Production for the first time, a design user is automatically added to the Library for that external user.

If a design user already exists in the Library with the same external user name and with the same external user authentication type, then the user is logged in as that design user and a new design user is not created. However, if a design user already exists in the Library with the same design user name and with different external authentication credentials, Exstream Design and Production adds the date stamp to the end of the design user name to make it unique.

For example, if there is a Windows-authenticated design user named "AMERICAS\JohnDoe," then there cannot be a DLL authenticated design user with the user name "AMERICAS\JohnDoe." In this circumstance, Exstream Design and Production adds the time stamp to the new design user name. Therefore, if the external user "AMERICAS\JohnDoe" was added on 2010/08/17 14:56:00, then Exstream Design and Production automatically adds that

user as "AMERICAS\johndoe_20100817145600" to the Library. Exstream Design and Production will add an additional number, 1-1000, to the end of that number if it is required to make the name unique.

For more information about adding external Windows groups, see "Using Windows Authentication for User Management" below.

For more information about adding external OTDS groups, see "Using OTDS Authentication for User Management" on page 118

8.4 Using Windows Authentication for User Management

To make the management of design users more flexible, you can use the authentication features offered by Windows to maintain Exstream Design and Production user information.

This topic covers the following tasks:

- "Configuring Windows Authentication Settings for Exstream Design and Production" below
- "Adding Windows Groups to Design Groups" on the next page
- "Removing Windows Groups from Design Groups" on the next page

8.4.1 Configuring Windows Authentication Settings for Exstream Design and Production

To enable Windows user authentication in Exstream Design and Production:

1. In the Library, navigate to **Environment > System > System settings**.
2. On the **Security** tab, from the **User authentication** area, select **Windows and OpenText Exstream**.
3. From the **Edit** menu, select **Save**.

8.4.2 Adding Windows Groups to Design Groups

After you have selected the **Windows and OpenText Extream** authentication option in Design Manager, you can add your external Windows groups to Exstream design groups.

For more information about adding design groups, see "Adding Design Groups and Design Users" on page 110.

Keep in mind that when a user in an external group logs in to Exstream Design and Production for the first time, a design user is automatically added to the Library for that external user.

If a design user already exists in the Library with the same Windows user name and with the same Windows user authentication type, then the user is logged in as that design user and a new design user is not created. However, if a design user already exists in the Library with the same design user name and with different external authentication credentials, Exstream Design and Production adds the date stamp to the end of the design user name to make it unique and adds the user to the Library.

To add an external group to a design group:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the appropriate design group to the Property Panel.
3. Under the **External groups included in group** box, click  .

   The **Select Group** dialog box opens.
4. Use the **Select Group** dialog box to select the Windows group that you want to add.
5. Click **OK**.

   The external user group that you selected appears in the **External groups included in group** box.
6. From the **Edit** menu, select **Save**.

8.4.3 Removing Windows Groups from Design Groups

To remove an external group from a design group:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the appropriate design group to the Property Panel.
3. In the **External groups included in group** area, select the Windows group you want to remove and click  .

The selected group is removed from the **External groups included in group** box.

To remove multiple groups, press and hold CTRL, and then select the groups that you want to remove.

4. From the **Edit** menu, select **Save**.

8.5 Using OTDS Authentication for User Management

OpenText Directory Services (OTDS) is a repository of user and group identity information and a collection of services to manage this information for OpenText components. OTDS contains components for identity synchronization and single sign-on for all OpenText components.

You can use the authentication features offered by OTDS to maintain Exstream Design and Production user information in a single directory and use this information for user authentication across multiple OpenText applications.

Keep in mind that OTDS authentication is required to use the integration features available in the Exstream platform.

This section covers the following tasks:

- “Configuring OTDS Settings for Design and Production” below
- “Adding OTDS Groups to Design Groups” on page 120
- “Removing OTDS Groups from Design Groups” on page 122

8.5.1 Configuring OTDS Settings for Design and Production

Before you can use OTDS user authentication in Exstream Design and Production, you must first install and configure your OTDS server for use with Exstream Design and Production. Keep in mind that Exstream Design and Production only supports connections to a single OTDS tenant at any time.

For complete information about configuring OTDS for use with Exstream, see *Setting up OTDS for Exstream* in *OpenText Exstream: Communications Server Administration Guide*.

For information about how to set up the partition, groups, and resource in OTDS, see *OpenText Directory Services Installation and Configuration Guide*.

Important: The steps covered in this section assume that you have successfully installed and configured OpenText Directory Services for your organization. Design users might need to contact an Exstream system administrator for the information required to specify these connection settings.

To enable OTDS user authentication in Exstream Design and Production:

1. In the Library, navigate to **Environment > System > System settings**.
2. On the **Security** tab, in the **User authentication** area, select **OTDS and OpenText Exstream**.
3. On the **Integration** tab, in the **OTDS** area, specify the following connection settings required for connecting to the OTDS server:

   Note: If you are using the **OTDS and OpenText Exstream** user authentication option, then you must specify your OTDS settings on the **Integration** tab in order to connect to the OTDS server and view your OTDS groups in Design Manager.

   a. In the **OTDS base URL** box, enter the base URL for the OTDS server.

      The OTDS server handles user authentication and group membership for OTDS users. The format of the base URL depends on the configuration of your Exstream environment:

      - In a single-tenant OTDS system, or if you are connecting to the default tenant in a multi-tenant OTDS system, the format of the base URL is `https://<host>:<port>`. For example:

        `https://sampleserver.opentext.com:8443`

      - In a multi-tenant OTDS system, if you are connecting to a tenant other than the default tenant, the format of the base URL is `https://<host>:<port>/otdstenant/<tenantName>`. For example:

        `https://sampleserver.opentext.com:8443/otdstenant/yourtenant2`

      - If reverse proxy is enabled for your Exstream environment, the format of the base URL is `https://<hostname>:<port>/<tenantName>`. For example:

        `https://sampleserver.opentext.com:443/yourtenant`

   b. In the **Resource ID** box, enter the resource identifier associated with the resource for Exstream as it appears in the OTDS server.

      You can obtain the resource identifier in two ways:

Method	Steps
Using the **OTDS Resources** dialog box on the **Integration** tab in Design Manager **Note:** You must be logged into Design Manager as an OTDS administrator user to have access to the **OTDS Resources** dialog box.	i. On the **Integration** tab, click  next to the **Resource ID** box. The **OTDS Resources** dialog box opens. ii. Select the resource that corresponds to Exstream and click **OK**. The resource identifier for the selected resource appears in the **Resource ID** box.
Using the **Resources** section in the **OpenText Directory Services Administration** web browser interface **Note:** You must sign in with an OTDS administrator user ID to access this information.	i. Navigate to **Setup > Resources**. ii. On the resource that corresponds to Exstream, click **Actions** and then click **Properties**. iii. Copy the text in the **Resource identifier** box.

c. Click **Test Connection** to check your OTDS connection settings.

   The **Enter OTDS Credentials** dialog box opens.

d. Enter your OTDS user name and password and click **OK**.

   You receive a message informing you of the status of your connection test.

   - If the connection is successful, click **OK** and continue to step 4.
   - If the connection is not successful, review the error message and make any corrections to your OTDS connection settings as required, and then perform step c through step d again.

4. From the **Edit** menu, select **Save**.

8.5.2 Adding OTDS Groups to Design Groups

After you have successfully configured OTDS connection settings in Design Manager, you can add your OTDS user groups to Exstream design groups.

For more information about adding design groups, see "Adding Design Groups and Design Users" on page 110.

Keep in mind that when a user in an OTDS group logs in to Exstream Design and Production for the first time, a design user is automatically added to the Library for that external OTDS user.

If an Exstream design user already exists in the Library with the same OTDS user name and with the OTDS user authentication type, then the user is logged in as that design user and a new design user is not created. However, if a design user already exists in the Library with the same

design user name and with different authentication type, Exstream Design and Production adds the date stamp to the end of the design user name to make it unique and adds the user to the Library.

Important: When you are setting up your users, it is a best practice to ensure that there are no Exstream design users in the Library that have the same name as the external user name for an OTDS user. If such a conflict occurs, only the Exstream design user will be able to log in to Exstream Design and Production.

To add an OTDS group to a design group:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the appropriate design group to the Property Panel.
3. Under the **External groups included in group** box, click  .

   The **OTDS Groups** dialog box opens.

   Note: You must be connected to OTDS to perform this action. If you are logged in to Design Manager using an Exstream design user account (for example, the `admin` design user), you will be prompted to enter your OTDS user name and password in the **OTDS Login** dialog box.

4. From the **User partition** list, select the OTDS user partition from which you want to add OTDS groups.
5. If you want to filter the available OTDS groups for the selected user partition, enter a text string in the **Search** area. This search is not case-sensitive.

   You can enter the asterisk (*) wildcard in the first position, but not in the last position. Exstream assumes the asterisk (*) wildcard in the last position. For example, entering `*admin` will return `otadmin`, `otadmins`, and `admin`.

6. Click  .

   The search results are displayed in the **Available OTDS groups** area. The first 100 matching groups are displayed in alphabetical order.

   Note: If your search results in more than 100 groups, click **Next** and **Previous** to navigate through the results. Note that each page of matching groups is alphabetized individually. For example, if the group you are searching for begins with the letter "b," you might need to navigate through multiple pages to see all the groups that begin with the letter "b."

7. From the **Available OTDS Groups** box, select the OTDS group you want to add and click  .

The selected OTDS group is added to the **Included OTDS Groups** box.

To select multiple OTDS groups, press and hold CTRL, and then select the groups that you want to add. To remove one or more OTDS groups from the **Included OTDS Groups** box, select the group(s) you want to remove and click  .

8. Click **OK**.

   The OTDS group that you selected appears in the **External groups included in group** box.

9. From the **Edit** menu, select **Save**.

8.5.3 Removing OTDS Groups from Design Groups

To remove an OTDS group from a design group:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the appropriate design group to the Property Panel.
3. In the **External groups included in group** area, select the OTDS group you want to remove and click  .

   The selected group is removed from the **External groups included in group** box.

   To remove multiple groups, press and hold CTRL, and then select the groups that you want to remove.

4. From the **Edit** menu, select **Save**.

8.6 Listing Active Users

You can get a list of all of the design users that are currently using the database you specify. For example, you could use the **List Active Users** option to ensure all design users are logged out of a database before updating it.

To list active users, select **List Active Users** from the **File** menu. The **Active Exstream Users for Current Database** dialog box opens and displays the following information:

- **User**—Design user name
- **Workstation**—Workstation
- **Version #**— Exstream Design and Production version in use

- **Logged on**—Time of loginLast Activity—Time of last activity
- **Last Activity**—Time of last activity

8.7 Removing Design Users

To prevent a design user from accessing Exstream Design and Production, you can disable a design user's login or delete the design user from the system.

For example, if any design users are on leave or vacation, you might not want to leave their design user logins active. If design users with disabled accounts attempt to log in, a message appears letting them know that their accounts have been disabled, and that they should contact their system administrator for assistance.

However, if any design users leave your organization, you might have to completely remove them from Exstream Design and Production.

This topic covers the following tasks:

- "Disabling a Design User's Login" below
- "Deleting a Design User" below

8.7.1 Disabling a Design User's Login

To disable a design user's login:

1. Navigate to **Environment > System > System Settings > Design Users**.
2. Drag the appropriate design user to the Property Panel.
3. In the Login area, select the **Login disabled** check box.
4. From the **Edit** menu, select **Save**.

8.7.2 Deleting a Design User

To remove a design user:

1. Navigate to **Environment > System > System Settings > Design Users**.
2. Under **Design Users**, right-click the design user you want to delete and select **Delete**.

   The **Confirm Delete** dialog box opens.

3. Click **Yes**.

   The design user and any references to the design user are deleted from the system.

Chapter 9: Enforcing Corporate Standards

Most companies value consistency in their communications and therefore set guidelines for publishing documents. Enforcing a style guide and setting standards for publication ensures your documents keep a professional, streamlined appearance. With Exstream Design and Production, you can enforce your company's corporate standards to maintain a consistent look and feel in your documents by configuring the defaults and permissions for text, font, and options.

Using Exstream Design and Production to maintain consistency in your documents can help your design users create documents that improve your customer's experience, attract new customers, and increase your customer retention.

This chapter discusses managing the following objects:

9.1 Fonts

Businesses typically have rules regarding font usage. Exstream Design and Production enables flexible font management by letting you install new fonts, as well as deactivate and restrict the use of any font. Two types of fonts are available: bitmap and outline. Bitmap fonts are also known as raster fonts. Each character of a bitmap font is stored as an array of pixels. Outline fonts are also known as vector fonts.

In Exstream Design and Production, you can let design users use any font, or you can define and restrict available font sizes and styles. These definitions are used for both the design environment and the production environment. In the design environment, font definitions are used to format text. For example, a font can be 10 points, bold, and italic. In the production environment, fonts are not defined in terms of how they look on a page; rather, they are defined in terms of what to include in a package file and, consequently, what is sent to an output device.

To configure fonts for the Exstream Design and Production environment, complete the following tasks as needed:

- "Giving Design Users Access to Fonts" below
- "Limiting Design User Access to Fonts" below
- "Mapping a Font Typeface to a Font Name" on page 128
- "Configuring System-Wide Text and Font Defaults" on page 131

9.1.1 Giving Design Users Access to Fonts

You can let design users use any workstation font face, including those that are not set up under the **Design** heading in the Library.

To give design users unrestricted access to fonts:

1. In Design Manager, in the Library, navigate to **Environment > System**.
2. Drag the **System Settings** heading to the Property Panel.
3. Click **System Configuration**.

   The **System Configuration** dialog box opens.
4. Click the **Design Manager** tab.
5. In the **Library** area, select the **Allow user fonts** check box.
6. Click **OK**.
7. From the **Edit** menu, select **Save**.

Note: Even if the **Allow user fonts** check box is selected, font restrictions still apply.

9.1.2 Limiting Design User Access to Fonts

You can restrict fonts to certain styles and sizes to ensure design users conform to company standards. Restricting fonts lets you also reduce the number of font styles and sizes included in a package file. Smaller package files can speed up production.

Tip: To see the fonts that are already defined in a databases, drag the **Fonts** heading to the Edit Panel.

To limit design user access to a font, you must complete the following tasks:

1. "Importing a Font" below
2. "Mapping a Font Typeface to a Font Name" on the next page

Importing a Font

1. In Design Manager, in the Library, go to **Environment > Design > Fonts**.
2. Right-click the **Fonts** heading and click **Import New Font**.
3. In the **Select Font** dialog box, select a font from the **Font** list. The list contains all of the fonts that are available to your workstation.
4. Click **OK**.
5. In the Property Panel, configure the font's attributes to meet your company's specifications using the following options:

To	Do this
Add additional information about a font, such as how it is used (optional)	In the **Description** box, enter a description.
Use magnetically scannable ink, which is often used on checks	In the **Special options** list, select **Use MICR ink**.
Import variations of a font (including specific point sizes and/or effects)	a. Below the **Font list** box, click  . b. In the **Select Font** dialog box, select font, font size, and font format options as needed. To specify a range of font sizes, select the **Add multiple sizes** check box. c. Click **OK**. The **Select Font** dialog box closes and the font variation or variations you selected appear in the **Font list** box.
Import the font metrics for the sizes and styles of fonts from your workstation font directory. You might want to refresh font metrics because the code page or operating system version has changed.	In the **Font list** box, select a font and click **Refresh Metrics**.

After you import fonts from your workstation, you cannot change the name of the font. Instead, the font object is automatically named using its typeface name.

Restricting Font Usage

1. In Design Manager, in the Library, navigate to **Environment > Design > Fonts**.
2. Drag the font you want to restrict to the Property Panel.
3. Select how you want to restrict a font:

To	Do this
Prevent design users from using this font	From the **Usage restrictions** drop-down list, select **Unavailable**.
Give design users access only to specified font styles and sizes of this font	a. From the **Usage restrictions** drop-down list, select **Restricted Sizes and Styles**. The check boxes on the right side of the Property Panel and the **Size limits** area become active to let you specify restrictions. If design users try to override a restriction such as font size in Designer, the point size automatically returns to the nearest specified font size. b. Select the check boxes on the right side of the panel to let users use bold, italic, underline, or strikethrough formatting. c. In the **Size limits** area, click  . The **Enter a font size restriction** dialog box opens. d. In the **Enter a font size restriction** dialog box, do one of the following: • To limit the font to a range of sizes, select the **Range of sizes** radio button and enter the start of the range in the first box, the end of the range in the second box, and the range increment in the third box. The increment must be smaller than the size of the range. You can set ranges or size restrictions in tenths of a point. • To limit the font to a specific size, select the **Specific font size** radio button and enter the exact font size in the first box. You can set size restrictions in tenths of a point. e. Click **OK**.
Give design users access to all sizes and styles of this font	From the **Usage restrictions** drop-down list, select **No Restrictions**.
Give design users access to the styles and sizes of this font that are listed in the **Font list** box	From the **Usage restrictions** drop-down list, select **Restricted to Font list**.

4. From the **Edit** menu, select **Save**.

9.1.3 Mapping a Font Typeface to a Font Name

Since font typeface names might not match font names on your output devices, font name tables let you map the typeface name to names your output device can recognize. This process is especially important if you are referencing fonts that are already on your output device, or if

you must differentiate between a font imported into Exstream Design and Production and a printer font that has the same name. Using font name tables helps ensure that you are referencing the correct fonts.

Some fonts have specific naming conventions. For example, AFP fonts require a prefix and a total of eight capital characters. AFP bitmap font names require an `X0`, `X1`, `X2`, or `X4` prefix. AFP outline font names require an `XZ` prefix. If you do not follow these conventions, you receive a warning message.

The name of a mapped font must contain only SBCS characters. When you enter a name, you must use 8-bit characters. If you are mapping a font for a DBCS application, you can also enter a double-byte name and select an encoding or select a language set.

For information about encodings and languages, see "Encodings" on page 202.

To map fonts in a font name table:

1. In Design Manager, in the Library, go to **Environment > Design > Fonts**.
2. Drag the font that you want to map to the Property Panel.
3. To select the name table to map, complete one of the following tasks:

To	Do this
Map a font to a name table in SBCS mode	Click **ASCII Name Table**. The **Font Name Mapping** dialog box opens.
Map a font to a name table in DBCS mode	Click **DBCS Name Table**. The **Font Name Mapping** dialog box opens.
Map a font to an ASCII name table in SBCS/DBCS mode	Click **ASCII Name Table**. The **Font Name Mapping** dialog box opens.
Map a font to a DBCS name table in SBCS/DBCS mode	Click **DBCS Name Table**. The **Font Name Mapping** dialog box opens.

4. Click the tab that matches the output type you use.
5. Add all fonts or a single font to the font table:

To	Do this
Add all of the fonts in the **Font list** box to the font table **Note:** You can use this option only if there are already fonts in the **Font List** box. If there are already fonts for a specific font face in the database, they will be listed in the **Font list** box in the font's properties.	a. In the **Font Name Mapping** dialog box, click  . All fonts from the **Font list** box appear in the **Font Name Mapping** dialog box and are available to map. b. In the **Font Name Mapping** dialog box, double-click the font you want to map. The **Specify the mapping name** dialog box opens. The dialog box varies based on the output type and whether you are defining a font for an SBCS or DBCS application. c. Continue to step 6.
Add a single font to the font table	a. In the Font Name Mapping dialog box, click  . The **Specify the mapping name** dialog box opens. The dialog box varies based on the output type and whether you are defining a font for an SBCS or DBCS application. b. Continue to step 6.

6. In the **Specify the mapping name** dialog box, specify the style of the font by selecting from the following check boxes:
   - **Bold**
   - **Italic**
7. In the **Size** box, enter a number to define the size of the font.
8. In the **Name to use for this font** box, enter a name.
9. If you are mapping a font for a PCL output device and must control printer font selection and formatting, select the **Specify PCL font** check box and enter the sequence in the **Escape Sequence** box.

   For more information about PCL output devices, see "PCL Escape Sequences" on the next page.
10. Click **OK**.

    The **Specify the mapping name** dialog box closes.
11. After you have defined all the needed fonts, click **OK**.

    The **Font Name Mapping** dialog box closes.
12. From the **Edit** menu, select **Save**.

For information about how to specify if your AFP output device uses bitmap and outline fonts, see *Creating Output* in the Exstream Design and Production documentation.

PCL Escape Sequences

If you are mapping fonts for a PCL output device, the **Name to use for this font** drop-down list changes to the **Escape Sequence** box when you select the **Specify PCL font** check box. The **Escape Sequence** box lets you enter a sequence to control printer font selection and formatting.

When you enter an escape sequence, use a ~ (tilde) to represent <esc>. Escape sequences for printer font selection and formatting use the following syntax:

```
~(SYMBOLSET~(s0p_hSTYLEsSTROKEWEIGHTbTYPEFACET
```

```
~(SYMBOLSET~(s1p_vSTYLEsSTROKEWEIGHTbTYPEFACET
```

The following table provides examples of the variable information in the escape sequence syntax.

Explanation of escape sequence syntax

To	Do this
`SYMBOLSET`	`8U`, `19M`, `579L`, and so forth.
`STYLE`	`0`, `1`, `4`, `5`, `8`, `24`, `32`, `64`, `128`, or `160`
`STROKEWEIGHT`	–7 to 7 (including `0`)
`TYPEFACE`	Any value

For example, a Courier escape sequence would be entered: `~(8U~(s0p_h0s0b4099T`

If you use a name table when creating a package for a PCL output device, the font mapping is generated and written to the print file. In addition, the escape sequence is checked to ensure it is valid. If a sequence is invalid, you receive a message and the font is automatically mapped to Courier.

For more information about PCL output, see *Creating Output* in the Exstream Design and Production documentation.

9.1.4 Configuring System-Wide Text and Font Defaults

Design text and font defaults are design settings that are enforced when a user creates a page without a page template or any styles. These settings are overridden by templates and style sheets. Setting up these design defaults is a good way to ensure that basic design standards are included on pages without style sheets. Keep in mind that you cannot enforce heading styles with the design defaults.

To configure system-wide text and font defaults:

1. In Design Manager, in the Library, go to **Environment > System > System Settings**.
2. Drag the **System Settings** heading to the Property Panel.

3. On the **Text and Fonts** tab, define the following design defaults:

To	Do this
Define the default target resolution of the default output device	In the **Design defaults** area, enter a resolution in the **Single design resolution** box. On the **Basic** tab of the output object, set your design resolution to the same setting as the resolution of your output. A variance in resolution can result in printing problems, such as the overprinting of bold text.
Define the default indent and tab size	In the **Design defaults** area, enter a size (in inches) in the **Indent** box. Designer uses this indent size for the default tab when creating bullet and number lists and when setting tabs.
Define the defaults for font type, font size, and font style (for example, bold or italic). If you change the default font, the new default applies only to the text entered after the font change	a. In the **Design defaults** area, click **Font**. The **Select Font** dialog box opens. b. From the list of fonts in the **Font** box, select a font. c. From the **Point size** drop-down list, select a font size. d. If you want the default font to be bold, select the **Bold** check box from the **Effects** area. e. If you want the default font to be italics, select the **Italic** check box from the **Effects** area. f. In the **Preview** area, you can see how the default text will appear. g. Click **OK**.
Define the default bullet styles used for four levels of indentation	a. In the **Bullets and numbering by indent level** area, click the bullet button next to the level number (**1**, **2**, **3**, **4**) to set the character for the bulleted list level. The **View Character Set** dialog box opens. b. From the **View Character Set** drop-down list, select the font to use for the bullets. c. From the table, select the character to use for the bullets. d. Click **OK**. The **View Character Set** dialog box closes. e. To change the color of the bullets, click the color well next to the bullet button. The **Color** dialog box opens. f. Select a color to use for the bullets. g. Click **OK**. **Tip:** You can also use the View Character Set list to view all of the characters of a font.

To	Do this
Define the default numbering style for the numbered list level	a. From the **Numbering** drop-down lists, for each numbered list level, select a numbering style. b. To change the color of the numbers, click the color well next to the **Numbering** drop-down lists. The **Color** dialog box opens. c. Select a color to use for the numbers. d. Click **OK**. For information about styles, see "Style Sheets" on page 139.
	In the **Complex text support** section, use the **Enable complex text layout** check box and the accompanying drop-down list to enable complex text layout functionality for your database. Enabling complex text layout ensures that Exstream can properly render complex text in designs that use non-Latin DBCS character sets (such as Arabic, Cambodian (Khmer), Farsi, and Hebrew). The complex text settings enhance the appearance of complex text both on the screen in Designer, as well as in output produced by the engine. For information about enabling complex text layout (including a list of languages that are considered complex), see "Configuring Language Settings for Complex Text Languages" on page 181.

4. From the **Edit** menu, select **Save**.

9.2 Colors

If your company has certain colors that must be used in your publications, you can create a color family filled with colors as defined by your marketing department or create spot colors to correspond with pre-mixed colors set up from the output device.

This section discusses the following topics:

9.2.1 Color Families

A color family is a color palette you can define to contain the colors designers can use while creating content. A single color family can contain any number of individual colors called named colors. Named colors are the individual colors you define which make up a color family. To create these named colors, you can either define unique color values by specifying RGB, CMYK, or PANTONE® Colors or you can use an existing color to create a relative color.

When defining color families, keep in mind the following:

- CMYK color models are generally used for printed output, while RGB color models are generally used for output going to electronic devices, such as webpages.
- PANTONE Colors are supported only in PostScript, PostScript-based, PDF, and PDF-based outputs, and only if your output device is Pantone-approved and Licensed. If you use a PANTONE Color in a design for output that does not support PANTONE Colors, Exstream Design and Production substitutes an equivalent color value.

You must create a color family before you can create and add named colors to Exstream Design and Production

For more information about creating a color family, see "Creating a Color Family" below.

This section discusses the following topics:

Creating a Color Family

1. In Design Manager, in the Library, go to **Environment > Design > Color > Color Families**.
2. Right-click **Color Families** and select **New Color Family**.

   The **Color Family** dialog box opens.
3. In the **Name** box, enter a name for the new color family.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The color family opens in the Property Panel.
6. In the **Description** box, enter a description of this color family (optional).
7. From the Menu bar, select **File > Save**.

   For information about applying colors to an object in a design, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Creating a Named Color

With named colors, you can either create unique colors or you can use an existing color to create a relative color. For example, you might want to create a color set that consists of different shades of orange. By starting with an existing orange named color, you can create relative colors such as gold, tangerine, and amber. If colors are set relative to an original color,

when you change the original color, the relative colors will also be affected. Before you can create named colors you must create a color family.

To create a named color:

1. In Design Manager, in the Library, go to **Environment > Design > Color > Color Families**.
2. Right-click the color family to which you want to add named colors and select **Insert New Color**.

   The **New Color** dialog box opens.
3. In the **Name** box, enter a name for the new color family.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The **New Color** dialog box closes, the named color is added to the library, and the named color opens in the Property Panel for you to define.
6. To specify the color to use as a named color, complete one of the following sets of steps:

To	Do this
Specify a unique color	a. Click the color well. The **Color** dialog box opens. b. Select the color you want to create. c. Click **OK**. The **Color** dialog box closes and the color you select appears in the color well.
Specify a color that is relative to an existing color	a. Select the **Shaded color relative to another named color** check box. The **Relative color** area becomes active. b. In the **Relative color** area, click the color well. The **Color** dialog box opens. c. Select the color you want use as a base color. d. Click **OK**. e. Use the **Shade %** slider to lighten or darken the color's tone to the color you want.

7. From the Menu bar, select **File > Save**.

   For information about applying colors to an object in a design, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Specifying Color Names for PostScript-Capable Printers

If you have a PostScript printer that supports named colors, you can call colors by name to allow the printer to use the calibrated CMYK values that correspond to the named colors. Keep in mind the following considerations when specifying output color names for PostScript capable printers:

- Output color names are case sensistive and you must enter the output color name exactly as it is defined by the printer.
- If no output color name is defined, the color is specified using the CMYK values of the named color, which might not match the printer values for the color.
- If the named color is a relative color (defined as a percentage of another named color) and the base color has a specified output color name, the printer is instructed to print the base color name at the specified percentage.
- For PANTONE colors, the PANTONE name is automatically used as the output color name. You do not need to specify an output color name for official PANTONE colors.

To specify a color name for PostScript-capable printers:

1. In Design Manager, in the Library, go to **Environment > Design > Color > Color Families**.
2. Drag the appropriate color to the Property Panel.
3. In the **Output Color Name** box, enter the name of the color.
4. From the Menu bar, select **File > Save**.

9.2.2 Spot Colors

Spot colors are pre-mixed colors that are added to a printer in the form of an ink cartridge. Generally, spot colors can be used for corporate colors, marketing colors, or special printing finishes (such as gloss, matte, or metallic). Unlike color families, which can contain multiple different colors, a spot color in the library is intended to contain only one spot color and any tint variations of that one spot color. Tints are lighter versions of the same color achieved by applying less of the spot color and allowing more of the paper to be visible though the color. To allow designers to apply spot colors to a design, you must predefine spot colors in Design Manager. Optionally, you can either predefine the tints a designer can apply or you can allow designers to specify unique spot color tints as they design.

Keep in mind that the color you select to represent the spot color in Exstream represents the spot color only while working in Designer or when generating electronic output (such as generating a PDF proof of content that will be printed at a different time). The final color that is applied to printed content will be controlled by the premixed spot colors included on the output device.

For more information about identifying the spot colors associated with a specific print device, see *Creating Output* in the Exstream Design and Production documentation.

This section discusses the following topics:

Creating a Spot Color

1. In Design Manager, go to **Environment > Design > Colors > Spot Colors**.
2. Right-click the **Spot Colors** heading and select **New Spot Color**.

   The **New spot color** dialog box opens.
3. In the **Name** box, enter a name. Spot color names must be unique from any other spot color or color family name.
4. In the **Description** box, enter a description (optional).
5. Click the **Select the spot color** color well.

   The **Color** dialog box opens.
6. Select a color to represent the spot color in Designer.
7. Click **OK**.

   The **Color** dialog box closes.
8. Click **Finish**.

   The **New spot color** dialog box closes and the spot color is added to the Library.
9. From the Menu bar, select **File > Save**.

Pre-Defining a Spot Color Tint

Spot color tints are variations of an original spot color. Typically, tints are created by allowing less of the spot color to be applied to a page and allowing more of the page to be visible. This process gives the visual impression that the color is lighter. If you want to prevent designers from creating custom tints of a spot color as they design, you can pre-define the spot color tints that can be used by a designer. For example, if your corporate standards require that users only apply 20%, 30%, and 50% tints of a spot color, you can pre-define these tints to prevent users from applying a unique tint (such as 80%).

To pre-define a spot color tint:

1. In Design Manager, go to **Environment > Design > Colors > Spot Colors**.
2. Right-click a spot color and select **Insert New Spot Color Tint**.

The **New Color** dialog box opens.

3. In the **Name** box, enter a name. In the **Description** box, enter a description (optional).

   Tip: Tint colors are easier for designers to identify if you include the tint percentage as a part of the spot color tint's name (for example, `Company Red 10% Tint`).

4. Click **Finish**.

   The **New Color** dialog box closes and the spot color tint opens in the Property Panel for you to define.

5. In the **Tint %** area, enter a tint percentage or move the slider to the desired tint color.
6. From the Menu bar, select **File > Save**.

9.3 Style Sheets

Your organization can use styles and style sheets to help enforce corporate text formatting standards. Style sheets are similar to templates, but instead of guiding and standardizing page layout, style sheets help control the consistency of text formatting. Using style sheets is one way to ensure that all outgoing text meets corporate standards, which is especially important if you have a branded corporate design. Other programs sometimes refer to style sheets as styles or formats.

After you select a style sheet to associate with a page, message, paragraph, multiple-up (MUP), or template object, all styles assigned to that style sheet are active for use on that page, message, paragraph, MUP, or template object. In Exstream Design and Production, styles and style sheets work together to help you create and enforce corporate text formatting standards. You can define font formatting and customize paragraph properties for a style after you have added the style to a style sheet.

Note: These features are available only if you have licensed the Publication Support module.

As the system administrator, you can create a standard set of style objects (for example, `Heading1`, `Footnote`, `Emphasis`, and so on) and then add them to different style sheets. You can define the same style object differently in each style sheet. For example, `Heading1` in one style sheet is 14pt, Bold, Blue, while in another style sheet it is 18pt, Italic, Black. Based on the style sheet you apply, your output will appear differently.

When you produce HTML5 or HTML (email) output from a container design that uses styles and style sheets, the engine uses the text and paragraph styles that you apply in Designer as the `class` names for the elements wrapping the text in the resulting HTML.

For example, if you create a paragraph style named **headline** in Design Manager, and apply that style to a paragraph in Designer, the resulting HTML will include `class="headline"`. Likewise, if you apply a text style named **small_print**, the resulting HTML will include `class="small_print"`.

You can use the `class` names based on styles as CSS selectors in your external cascading style sheets. If you do, make sure that you use names that comply with the conventions for `class` names in HTML. This means that style names must:

- Be unique
- Begin with an alphabetic character
- Contain only alphanumeric characters, hyphens (-), and underscores (_)

Depending on the settings you select when creating the style sheet, you can set the style sheet to be optional or enforced. If the style sheet is enforced, designers cannot format text using the standard formatting features.

To use style sheets to enforce consistency, you must complete the following tasks:

1. “Creating a Style” below
2. “Creating a Style Sheet” on the next page
3. “Adding Styles to a Style Sheet” on page 142
4. “Associating a Style Sheet with an Object” on page 148

9.3.1 Creating a Style

Styles define characteristic formatting, which affects the appearance of documents. Styles are not implemented until they are part of a style sheet. Prior to creating a style sheet, consider how styles work together. There are two types of styles:

- **Paragraph styles**—Indicates the characteristics of the text, as well as paragraph settings: spacing, indent, bullets, and flow
- **Text styles**—Indicates the characteristics of text font, size, and usage

Paragraph styles apply to the entire paragraph, and text styles apply only to the text that is highlighted when you apply the style. You can apply text styles to selected text within a text paragraph that has a paragraph style applied to it. However, you cannot overlap text styles.

After a style has been created, you cannot change the style type. For example, if you decide to change a paragraph style to a text style, you must delete the style and start over.

To create a style:

1. Navigate to **Environment > Design > Styles**.
2. Right-click the **Styles** heading and select **Style**.
3. In the **New Style** dialog box, enter the name of the new style in the **Name** box.

   Important: If you are producing HTML output, you must follow HTML naming conventions for style names, since they are used as `class` names in the HTML. This means that each style name must be unique, begin with an alphabetic character, and contain only alphanumeric characters, hyphens (-), and underscores (_).

4. In the **Description** box, enter a description of the new style (optional).
5. In the **Type** area, select one of the following style types:
   - **Paragraph styles**—Indicates the characteristics of the text, as well as paragraph settings: spacing, indent, bullets, and flow
   - **Text styles**—Indicates the characteristics of text font, size, and usage
6. Click **Finish**.
7. If you selected **Paragraph style**, the **Next style** box appears on the Property panel.
8. In the **Next style** box, select the style for the following paragraph. For example, you can specify that the Normal style always follows the Heading One style.

   If you want the following paragraph to use the default formatting that you specify using the **Default style for this sheet** check box on the style sheet, select the **Style Sheet Default** option in the **Next style** box.
9. From the **Edit** menu, select **Save**.

You must add a style to a style sheet before it can be applied to text in Designer.

9.3.2 Creating a Style Sheet

A style sheet is a collection of styles. Style sheets are similar to templates, but instead of guiding and standardizing page design, it enforces the consistency of text formatting. Using style sheets is one way to make sure all outgoing text meets corporate standards. This is especially important if you have a branded corporate design.

To create a style sheet:

1. In Design Manager, in the Library, navigate to **Environment > Design**.
2. Right-click the **Style Sheets** heading and select **New Style Sheet**.
3. In the **Name** box, enter a name.
4. In the **Description** box, enter a description (optional).

5. Click **Finish**.
6. From the **Edit** menu, select **Save**.

9.3.3 Adding Styles to a Style Sheet

1. In Design Manager, in the Library, navigate to **Environment > Design > Style Sheets**.
2. Drag the appropriate style sheet to the Property Panel.
3. Select the type of style you want to create.
4. Click  .
5. From the **Select Style** dialog box, select a style.
6. Click **OK**.
7. Repeat step 4 through step 6 to add as many styles to the style sheet as needed.

After you have created a style sheet, you must format text styles and paragraph styles for the styles included in the style sheet.

This section discusses the following topics:

- "Formatting Text Styles" below
- "Formatting Paragraph Styles" on the next page

Formatting Text Styles

The style that you want to format must be included in the style sheet.

To format text styles:

1. Navigate to **Environment > Design > Style Sheets**.
2. Drag the appropriate style sheet to the Property Panel.
3. From the list of styles, select a style.
4. From the **Font** box, select a font. The fonts listed are limited to the fonts loaded onto your system.
5. You can customize the following font formatting:

To	Do this
Define the point size of the font	From the **Point size** list, select a font size.

To	Do this
Define the color of the font	Click the **Color** color well to select a font color from the **Color** dialog box. For information about applying colors to an object in a design, see *Designing Customer Communications* in the Exstream Design and Production documentation.
Specify effects	Select any of the following check boxes: • **Bold** • **Italic** • **Strike** • **Superscript** • **Subscript**
Specify how words are underlined	From the **Underline** list, select one of the following: • **None** • **All** • **Words only**
Define tracking (character spacing)	From the **Tracking** list, select one of the following: • **Normal** • **Condensed** • **Expanded**

Formatting Paragraph Styles

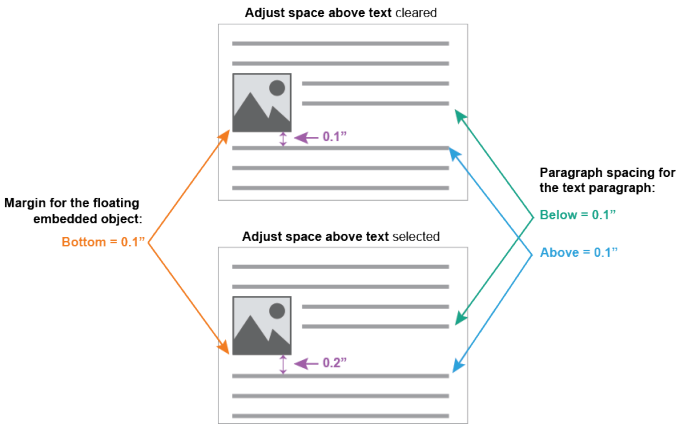
Before you can specify formatting for paragraph styles, you must first add the style to the style sheet. Then, you can make selections on the **Paragraph Properties** tab to customize the appearance of the text paragraphs to which the style is applied.

To customize the paragraph style properties:

1. Navigate to **Environment > Design > Style Sheets**.
2. Open the style sheet in the Property Panel.

3. Select a paragraph style and click the **Paragraph Properties** tab.
4. Define the paragraph style attributes:

To	Do this
Define spacing around the paragraph	In the **Paragraph spacing** area, enter the appropriate measurements for the following: • **Above** box—Minimum amount of space that can be allowed before this paragraph • **Below** box—Minimum amount of space that can be allowed after this paragraph • **Tab size** box—Size (in inches) of the default tab for this paragraph • **Left margin** box—Size of the left margin for this paragraph • **Right Margin** box—Size of the right margin for this paragraph

To	Do this
Specify how the paragraph clears float objects that precede it in the design	a. In the **Float options** area, from the **Clear** list, select an option to determine where embedded objects are allowed to float relative to the text: • **None**—The preceding embedded objects can float to the left or right of the current text paragraph. This is the default. • **Left**—The preceding embedded objects cannot float on the left side of the current text paragraph. • **Right**—The preceding embedded objects cannot float on the right side of the current text paragraph. • **Both**—The preceding embedded objects cannot float on either the left or the right side of the current text paragraph. **Note:** Selections made from the **Clear** list do not apply to objects that are embedded within the text paragraph. b. In some cases, you might need to adjust the spacing between floating embedded objects and the text paragraphs that follow them. If you made a selection other than **None** from the **Clear** list, you can use the **Adjust space above text** check box to change how the spacing above the current text paragraph will be calculated: • Clear the check box to use whichever is greater: the value entered in the **Above** box for the current text paragraph or the value entered in the **Below** box for the preceding text paragraph. In other words, when the check box is cleared, the spacing is calculated between the current and preceding text paragraphs. • Select the check box to add the value in the **Above** box for the current text paragraph to whichever is greater: the value entered in the **Below** box for the preceding text paragraph or to the value entered in the **Bottom margin** box of the embedded floating object. In other words, when the check box is selected, the spacing is calculated between the current text paragraph and the preceding embedded object. The following illustration provides an example of how the **Adjust space above text** check box affects the spacing above a text paragraph. 

To	Do this
	For more information about using clear settings with floating objects, see the *Designing Customer Communications* in the Exstream Design and Production documentation guide.
Define the formatting for leader dots (Leader dots fill tab spaces with a character. For example, it is common to use leader dots in tables of contents)	a. In the **Leader dots** area, select the **Use leader dots** check box. The **Dot** and **Leader** spacing boxes become active. b. From the **Dot** list, select a character to use for the leader dots. c. In the **Leader spacing** box, specify the spacing between each character in the leader (spacing between each character is measured in tenths of an inch).
Define the amount of spacing between lines in the paragraph	a. In the **Line spacing** area, from the list, select the type of spacing for lines in this paragraph: • **Single**—Lines are placed on top of each other with no extra space. This option is the default. • **Space and Half**—Space for half a line is added between each line. • **Double**—Space for an entire line is added between each line. • **Minimum**—Space between the lines must be at least the specified in the Space box. Space is increased if the font requires more room. • **Exactly**—Lines are always spaced the distance set in the **Space** box, even if the text overlaps. The spacing is after the line of text. • **10ths of Space**—Lines are spaced using the number that is 1/10th of the tallest character to space between lines. b. If you selected **Minimum**, in the **Amount** box, enter the minimum amount of line spacing. c. If you selected **Exactly**, in the **Amount** box, enter the exact amount for the line spacing. d. If you selected **10ths of Space**, in the **10ths** box, enter the number of 1/10th of the tallest character to space between lines. For example, if you entered `4` in the **10ths** box, then the spacing will be 4/10th of the tallest character.
Add a ruled line above or below the paragraph	a. In the **Lines** area, click the **Lines** box. b. From the **Border Properties** box, select the type of line to add to the frame. c. To change the color of the line, click the color well next to the **Border Properties** box. The **Color** dialog box opens. d. Select a color. e. Click **OK**.

To	Do this
Specify how the text is aligned in the box	In the **Lines** area, from the **Justification** list, select one of the following: • **Left** • **Right** • **Center** • **Justify** The default setting is **Left**.
To keep the paragraph in one column, frame, or on the same page	In the **Lines** area, select the **Can not split** check box. This check box is cleared by default.
To keep the paragraph with the next paragraph	In the **Lines** area, select the **Keep with next** check box. This feature is often used for captions that must stay with an illustration or headings that must stay with the section they introduce. This check box is cleared by default.
Determine how text appears on the page	In the **Layout** area, select one of the following options: • **Normal**—All lines start at the left margin. **Normal** is the default setting. • **Hanging indented**—All lines, except the first, are indented. Select the amount of space to be indented in the **Offset** box. • **Indented**—The first line is indented. Select the space size to indent in the **Offset** box. • **Bulleted**—The text starts with a bullet. Select the space size between the bullet and the text in the **Offset** box. When you select this option, the **Bullets** tab appears so you can specify the symbol and color used for the bullets. • **Numbered**—The text starts with a number. Select the amount of space between the number and the text in the **Offset** box. When you select this option, the **Numbering** tab appears so you can specify the numbering style, font, and color for the numbers. For information about bullet and number formatting, see "Configuring System-Wide Text and Font Defaults" on page 131.
Select how text is handled over columns	In the **Flow** area from the **Column flow** list, select one of the following options: • **Normal**—The text is handled normally, filling one column before filling the following column. **Normal** is the default setting. • **Spans columns**—The text spans across all columns, creating a single line of text across multiple columns. A newspaper headline is an example of text that spans columns.

To	Do this
Specify header and footer paragraphs that repeat when flowing	In the **Flow** area, select one of the following options from the **Flow** list: • **Body (normal)**—The text is normal body text. **Body (normal)** is the default. • **Header**—The text is a header, which is traditionally used above the body text. • **Repeating header**—The text is a header, which repeats on each page. • **Header except first**—The text is a header, which repeats on each page except the first. • **Footer**—The text is a footer, which is traditionally used below the body text. • **Repeating footer**—The text is a footer, which repeats on each page. • **Footer except last**—The text is a footer, which repeats on each page except the last.

9.3.4 Associating a Style Sheet with an Object

After you create a style sheet and define the styles contained in that style sheet, you can associate it with application, page, message, paragraph, multiple-up (MUP), or template objects. In Designer, you can select a style sheet to associate with page, message, paragraph, and MUP objects. When you associate a style sheet with a design object (for example, pages, messages, or MUPs), it becomes the active style sheet for that object. In Design Manager, if you have permissions to edit style sheets and templates, you can associate a style sheet with a template. You can also associate multiple style sheets with an application in Design Manager so that style sheets are dynamically selected at run time, based on customer data. When you associate a style sheet with an application or template, it becomes one of the style sheets available for selection at run time.

Note: Keep in mind that style sheets cannot be dynamically applied to MUPs at run time.

This section discusses the following topics:

- "Associating a Style Sheet with a Template" below
- "Dynamically Selecting Style Sheets at Run Time" on the next page

Associating a Style Sheet with a Template

1. In Design Manager, in the Library, navigate to **Environment > Design > Templates**.
2. Drag the appropriate template to the Property Panel.
3. In the **Default style sheet** box, click  .

   The **Select Style Sheet** dialog box opens.
4. From the list of styles in the **Select Style Sheet** dialog box, select a style.

5. Click **OK**.
6. From the **Edit** menu, select **Save**.

After a style sheet is associated with a template, the style sheet styles become available on the Formatting toolbar in Designer.

For information about templates, see "Using Templates to Enforce Consistency" on page 162.

Dynamically Selecting Style Sheets at Run Time

You can design one application and apply different style sheets at run time to customize the formatting of the output for different recipients. For example, suppose your organization wants to send a general communication to all of its customers with formatting that is specific to the organization's various divisions. The Financial Services division of your organization uses a different set of fonts and font styles than the Property and Casualty division. Rather than duplicate content in Exstream Design and Production, and use a combination of rules and design layers to produce the customized output, you can create two style sheets: one for the Financial Services division and one for the Property and Casualty division. Then, you can associate both style sheets with the application and use the 'SYS_StyleSheet' system variable to dynamically select the appropriate style sheet at run time.

Keep in mind that the style sheets that you want to use dynamically must each contain the same style objects. For example, if you want to use a style called `Heading1`, each style sheet must contain the `Heading1` style object. The formatting for the `Heading1` style can be defined differently for each style sheet. You must use the 'SYS_StyleSheet' system variable to determine when a style sheet will be dynamically selected. You can either set the 'SYS_StyleSheet' system variable to dynamically switch style sheets based on customer data, or you can set the 'SYS_StyleSheet' system variable to use a formula to determine when a style sheet will be dynamically selected.

For more information about system variables, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

For more information about formulas, see *Using Logic to Drive an Application* in the Exstream Design and Production documentation.

To dynamically select style sheets at run time, complete the following steps:

1. Determine which style sheets you want to use dynamically in an application and make sure that the same style objects are used in those style sheets.
2. In Designer, from the **Format** menu, select **Style > Select Style Sheet**.

   The **Select Style Sheet** dialog box opens.
3. From the **Select Style Sheet** dialog box, select a style sheet.

   Keep in mind that the style sheet you use during design does not have to be included in the list of style sheets allowed for dynamic selection.

4. Click **OK**.

   The styles from the style sheet that you selected in the **Select Style Sheet** dialog box are applied to the design.

5. If you want to preview what your design looks like with different style sheets applied, you can use the **Select Style Sheet** option to change which style sheet is active in the design.
6. In Design Manager, from the Library, drag the appropriate application to the Property Panel.
7. Click the **Dynamic Objects** tab.
8. Under the **Style sheets allowed for dynamic selection** box, click  .

   The **Select Style Sheet** dialog box opens.

9. On the **Select Style Sheet** dialog box, select the style sheet that you want to be used dynamically and click **OK**.

   The **Select Style Sheet** dialog box closes and the style sheet(s) you selected appear in the **Style sheets allowed for dynamic selection** box.

10. From the **Edit** menu, select **Save**.
11. Add the 'SYS_StyleSheet' system variable to the application and use one of the following methods to calculate when a style sheet is dynamically selected:

    - Map the 'SYS_StyleSheet' system variable to a data area in a data file to determine which style sheet to use based on customer data.

      For more information about system variables, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

    - Place the 'SYS_StyleSheet' system variable as needed in your design to determine which style sheet to use based on a formula.

      For more information about formulas, see *Using Logic to Drive an Application* in the Exstream Design and Production documentation.

12. From the **Edit** menu, select **Save**.

9.4 Cascading Style Sheets

Your organization can use cascading style sheets to help enforce corporate text formatting standards and general content appearance in container designs that are generated as HTML output.

Cascading style sheets can be useful to help distinguish the style and appearance of container designs from the printed appearance of standard designs or from other container designs that are intended for different delivery purposes. For example, since objects are shared between the

standard design and container design, the shared text must use the same formatting and appearance while working in Designer. However, if you wanted to use a different color scheme for webpage content compared to the printed output, you might want to use a cascading style sheet to specify an alternate color scheme for the container design. Alternatively, you might want to use different font sizes for a Web page when it is delivered for review on a computer screen, compared to the same content that is delivered for review on a smartphone.

While cascading style sheets help to control the final appearance of the output, it does not restrict designer choices and formatting while you are working in Designer. You can continue using styles and style sheets to restrict designer changes to text and paragraph formatting, in addition to using a cascading style sheet to apply final changes to the appearance of your output. Style and style sheet formatting that is applied in Designer is also included in a CSS file in the output. You can either keep these styles or use a cascading style sheet object to overwrite these styles in the final output..

For more information about creating and applying cascading style sheet objects to a container design, see *Designing Customer Communications* in the Exstream Design and Production documentation.

9.5 Paper Types

A paper type is an object used to define the size, weight, and color of paper stock, as well as media names for printer control. Most publications created in Exstream Design and Production require printing. To ensure the best accommodation of the print medium, entering paper type characteristics promotes efficient printing and generates a presentable product. However, paper types do not always define physical paper. Paper types can also define the screen properties for electronic output. Before creating page template, you must have created a paper type.

9.5.1 Creating a Paper Type

1. In Design Manager, in the Library, navigate to **Environment > Design > Paper Types**.
2. Right-click the **Paper Types** heading and select **New Paper Type**.

   The **New Paper Type** dialog box opens.
3. In the **Name** box, enter the name of the new paper type.
4. In the **Description** box, enter a description of the new paper type (optional).
5. Click **Finish**.

   The new paper type opens in the Property Panel.

6. In the Property Panel, configure the following attributes:

To	Do this
Enter the width and height of a sheet of paper	a. In the **Width** box, enter the width of the paper. The default with is 8.500 in. b. In the **Height** box, enter the height of the paper. The default height is 11.000 in. If you are defining the paper width for electronic output, like an image, you must only set the width and not the height. The paper width is converted to pixels when generating the output to the screen. Since electronic pages scroll, the paper height is not important. Use the following formula while planning the dimensions: # of pixels / 96 dpi = # inches
Select a weight selection method for your paper type	a. From the **Weight selection method** drop-down list, select one of the following options: • **Static weight value**—The weight you enter in the Weight box • **Variable weight value (ounces)**—The variable you select in the **Weight** box. Variable values used with this option are identified in ounces. • **Variable weight value (grams)**—The variable you select in the **Weight** box. Variable values used with this option are identified in grams. The default is **Static weight value**. b. If you selected **Static weight value** from the **Weight selection method** drop-down list, enter the weight of a sheet of paper represented by the paper type in the **Weight** box. This weight is used in postal rate calculations for the printed document. You must enter the unit of measurement. Use the following abbreviations: • `oz`—Ounces • `g`—Grams c. If you selected **Variable weight value (ounces)** or **Variable weight value (grams)** from the Weight selection method drop-down list, click the **Weight** box to select a floating or integer variable to control the weight selection of the paper type. The unit of measurement is determined by which variable weight value option you selected from the **Weight selection method** drop-down list.
Specify the color of the paper	Select the color of the paper by clicking the color well to open the **Color** dialog box and selecting the appropriate color. This choice represents the expected color of the paper stock in the output device. The default color is white.

7. From the **Edit** menu, select **Save**.

9.6 Message Types

While the design users construct the messages, the system administrator controls certain message properties and how certain images are used. Message properties are managed with

message types in Exstream Design and Production. For example, suppose you want to create a certificate. The design user provides the necessary text in the certificate as a message template, but does not alter the certificate layout, the CEO signature scan, or the date. These objects are set within a graphic message template.

Message types are general layouts of messages to be defined in the system that are used to designate where specific types of messages are to be placed in a frame. When you define a frame for a text message, you must select a message type to go in the frame. Define specific message types to go only in content frames, which can be placed inline or linked to other text. Message types are used only for text messages.

For example, if your company creates a series of messages that are used for special promotions, you can create a message type named "Special Offer" to associate with these messages. You can then control where these messages are inserted into a publication by associating the "Special Offer" message type with a frame on a design page. At run time, the engine places only the messages regarding special promotions in frames that are associated with the "Special Offer" message type.

Note: Be careful not to confuse message type objects with the **Type of message** property.

The message type object is a custom category name that you create and apply to a message object to identify the subject matter of the message. In contrast, when you create a message, the **Type of message** property specifies the content a message contains (text, graphics, or inserts). For more information about types of messages, see *Managing Marketing Messages* in the Exstream Design and Production documentation.

Before you begin creating a message type, plan what the message contains and how design users will use it. Consider the following questions:

- Is the message text-based or graphic-based?
- What style sheets are attached to the message?
- Who will use this message type?
- What messages can be created?
- What message frames are needed to create these messages?

After you have built the message type, design users can create text messages using that type. If design users are using graphic messages, you must create a message template in addition to the message type.

9.6.1 Creating a Message Type

1. In Design Manager, in the Library, navigate to **Environment > Design > Message Types**.
2. Right-click **Message Types** heading and select **New Message Type**.

   The **New Message Type** dialog box opens.

3. In the **Name** box, enter a name for the new message type.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The message type is added to the **Message Types** heading and opens in the Property Panel.
6. Click in the **Default style** box.

   The **Select Style Sheet** dialog box opens.
7. From the style sheet list, select the style sheet to use for this message type.
8. Click **OK**.
9. From the **Edit** menu, select **Save**.

   The new message type will be available for design users to select when creating message templates.

9.7 Tag Sets

A tag set is a Library object that lets you relate tags in imported content to formatting instructions, such as fonts or tab stops, to the text within the tags. Tag sets are stored in the Library under **Environment > Design > Tag Sets**, and when you create a new tag set, you receive defaults to customize. You can create custom tag sets to format text using any or all of the following options:

- **Text**—Define tags that apply common text formatting to the text, such as bold, soft returns, variables, or nonbreaking spaces.
- **Fonts**—Define tags that apply a specific font, size, and effect to the text, such as Arial 10-point bold.
- **Paragraph**—Define tags that apply common paragraph layouts to the text, such as left justified, indented, or bulleted.
- **Tabs**—Define tags that apply a tab stop to the text. You can define tags for up to 12 tab stops, in left-to-right order.
- **Colors**—Define tags that apply specific colors to the text. You can define color tags to apply RGB, CMYK, or named colors to tagged text.
- **Styles**—Define tags that apply the formatting instructions within a particular style on a style sheet.

> **Note:** The **Styles** tab is only available if you have licensed the Publication Support module.

Tagged text can be used to format any type of imported text; however, you must license the Dynamic Content Import module if you want to use tag sets with external content imported at run time, and you must also create a tagged text variable.

For more information about imported text, see *Importing External Content* in the Exstream Design and Production documentation.

For more information about tagged text variables, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

After you have created a tag set, designers can use the tags in external text files. For example, suppose a text file contains variables. A tag must be defined in the tag set, such as `<var>`, to identify variables in the text file:

```
<p>Dear <var>CustomerName<\var>,<\p>
<p>We have an <b>exciting</b> opportunity for you!</p>
```

The output would appear as the following:

Dear Jane,

We have an **exciting** opportunity for you!

If a designer uses variables in conjunction with tag sets in external text files, they must add references to all of the variables used in the text file to the application.

For more information on adding variables to an application, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

Keep in mind that if the tagged text variable references a font that is not in the package file, the engine will not be able to locate the font at run time and you will receive an error. To avoid this error, you must add the fonts to the package file.

For more information about adding additional fonts to a package file, see *Importing External Content* in the Exstream Design and Production documentation.

In the text file, tags with more than one element, such as `<bu>` and `<bi>`, must including closing tags for each element. For example, `<bu>Text</b></u>` is correct, but `<bu>Text</bu>` is not.

If you use tagged text in conjunction with style sheets, keep in mind that the tagged text is honored even if it is embedded in a style. However, the attributes (for example, bold or italic) of the current style are not used to format the text after the end tag of the tagged text. If you want the text after the end tag to revert back to the current style, you must select the **End tags Revert attributes back to the current style** check box on the **Document** tab of the application properties.

To set up a tag set, complete the following tasks as needed:

1. "Creating a Tag Set" below
2. "Adding a Tag Set to an Application" on page 159
3. "Creating a Tagged Text Variable" on page 160
4. "Inserting a Tagged Text Variable into the Design" on page 160

You can also complete the following optional task as needed:

- Use font resource management.

  For more information about font resource management, see *Importing External Content* in the Exstream Design and Production documentation.

9.7.1 Creating a Tag Set

1. In Design Manager, in the Library, go to **Environment > Design > Tag Sets**.
2. Right-click the **Tag Sets** heading and select **New Tag Set**.

   The **New Tag Set** dialog box opens.
3. In the **Name** box, enter a name. In the **Description** box, enter a description (optional).
4. Click **Finish**.

   The tag set opens in the Property Panel.
5. In the Property Panel, customize the default tag set:

To	Do this
Define tags that apply common text formatting to the text, such as bold, soft return, or non-breaking space	a. Click the **Text** tab. b. In each box, enter a tag.

To	Do this
Define tags that apply a specific font, size, and effect to the text, such as Arial 10-point bold	a. Click the **Fonts** tab. b. Click  . The default system font set up by your system administrator appears in the list. c. Select a font from the list. d. In the **Tag** box, enter a tag. e. Click  . The **Select Font** dialog box opens. f. From the **Font**, **Point size**, and **Effects** areas, make selections to customize the font associated with the tag. g. Click **OK**. The **Select Font** dialog box closes. **Note:** For any fonts specified in the tag formatting to reproduce correctly, all of the fonts must be included in the application. You can use font resource management to meet this requirement.
Define tags that apply common paragraph layouts to the text, such as left justified, indented, or bulleted	a. Click the **Paragraph** tab. b. In each box, enter a tag. When setting properties on this tab, keep in mind: • The paragraph properties in tagged text take precedence over paragraph properties in Designer. • The paragraph offset is determined based on the last active paragraph before the tag. • You can use multiple tags on a string of text to create more complex layouts or to indent a paragraph deeper than the previous paragraph.
Define tags that apply a tab stop to the text. You can define tags for up to 12 tab stops, in left-to-right order.	a. Click the **Tabs** tab. b. In each box, enter a tag. **Note:** You set the exact tab locations (and tab type) in Designer. **Tab 1** refers to the far left user-defined tab in the ruler. For information about setting tab stops in Designer, see *Designing Customer Communications* in the Exstream Design and Production documentation.

To	Do this
Define tags that apply color to the text	a. Click the **Colors** tab. b. Click  . A default color tag appears in the list. c. Select the new color tag from the list. d. In the **Tag** box, enter a tag. e. Click  . The **Color** dialog box opens. f. Select an RGB, CMYK, or named color. g. Click **OK**. The **Color** dialog box closes and the color you selected is applied to the tag.
Define tags that apply the formatting instructions within a particular style on a style sheet	a. Click the **Styles** tab. b. Select either the **Paragraph** or **Text** radio button, depending on whether you want to add a paragraph style or a text style. c. Click  . The **Select Style** dialog box opens. d. Select a style from the list and click **OK**. The **Select Style** dialog box closes. e. On the **Styles** tab, select a style from the list. f. In the **Tag** box, enter a tag. **Note:** To use tags for styles, you must have a style sheet defined and applied to the design page. For information about applying style sheets to a page, see *Designing Customer Communications* in the Exstream Design and Production documentation.

6. If you do not want to require the external text files that contain tagged text to use end tags, select the **Each tag ends all other tags** check box on the **Text** tab. Base your selection for this option on the tag used in the external file. For example, if you clear this check box and the external content is missing an end tag for italics, then anything that appears after the italics tag is italicized in the output. If you select this check box, you cannot include end tags in the external content, and each tag in the file serves as an ending tag to the previous one.
7. From the Menu bar, select **Edit > Save**.

Changing the Start and End Tag Delimiters for a Tag Set

In the default tag set, Design Manager uses angle brackets (<>) as the start and end tag delimiters; however, you can use any character to define the start and end tag delimiters in a tag set as needed based on the requirements for your output format or delivery needs. This process can be useful if you need to ensure that tag sets can be identified correctly in the output format where the tags will be used. For example, if you use tag sets with XML input files (which use angle brackets to denote elements), then you must use different characters as the start and end tag delimiters, such as square brackets ([]), or curly brackets ({}), so that tags will not be misidentified as elements.

Note: Unicode is not supported for tagged text in DBCS applications. You must use 8-bit characters.

Keep in mind that all of the tags within a tag set must use the same start and end tag delimiters.

To change the start and end tag delimiters for a tag set:

1. From the Library, drag a tag set to the Property Panel.
2. Click the **Text** tab.
3. Select the **Enable global tag delimiters** check box.
4. In the **Start** and **End** boxes, enter the delimiters you want to apply to the tag set.
5. Click **Apply Delimiters**.

   The start and end tag delimiters that you entered are applied to all of the tags within the tag set.
6. From the Menu bar, select **Edit > Save**.

9.7.2 Adding a Tag Set to an Application

1. Open the application in the Property Panel.
2. Click the **Documents** tab.
3. Next to the **Tag set** box, click  .

   The **Select Tag Text** dialog box opens.
4. Select the tag set from the list and click **OK**.
5. If you want the text after end tags to revert back to the current style, select the **End tags Revert attributes back to the current style** check box.

   This check box is cleared by default.

9.7.3 Creating a Tagged Text Variable

Tagged text variables contain data strings that relate formatting instructions, such as bold, for variable text to the engine. The limit for the size of the imported content is 64K.

To create a tagged text variable:

1. In the Library, right-click the **Data Dictionary** heading and select **New Variable**.

   The **New Variable** dialog box opens.
2. In the **Name** box, enter a name. In the **Description** box, enter a description (optional).
3. From the **Type** drop-down list, select **Tagged Text**.
4. If the variable contains more than one value, select the **Array** check box.
5. In the **Design sample** box, enter sample text to show in Designer (optional).
6. Click **Finish**.

   The variable opens in the Property Panel.
7. Configure additional variable properties as needed.

You typically map a tagged text variable to strings in data files, however, a tagged text string differs from other strings because it contains formatting tags that the engine interprets based on what you defined in the tag set. For example, suppose you have a tag set with the bold format set to the <b> tag, and you map a tagged text variable to the following string:

```
Hello, <b><var>CustomerFirstName</var>!</b>
```

In this case, the external text file is mixing both tag sets and variable names in the content. So, in the output, the imported text will be formatted according to the tag set formatting instructions, as well as populated with the value associated with the variable <CustomerFirstName>. The output would appear like the following:

Hello, **Mary!**

For more information on configuring and mapping variables, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

9.7.4 Inserting a Tagged Text Variable into the Design

1. Open the page, message, or paragraph in which you want to import the variable in Designer.
2. Place the cursor within a design object that accepts text, such as a text box or a table cell.

3. On the Standard toolbar, click  to open the Variable Palette.
4. From the Variable Palette, double-click the tagged text variable that is tied to the external text file.
5. If the text file you are importing contains variables, you must make sure that autofit options are turned off:
    a. Right-click inside the text box or table cell and select **Text Properties**.

       The **Text Properties** dialog box opens.
    b. From the **Autofit text** drop-down list, select **None**.

       The default option is **None**.
    c. Click **OK**.

       The **Text Properties** dialog box closes.

Chapter 10: Using Templates to Enforce Consistency

There are two types of templates that you can create in Exstream Design and Production: page templates and message templates. A page template defines the paper type and controls what kind of page is used. A message template is an object that defines a message type and controls what kind of message can be placed in a frame. Defining characteristics and setting objects within a template lets you create consistent pages and enforce style sheets.

Templates allow you to ensure that your documents have a consistent look and feel even when you have a number of people working on various types of documents. Templates also control what design decisions can be made, such as whether objects can be moved.

10.1 Page Templates

Page templates simplify document creation by pre-setting components within a new document. Page templates use paper types and additional settings to ensure that pages have a consistent design, even if multiple people design them. They are designed like a page, but because they have additional features, you can set defaults that cannot be overridden. Organizations often use page templates when they have corporate standards they must meet.

Before you can create a page template, you must have already created a paper type. Paper types define the properties of the sheet of paper that corresponds to the page. Paper types define the paper dimensions and weight- and output-specific options such as copy group names and formdef options for AFP output. For example, suppose you want to create a template for correspondence. When the user creates a new page with the template, the letterhead, date, watermark, and body text box are already set up for the page. The design user only has to write the content.

A page template sets a new page with pre-set specifications for the following:

- **Design defaults**—Lets you specify new design defaults for tab size, default font, and bullet schema. Setting the design defaults on the template supersedes any system-wide design defaults.
- **Style sheets**—Lets you define which style sheet is enforced for this template
- **Paper types**—Lets you define which paper type this template uses

  For more information about paper types, see “Paper Types” on page 151.
- **Page orientation settings**—Lets you define the layout of the page (for example, portrait, landscape, portrait reversed, or landscape reverse)
- **User restrictions**—Lets you restrict the Exstream Design and ProductionDesigner

functionality for the specified page. For example, you can specify that editors can modify text but not add anything. You can also limit user access by design group, variables, and font availability in this category.

To set up page templates, complete the following tasks as needed:

- “Creating a Page Template” below
- “Changing the Paper Type of a Page Template” on the next page
- “Managing Simplex Pages for Duplex Printers” on page 166
- “Adding Starter Objects to a Page Template” on page 166
- “Adding Frames to a Page Template” on page 167

10.1.1 Creating a Page Template

1. In the Library, navigate to **Environment > Design > Templates > Page Templates**.
2. Right-click the **Page Templates** heading and select **New Page Template**.

   The **New Page Template** dialog box opens.
3. In the **Name** box, enter the name of the new page template.
4. In the **Description** box, enter a description of the new page template (optional).
5. Click **Next**.
6. From the **Paper type** drop-down list, select a paper type.
7. Click **Finish**.

   The new template opens in the Property Panel.

8. In the Property Panel, you configure the following attributes:

To	Do this
Enter a description of this template (optional)	Enter descriptive text into the **Description** box. Entering a description lets design users know the purpose of the template. For example: `This template is used for clearance sale advertisements.`
Select a default style sheet for this template	a. On the **Default style sheet** box, click  . The **Select Style Sheet** dialog box opens. b. From the list of style sheets, select a style sheet. The default is **None**. c. Click **OK**. **Note:** You must have licensed the Publication Support module before you can use style sheets.
Select page layout	a. From the **Orientation** drop-down list, select one of the following options: • **Portrait**—The page is taller than it is wide. The objects on the page appear as ordered. • **Landscape**—The page is wider than it is tall. The objects on the page appear as ordered. • **Portrait reversed**—The page is taller than it is wide. The objects on the page appear in reverse order. • **Landscape reversed**—The page is wider than it is tall. The objects on the page appear in reverse order. Orientation changes the layout of the page in relation to the output device's normal output page orientation. The default is **Portrait**. b. If you want to create pages that print on both sides of paper, select the **Duplex** check box.

9. From the **Edit** menu, select **Save**.

When creating templates, you can use design layers. For more information about design layers, see *Designing Customer Communications* in the Exstream Design and Production documentation.

10.1.2 Changing the Paper Type of a Page Template

You can change the paper type for a page template even if you have already defined the page template's attributes. However, if you select a paper type that is smaller than the original paper type, and a design user is already using the template, drawing objects might be located off of the page, and the design user might lose some or all of a design.

You can create a page that uses multiple paper types. For example, suppose you run the same page on two printers and the printers take different types of paper stock. You need a way to design the page once, but because the paper stocks have different weights, you need two different paper types in order to correctly calculate the postage for both paper stocks.

If you decide to change your paper type, you can select a new default paper type for the template. In addition, you can also select a variable to allow the paper type to be selected dynamically. Dynamic paper types are used when you need more than one paper type for a page template. For example, suppose you run the same page on two printers and the printers use different paper stock. You can use dynamic paper types to design the page one time, but use the different paper types for each postage calculation. You might also need to use different paper types for one page, for example, if you are using two different pre-printed stocks for branding reasons.

Caution: The width and height of the dynamic paper type must match the width and height of the default paper type defined for the page. If they do not match, you receive a message and the default paper type is used to create the output.

To change the paper type of a page template:

1. In the Library, navigate to **Environment > Design > Templates > Page Templates**.
2. Drag the appropriate page template to the Property Panel.
3. In the **Paper type** box, click  .

   The **Select Paper Type** dialog box opens.

   For more information about paper types, see "Paper Types" on page 151.
4. From the list of paper types, select the paper type that you want to associate with this template.
5. Click **OK**.
6. If you want to select a paper type to be selected dynamically, click  in the **Dynamic paper type** box.

   The **Select Variable** dialog box opens.
7. From the list of variables, select a non-array variable. The variable should be mapped to the name of the paper types.
8. Click **OK**.
9. From the **Edit** menu, select **Save**.

10.1.3 Managing Simplex Pages for Duplex Printers

You can use page templates to manage simplex pages (pages that are designed to appear on one side) when the output driver (or output queue) is set to duplex. You can set pages to always appear on the front side of a sheet of paper. You can control whether any pages are allowed on the back side of a page that is defined as a simplex page.

To specify how to print a simplex page on duplex outputs:

1. In the Library, navigate to **Environment > Design > Templates > Page Templates**.
2. Drag the appropriate page template to the Property Panel.
3. From the **How to print simplex page on duplex outputs** drop-down list, select one of the following options:
   - **Starts on front or back - must match paper type**—The page can be placed on the front or back of any sheet of paper as long as the paper types match.
   - **Starts on front, matching paper type allowed on back**—The page is always on the front of a sheet of paper. Anything can be placed on the back as long as it is the same paper type.
   - **Starts on front, nothing on back**—The page is always on the front of a sheet of paper. Nothing can be placed on the back of the sheet.
   - **Starts on front or back, different paper types allowed**—The page can be placed on the front or back of a sheet of paper, using any available paper type.
   - **Starts on front, different paper types allowed**—The page can be placed on the front or back of a sheet of paper, using any available paper type.

   If the **Duplex** check box is selected, the **How to print simplex page on duplex outputs** drop-down list becomes inactive.
4. From the **Edit** menu, select **Save**.

10.1.4 Adding Starter Objects to a Page Template

Starter objects contain text that assists design users, such as helpful hints or instructions. For example, `Enter text here` in a text box is an ideal starter object for a text box. Starter objects appear in red and do not appear on the final composed output. To add starter objects to a template, use the same principles as used when designing a page.

For more information about designing a page, see *Designing Customer Communications* in the Exstream Design and Production documentation.

10.1.5 Adding Frames to a Page Template

You can add frames to a page template to contain messages or other content. For example, if you have a message that must be sent to all of the customers receiving a statement, you can place the frame for the message on a page template. Adding frames to page templates gives you greater consistency when using white space and allows you to reduce design time and maintenance.

To add frames to a page template, complete the following steps:

1. In Design Manager, from the Library, drag the page template to the Edit Panel.

   The page template opens in Designer.

2. On the Drawing Objects toolbar, click  .

   The **New Frame** dialog box opens.

3. On the **New Frame** dialog box, select the type of frame that you want to add to the page template:

To add	For this purpose	Do this
Message frames	Message frames accept only messages and message content. Generally you use this type of frame for required messages that must be included in the customer output, or for messages that form the content of a document.	Select the **Message** radio button.
Content flow frames	Content flow frames accept a variety of different objects. Generally you use this type of frame to allow optional messages to fill any remaining white space.	Select the **Content flow area** radio button.
Table of contents and index frames	Table of contents and index frames accept overflow content from tables of contents and indexes.	Select the **Table of contents and index** radio button.
Footnote frames	Footnote frames allow you to reserve an area for the footnote text. Footnote frames usually appear at the bottom of a design.	Select the **Footnotes** radio button.
Placeholder frames	Placeholder frames allow you to control the placement, scale, and rotation of external content imported into a placeholder document.	Select the **Placeholder** radio button.

4. Click **OK**.

   The **Insert frame** dialog box opens for you to define the frame properties. The process for defining frame properties varies according to the type of frame you have selected.

The following table lists the guides where you can find information about each frame type:

For this frame type	See this guide for more information
Message frames	*Managing Marketing Messages* in the Exstream Design and Production documentation
Content flow frames	*Designing Customer Communications* in the Exstream Design and Production documentation
Table of contents and index frames	*Designing Customer Communications* in the Exstream Design and Production documentation
Footnote frames	*Designing Customer Communications* in the Exstream Design and Production documentation
Placeholder frames	*Importing External Content* in the Exstream Design and Production documentation

Tip: Keep in mind that while you can use any of these frames on a page template, you must plan your design carefully to avoid frame content overlapping static page content.

Design Considerations When Using Frames on Page Templates

When using frames on page templates, keep in mind the following specifications:

- Content flow area frames are filled before all other frames in a design.
- Frames on page templates are filled before all other frames in a design, unless you are using content flow area frames. For example, if you have a design that contains a content flow area frame on a page template and a content flow area frame on a page, the content flow area frame on the page template is filled before the content flow area on the page. However, if you have a design that contains message frames on a page template and a content flow area frame on a page, then the content flow area on the page is filled first.
- Frames on a page template are numbered first, then any frames added to the page are numbered. For example, suppose you have two frames on the page template, they are numbered 1 and 2. If you add two more frames to a page that uses that page template, the new frames on the page are numbered 3 and 4. However, no matter how the frames are numbered, content flow area frames are still filled before other types of frames.

  For more information about frame fill order, see *Designing Customer Communications* in the Exstream Design and Production documentation.

10.2 Message Templates

Message templates are used to create graphic messages, or starter messages, which the design user can add to but not delete. Before you can add a message template, you must have a message type.

For more information about message types, see "Message Types" on page 152.

The following are some of the uses for a message template:

- The company logo and mission statement
- An article that features the same introduction and end text, but lacks the body
- An image border around the message to be created

Only graphic messages use message templates. Text messages do not use message templates.

10.2.1 Creating a Message Template

To add a message template:

1. In the Library, navigate to **Environment > Design > Templates > Message Templates**.
2. Right-click **Message Templates** and select **New Message Template**.

   The **New Message Template** dialog box opens.
3. In the **Name** box, enter a name for the new message template.
4. Click **Next**.

   The **Select the Message Type** dialog box opens.
5. From the **Message Type** drop-down list, select a message type.

   For more information about message types, see "Message Types" on page 152.
6. Click **Finish**.

   The new message template opens in the Property Panel.
7. In the Property Panel, you can configure the following message type attributes on the **Basic** tab:

To	Do this
Enter a description for the template (optional)	To change or enter a description of the template, enter descriptive text into the **Description** box. Entering a description lets design users know the purpose of the template. For example, you could enter `Use for physical pages 2 and 3`. This description lets design users know at a glance that this particular template is designing physical pages 2 and 3.

To	Do this
Select a style sheet for this template	a. In the **Default** style sheet box, click  . The **Select Style Sheet** dialog box opens. b. From the list of style sheets, select a style sheet. The default is **None**. c. Click **OK**. **Note:** This feature is active only if you have licensed the Publication Support module. For more information about styles and style sheets, see "Style Sheets" on page 139
Define the style, size, and color of border lines	a. In the **Border** area, select either **None** or the style of line you want. b. In the **Border width** box, enter the size of the border line. c. Click the **Border color** color well to change the color of the border. The **Color** dialog box opens. d. Select a color for the border and click **OK**. The default color is black.
Select a background color for this message template	a. Click the **Front** color well. The **Color** dialog box appears. b. Select a color for the background and click **OK**. The default color is white. c. If the template is duplex, click the **Back** color well. The **Color** dialog box appears. d. Select a color for the background and click **OK**. The default color is white.
Enter the amount of required space above and below this message when it is placed within a flowing frame	a. In the **Space to leave above (in multi-message frame)** box, enter the amount of required space above this message when placed within a flowing frame. b. In the **Space to leave below (in multi-message frame)** box, enter the amount of required space below this message when placed within a flowing frame. When two messages follow each other in a frame, the larger of the two margins is observed.

8. From the **Edit** menu, select **Save**.

10.2.2 Changing the Message Type of a Message Template

1. In the Library, navigate to **Environment > Design > Templates > Message Templates**.
2. Drag the appropriate message template to the Property Panel.
3. On the **Message type** box, click  .

   The **Select Message Type** dialog box opens.
4. From the list of message types, select a message type.
5. Click **OK**.
6. From the **Edit** menu, select **Save**.

10.2.3 Defining the Dimensions of a Message Template

You can define the dimensions of a message template to be either static or growing. A static template is a template with fixed dimensions. The dimensions of a message that uses a static template are always constant. A growing template is a template with a height that can be increased.

Setting the Dimensions of a Static Message Template

1. In the Library, navigate to **Environment > Design > Templates > Message Templates**.
2. Drag the appropriate message template to the Property Panel.
3. In the **Width** box, select the width.

   The default width is `8.000 in`.
4. From the **Growth** drop-down list, select None (static size).
5. In the **Height** box, select the height.

   The default height is `2.500 in`.
6. From the **Edit** menu, select **Save**.

Setting the Dimensions of a Template to Grow

A growing template is a template with a height that can be increased. In Designer, the design user can increase the height of the template. In addition, the length of the message can increase

when the engine composes the page. This resizing occurs as variables and tables grow within the message or as objects are omitted due to rule processing. The growth option is controlled only in Design Manager in the template properties. You can a allow a template to resize if the components in this message grow.

The engine cannot split graphic messages into multiple frames. Therefore, if the message grows to a size larger than that of the tallest available frame, it cannot be placed on any page. Page design users and message design users must coordinate when using growing messages so that the message will have a place to be included in the page.

To set the dimensions of a template to grow:

1. In the Library, navigate to **Environment > Design > Templates > Message Templates**.
2. Drag the appropriate message template to the Property Panel.
3. From the **Growth** drop-down list, select **Vertical**.
4. From the **Edit** menu, select **Save**.

10.2.4 Setting a Message Template as the Primary Template for Frames

If you set a template as the primary template to be placed in frames, the engine will only place messages that use this template in a frame if this template is specified as the primary template for the frame. Otherwise, messages using this template will be placed in any frame where there is room.

To set a template as the primary template to be placed in frames:

1. In the Library, navigate to **Environment > Design > Templates > Message Templates**.
2. Drag the appropriate message template to the Property Panel.
3. Select the **Include only in frames with this template as primary content** check box.
4. From the **Edit** menu, select **Save**.

10.2.5 Setting a Message Template to Create Duplex Messages

You can configure a message template so that all messages created with this template will be duplex. Making a message template duplex allows the design user to create both sides of a message at the same time.

Caution: Duplex messages can only be placed on duplex pages.

To make a message template duplex:

1. In the Library, navigate to **Environment > Design > Templates > Message Template**.
2. Drag the appropriate message template to the Property Panel.
3. Select the **Duplex** check box.
4. From the **Edit** menu, select **Save**.

10.3 Setting Design Defaults for a Page or Message Template

In page and message templates, you can either use the system-wide design defaults or select new design defaults that are specific to a template. The template will use the system-wide design defaults unless you clear the **Use system-wide design defaults** check box on the **Design Defaults** tab.

For information about system-wide defaults, see "Configuring User Login and Authentication Settings" on page 89.

To set new design defaults on a template:

1. In the Library, navigate to **Environment > Design > Templates**.
2. From either the **Message Templates** heading or the **Page Templates** heading, drag the appropriate template to the Property Panel.
3. On the **Design Defaults** tab, clear the **Use system-wide design defaults** check box.

4. On the **Design Defaults** tab, define the following design defaults:

To	Do this
Define the default indent and tab size	In the **Default tab size** box, enter a size (in inches) to set the indent and tab size. Designer uses this indent size for the default tab when creating bullet and number lists and when setting tabs.
Define the defaults for font type, font size, and font style (for example, bold or italic)	a. In the **Default font for text and tables** box, click  . The **Select Font** dialog box opens. b. From the list of fonts in the **Font** box, select a font. c. From the **Point size** drop-down list, select a font size. d. If you want the default font to be bold, select the **Bold** check box from the **Effects** area. e. If you want the default font to be italics, select the **Italic** check box from the **Effects** area. f. In the **Preview** area, you can see how the default text will appear. g. Click **OK**. **Note:** If you change the default font, the new default applies only to the text entered after the font change.
Define the default bullet styles used for four levels of indentation	a. In the **Bullets and numbering by indent level** area, click the bullet button next to the level number (**1**, **2**, **3**, or **4**) to set the character for the bulleted list level. The **View Character Set** dialog box opens. b. From the **View Character Set** drop-down list, select the font to use for the bullets. c. From the table, select the character to use for the bullets. d. Click **OK**. The **View Character Set** dialog box closes. e. To change the color of the bullets, click the color well next to the bullet button. The **Color** dialog box opens. f. Select a color to use for the bullets. g. Click **OK**.
Define the default numbering style for the numbered list level	a. In the **Bullets and numbering by indent level** area, select a numbering style for each numbered list level from the **Numbering** drop-down lists. b. To change the color of the numbers, click the color well next to the **Numbering** drop-down lists. The **Color** dialog box opens. c. Select a color to use for the numbers. d. Click **OK**.

5. From the **Edit** menu, select **Save**.

10.4 Managing Template Restrictions

By default, both page and message templates are non-restricted when they are first created. Configuring the options available on the **User restriction** tab lets you restrict the Exstream Design and ProductionDesigner functionality for the specified page. For example, you can specify that editors can modify text, but they cannot add anything. You can also limit user access by design group, variables, and font availability in this category.

Setting restrictions on a template lets you control what design users can do in messages and pages created from the template.

To manage template restrictions:

1. In the Library, navigate to **Environment > Design > Templates**.
2. From either the **Message Templates** heading or the **Page Templates** heading, drag the appropriate template to the Property Panel.
3. On the **User Restrictions** tab, in the **Activities that users are permitted to perform** area, select the activities that you want to restrict.

4. On the **User Restrictions** tab, complete the following tasks as needed:

To	Do this
Limit which variables design users can use for personalization and rules	a. Select the **Limit variables** check box. The  becomes active. b. Click  . The **Select Variable** dialog box opens. c. From the **Variable** list, select the variable that you want to allow design users to use in this template. d. Click **OK**. e. Repeat step b through step d to add as many variables as needed.
Limit which fonts design users can use	a. Select the **Limit user access** check box. The  becomes active. b. Click  . The **Select an item to add to the list** dialog box opens. c. From the list of design groups, select the design group that you want to allow to use in this template. d. Click **OK**. e. Repeat step b through step d to add as many users as needed.
Limit which design users can use the template	a. Select the **Limit fonts** check box. The  becomes active. b. Click  . The **Select an item to add to the list** dialog box opens. c. From the list of fonts, select the font that you want to allow design users to use in this template. d. Click **OK**. e. Repeat step b through step d to add as many fonts as needed.

5. From the **Edit** menu, select **Save**.

Chapter 11: Working with Languages and Locations

A global market results in a wide range of customers. Customers in different countries/regions often speak different languages and use different currency, numeric notation, and operating system strings. Defining languages and geographic countries/regions (known as locales in Exstream Design and Production) lets you accommodate all these considerations. Languages and locales are required when distributing material to multiple geographic and cultural areas or when distributing multiple languages within one area.

This chapter discusses the following topics:

11.1 Languages

To use multiple languages, you must define each language that you support in your system, and then design users must create language layers for each locale. That way, when you generate a mailing for a customer, you can select the pages, messages, and variable information based on the language of the customer. Additionally, some variables, such as dates, are also automatically formatted based on customer language.

No matter whether you are using SBCS or DBCS languages (or both) in an application, you must make sure that you enable the appropriate settings across multiple objects before you can create output. Different language families require different types of settings. For example, all languages require that you set up a language object, but applications that contain DBCS languages handle font resources differently than non-DBCS applications. Beyond that, certain non-Latin DBCS languages (such as Cambodian (Khmer) and Farsi) require that you configure system-wide settings so that Exstream can properly render font characters in Designer and in engine output. As you read through the following sections, pay close attention to the settings required for the languages that you are using in your applications.

Important: If your applications use complex text languages—which include certain Middle-Eastern and Asian languages (such as Arabic, Hebrew, and Chinese)—be sure that you use the settings detailed in "Configuring Language Settings for Complex Text Languages" on page 181.

This section discusses the following topics:

11.1.1 Adding a Language

1. In the Library, go to **Environment > System**.
2. Right-click the **Languages** heading and select **New Language**.

   The **New Language** dialog box opens.
3. In the **Name** box, enter the name of the new language.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The language is added to the Library and the language opens in the Property Panel for you to define.

   Important: Keep in mind that Exstream does not support all settings for all languages. For example, Farsi does not have a default dictionary in Design Manager. Be sure to test all language settings in your application before deploying it for production.

6. In the Property Panel, define the following attributes:

To	Do this
Select a default dictionary	From the **Dictionary** drop-down list, select a default dictionary for the language to use with the spell checker. If you do not have the language dictionary of the localized version of Exstream Design and Production, then the default option is **English (American)**. If the dictionary is available for the language in which Exstream Design and Production is localized, the default option for the language object is the localized language. For example, if you installed the Spanish version of Exstream Design and Production, then the default dictionary language would be Spanish. When you select a language from the **Dictionary** drop-down list, the prepopulated text in the **Months of the year**, the **Days of the week**, and the **Numeric magnitudes** areas are updated with the values for the new language. Most of the fields in these three areas are pre-populated. If you want to change the pre-populated text, you can edit these fields.
Select the hyphenation language	From the **Language** drop-down list, select a language. The default option is **English (American)**.
Specify hyphenation exception files	a. In the **Test exception file** box, specify a file that contains a list of exceptions indicating how to handle hyphenation for specific words during testing. The test exception file must contain one word per line, exactly as you want the word to appear. b. In the **Production exception file** box, specify a file that contains a list of exceptions indicating how to handle hyphenation for specific words during production. The production exception file must contain one word per line, exactly as you want the word to appear.
Enter the names of the months of the year	a. In the **Months of the year** area, enter the full names of the months of the year in the **Long** box. Make sure to start with the first month of the year in the top text box. b. In the **Months of the year** area, enter the abbreviated names of the months of the year in the **Short** box. Make sure to start with the first month of the year in the top text box. c. Enter the remaining 11 months in consecutive order.
Enter the names of the days of the week	a. In the **Days of the week** area, enter the full names of the days of the week in the **Long** box. Make sure to start with the day corresponding to Sunday in top text box. b. In the **Days of the week** area, enter the abbreviated names of the days of the week in the **Short** box. Make sure to start with the day corresponding to Sunday in the first text box. c. In each of the remaining text boxes, enter the remaining six days in consecutive order.
Enter a word that is used in the language for numeric magnitudes (for example, thousands)	In the **Numeric magnitudes** area, enter the word that is used in the language you are defining for each of the following: thousands, millions, and billions.

7. From the **Edit** menu, select **Save**.

Now that you have created a language object, you can move on to configuring the specific language settings required by your application:

- For SBCS applications, you do not need to configure the language object further and can move on to "Setting Case Exceptions for a Language" on page 197 and/or "Setting Up a Custom Dictionary for a Language" on page 199 as needed.
- For DBCS applications that use Latin-based scripts, you need to make some specific changes to the language object to account for DBCS-specific requirements. For a rundown of those settings, see "Configuring Language Settings for DBCS Applications" below.
- For DBCS applications that use complex text languages, you need to make not only specific changes to the language object, but also some changes at both the application and database level. For a rundown of those settings, see "Configuring Language Settings for Complex Text Languages" on the next page.

11.1.2 Configuring Language Settings for DBCS Applications

For DBCS languages, you must specify the scripts associated with the language to ensure that all information associated with that language can be identified, stored, and read accurately by Exstream. For each DBCS language, you must specify the Alphabetic script and Numeric script associated with the language. These scripts are used to specify the order in which text will be read/written and the appropriate value for numbers in both Designer and in the output produced by the engine. (Note that this task assumes that you have already created a language object. For information about creating a language object, see "Adding a Language" on page 178.)

Important: If your applications use complex text languages—which include certain Middle-Eastern and Asian languages (such as Arabic, Hebrew, and Chinese)—do not use the settings discussed in this section; instead, be sure that you use the settings detailed in "Configuring Language Settings for Complex Text Languages" on the next page.

To configure language settings for DBCS applications:

1. In the Library, go to **Environment > System > Languages**.
2. Drag the appropriate language to the Property Panel.
3. Select the **DBCS only** check box.

   The **DBCS settings** area becomes active.
4. From the **Alphabet Script** box, click  .

   The **Select the script** dialog box opens.
5. From the **Select a group** drop-down list, select the script group associated with the language you are defining.
6. From the **Select a script** list, select the specific alphabet script associated with the DBCS language.

7. Click **OK**.

   The **Select the script** dialog box closes.

8. If you want to allow the Windows language bar to automatically select the necessary numerical digit set, select the **Use Language Bar** check box. When the **Use Language Bar** check box is selected, the Windows language bar will override any numerical digit setting applied to the language object.

   > **Note:** The **Numerical Digits** drop-down list applies only to the Arabic script. If you are using the Arabic script, be sure that you use the settings detailed in "Configuring Language Settings for Complex Text Languages" below.

9. From the **Edit** menu, select **Save**.

11.1.3 Configuring Language Settings for Complex Text Languages

Exstream provides settings to properly render complex text in designs that use non-Latin DBCS character sets (such as Arabic, Cambodian (Khmer), Farsi, and Hebrew). These settings enhance the appearance of complex text both on the screen in Designer, as well as in output produced by the engine. Complex text layout functionality is available for the following output types:

Output type	Specific formats
AFP	
DLF	
DOCX	
HTML	EDGAR HTML, HTML, and HTML (email)
PDF	
PostScript	
RTF	
XML	XML (composed), XML (content), and XML (multi-channel)

What do we mean by complex text? For the purposes of Exstream, text is considered complex if it exhibits one or more of the following characteristics:

- Is written right to left
- Can be written bidirectionally (can contain a mixture of right-to-left and left-to-right text)
- Uses context-sensitive shaping (characters that are shaped differently depending upon the characters that surround them), combined characters, and/or ligatures
- Uses fonts that contain multiple representations of a particular non-Latin DBCS character

This section walks you through the settings that you must use if you want to produce output that contains a complex text language. We have also included at the end of the section a list of limitations specific to certain use cases. Remember that complex text settings will likely affect the amount of time that the engine takes to process your application, as well as the time it takes to package your application and the size of the package file itself (depending on the number of fonts that your application contains). Additionally, enabling complex text layout functionality in your database will likely result in larger output files produced by the engine. It is important, therefore, that you thoroughly test all settings to determine which ones work best for your application.

Important: Right-to-left languages are not supported on the default language layer. If you plan to include right-to-left languages in your design, you must use a separate language layer. For more information about adding language layers to your design, see *Designing Customer Communications* in the Exstream Design and Production documentation.

The following table provides a high-level overview of the steps (along with links to the sections that discuss them) that you will follow to implement complex text languages into your designs:

High-level overview for using complex text languages in Exstream applications

Step	Explanation	Links
1. In the documentation, determine whether you should enable complex text layout for your database.	Not all languages require complex text layout functionality. Review the documentation to quickly determine whether you should enable this functionality for your database or not.	"Should I Enable Complex Text Layout for My Database?" on the next page
2. In the **System Settings**, enable complex text layout.	This setting causes all the font files in your application to be included in the package file, which ensures that Exstream has the basic font information that it needs to properly render complex text characters in engine output. This setting also ensures that complex text characters appear correctly in Designer. If needed, you can also limit the scripts that have complex text layout applied.	• "Enabling Complex Text Layout for a Database" on page 185 • "How to Improve Packaging and Engine Performance with Complex Text Layout Enabled" on page 186
3. On the application object, select to include all font characters in the package file.	This setting ensures that font metrics and other design-specific font data are included in the package file so that the engine has all of the information that it needs to create output.	"Specifying the Font Characters to Include in the Package File" on page 187

High-level overview for using complex text languages in Exstream applications, continued

Step	Explanation	Links
4. On the language object, configure DBCS settings to use complex text layout (including assigning a language system tag, if needed).	This step involves customizing a DBCS language object so that Exstream has the specific font and character information that it needs to render complex text characters in Designer and in engine output.	• "Configuring a Language Object to Use Complex Text Layout" on page 188 • "When Is the Language System Tag Necessary?" on page 190
5. On the output object, specify font settings.	This step specifies the font-inclusion settings that are necessary for different output types.	"Specifying Font Settings for Different Output Types" on page 190
6. In the documentation, review limitations and notes about special use cases, as well as tips and tricks for working with complex text.	Before you implement complex text layout in your database, review the "Design Differences" section so that you can avoid any pitfalls. Additionally, if you are working with complex text languages that do not use spaces between words—namely, Cambodian (Khmer), Lao, and Thai—read the "Tips and Tricks" topic to learn how to control line breaks.	• "Design Differences" on page 191 • "Tips and Tricks: Controlling Line Breaks in Languages That Do Not Use Spaces Between Words" on page 194

Note: For information about using complex text languages in Live applications, see *Designing for LiveEditor* in the Exstream Design and Production documentation.

Should I Enable Complex Text Layout for My Database?

Complex text layout is the only way to get certain languages to appear as expected in Designer and in output produced by the engine. You will need complex text layout for only the following two scenarios:

- A language in your design uses context-sensitive shaping (characters that are shaped differently depending upon the characters that surround them), combined characters, and/or ligatures.
- A language in your design uses fonts that contain multiple representations of a particular non-Latin DBCS character.

Use the following table as a guide in determining which languages should use complex text layout functionality:

Which languages should use complex text layout functionality

Language	Script	Complex text layout	Language system tag*
Any SBCS language	Latin	Do not use	N/A
Any Latin-based DBCS language	Latin	Do not use	N/A
Arabic	Arabic	Recommended	ARA

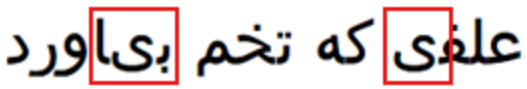
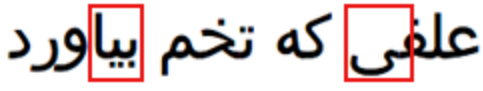
Which languages should use complex text layout functionality, continued

Language	Script	Complex text layout	Language system tag*
Cambodian	Khmer	Required	KMH
Chinese	Han	Recommended	ZHS
Dari	Arabic	Required	DRI
Farsi	Arabic	Required	FAR
Hebrew	Hebrew	Recommended	IWR
Japanese	CJK Unified Ideographs (Han), Hiragana, Katakana	Recommended	JAN
Korean	Han, Hangul	Recommended	KOR
Lao	Lao, Thai	Recommended	LAO
Thai	Thai	Recommended	THA
Urdu	Arabic	Required	URD

*You can use language system tags not specified by Exstream, but your results might vary. If you use an unrecognized language system tag, characters in the affected language might not appear as expected in Designer or in output produced by the engine. It is important that you test language system tags thoroughly before using them in a production environment.

Notice that, for a handful of the languages in the table, complex text layout is required; for others, complex text layout is simply recommended. For the languages that require it, if you do not enable complex text layout, the text for those languages will not be correct in Designer or in the output produced by the engine. For example, when you compare snippets of Farsi text with complex text layout turned on against the same snippets with complex text layout turned off, you see significant differences in context-sensitive shaping, combined characters, and ligatures:

Comparing Farsi text with and without complex text layout

Farsi text with complex text layout OFF	
Farsi text with complex text layout ON	

For the languages in the table for which complex text layout is recommended but not required, you can weigh the pros and cons of enabling complex text layout on a case-by-case basis. For example, if you have used a complex text language prior to Exstream version 9.5 and you are satisfied with its appearance in Designer and in output produced by the engine, you can exclude

the script associated with that language so that complex text layout is not applied. (For more information about limiting the scripts to which complex text layout is applied, see "Enabling Complex Text Layout for a Database" below.)

However, with complex text layout enabled, you will likely see improvements in overall appearance for each recommended language. You should individually test each recommended language that you use in order to determine whether the overall improved appearance is worth the extra resources necessary to process complex text during packaging and engine runs. (For more information about how complex text layout affects packaging and engine performance, see "How to Improve Packaging and Engine Performance with Complex Text Layout Enabled" on the next page.)

Enabling Complex Text Layout for a Database

If you plan to use complex text languages in your applications, you must enable a system-wide setting that applies to all applications in your database. When you select the **Enable complex text layout** check box in the **System Settings**, Exstream includes extra font information in your package files so that complex text characters appear correctly in Designer and are rendered properly in output produced by the engine.

Because of the shaping requirements for fonts used in complex text languages, the engine needs access to all of the fonts in your application in order to create output. As a result, when you enable complex text layout for your database, Exstream includes the entire font file for each font in the application as part of the packaging process. The resulting package files will likely take longer to produce than those produced from applications that do not use complex text layout. (The engine will also take longer to process your application, and you will also likely see a corresponding increase in package size, depending on the number of fonts that your application contains. If your application contains a large number of fonts, then you will see a larger increase in package size.) Additionally, enabling complex text layout functionality in your database will likely result in larger output files produced by the engine.

To enable complex text layout for a database:

1. In the Library, go to **Environment > System > System Settings**.
2. Drag the **System Settings** heading to the Property Panel.
3. Click the **Text and Fonts** tab.
4. Under the **Complex text support** heading, select the **Enable complex text layout** check box.
   A drop-down list becomes available that allows you to limit, if desired, the scripts that will have complex text layout applied.
5. (Optional) From the drop-down list, select one of the following options:

   - **Apply to all non-Latin DBCS scripts** (default)—Select this setting if you want all non-Latin DBCS languages in the database to use complex text functionality.

- **Apply to the specified scripts**—This setting is useful if you are satisfied with the appearance of certain non-Latin DBCS languages in your design that do not use context-sensitive shaping, combined characters, and/or ligatures. For example, if your application contains Chinese, Greek, and Farsi, and you do not want to have to retest your Chinese and Greek output because of the minor pixel differences created by complex text functionality, you can apply this setting to only the Arabic script so that you receive the benefit from complex text layout in Farsi but your Chinese and Greek output remain unchanged. This setting can also decrease the amount of time that the engine takes to process your application.
- **Do not apply to the specified scripts**—Like the **Apply to the specified scripts** setting, this setting is useful if you are satisfied with the appearance of certain non-Latin DBCS languages in your design that do not use context-sensitive shaping, combined characters, and/or ligatures. For example, if your application contains both Chinese and Farsi, and you do not want to have to retest your Chinese output because of the minor pixel differences created by complex text functionality, you can exclude the CJK Unified Ideographs (Han) script so that you receive the benefit from complex text layout in Farsi but your Chinese output remains unchanged. This setting can also decrease the amount of time that the engine takes to process your application.

6. From the **Edit** menu, select **Save**.

How to Improve Packaging and Engine Performance with Complex Text Layout Enabled

If you enable complex text layout and find that you are not satisfied with packaging time, package file size, or with the time that the engine takes to process your application(s), you can see (sometimes significant) improvements in both areas with just a few adjustments.

There are two ways in which complex text layout settings can affect performance. First, the number of complex text fonts that you use in your application affects packaging size and time. Second, the number of scripts (and characters within those scripts) that use complex text affects the amount of time that the engine needs to process your application(s). The following table explains how to make improvements in both areas.

To improve	Do this
Package size and the time it takes to package your application	Limit the number of complex text fonts used in your application.
Engine performance	Limit the number of scripts (and characters within those scripts) that use complex text layout. For example, if you have used a complex text language prior to Exstream version 9.5, and you are satisfied with the output in that language, you can turn off complex text layout functionality for the script associated with that language. See "Enabling Complex Text Layout for a Database" on the previous page for information about whitelisting and blacklisting scripts that use complex text layout.

Specifying the Font Characters to Include in the Package File

In addition to the basic information that is contained in each font file, Exstream also relies on font metrics and other design-specific font data to determine how each character should look and where each character should be placed in relation to other characters in a particular layout. You configure font character settings on the **Font Resources** tab of the application object so that the package file contains all of the necessary DBCS font characters that the engine will need to properly render your final output.

When you specify font settings for your application, you will notice two options regarding the inclusion of font characters in the package file: the **Package all font characters** check box, and the **Additional font character ranges to package** selection area. One is required for complex text layout, and the other should not be used:

- **Package all font characters**—(Required) When you select the **Package all font characters** check box, the packaging process initiates a pre-packaging engine run in order to determine the set of DBCS characters to include in the package file. The pre-packaging engine run adds into the package file the characters from the test data files that you use in your application design. In order for the font characters in your final output to appear as expected, you should keep the following two things in mind:
  - When the engine uses your package file and production data files to produce output, any formula calculations or rules executed at that time can result in additional DBCS characters (that were not used in the pre-packaging engine run) being required in the output.
  - You must make sure that all of the DBCS characters that your application might require are contained within the test data files that are used in your application.

  Because it includes all font characters in the package, using this setting is required to ensure that the engine has all of the font resources that it needs at run time. However, depending on the number of fonts that your application uses, the **Package all font characters** setting can significantly increase the size of the package file.
- **Additional font character ranges to package**—Because it can cause certain complex text characters not to appear as expected in engine output, you should NOT use this selection area if you have enabled complex text functionality in your database.

To specify the font characters to include in the package file, complete the following task:

1. In Design Manager, from the Library, drag an application to the Property Panel.
2. Click the **Font Resources** tab.
3. Select the **Package all font characters** check box.
4. From the Menu bar, select **Edit > Save**.

> **Note:** Keep in mind that you must make sure that the pre-packaging engine run includes all of the DBCS font characters that are required in subsequent engine runs that use the package file.

Configuring a Language Object to Use Complex Text Layout

As you do with other DBCS languages, you must specify the scripts associated with non-Latin DBCS languages. By specifying the correct script, you ensure that all information associated with that language can be identified, stored, and read accurately by Exstream. For each non-Latin DBCS language, you must specify the alphabetic script and the numeric script associated with the language. These scripts are used to specify the order in which text will be read/written and the appropriate value for numbers in both Designer and in the output produced by the engine. (Note that this task assumes that you have already created a language object. For information about creating a language object, see "Adding a Language" on page 178.)

> **Important:** The engine reads data in logical, rather than visual, order. Logical order is always left to right. Using Arabic as an example, when you assign an Arabic script on the language object, the engine still reads data files from left to right (logical order); however, because of the script, the engine knows to produce output that reads from right to left (visual order).

To configure a language object to use complex text layout:

1. In the Library, go to **Environment > System > Languages**.
2. Drag the appropriate language to the Property Panel.
3. Select the **DBCS only** check box.

   The **DBCS settings** area becomes active.
4. From the **Alphabet Script** box, click  .

   The **Select the script** dialog box opens.
5. From the **Select a group** drop-down list, select the script group associated with the language you are defining.
6. From the **Select a script** list, select the specific alphabet script associated with the non-Latin DBCS language.

   > **Note:** If you are using a language that uses a right-to-left reading order, you must select either the **Arabic** or **Hebrew** script (both are part of the **Middle Eastern** group) in order for text to appear as expected in Designer and in the output produced by the engine.

7. Click **OK**.

   The **Select the script** dialog box closes.

8. If you are using the Arabic alphabet script, select a numerical character set from the **Numerical Digits** drop-down list. Select one of the following options:

   - **European**—Numeric values are populated using European characters:

   - **Arabic-Indic**—Numeric values are populated using Arabic-Indic characters:

   - **Eastern Arabic-Indic**—Numeric values are populated using Eastern Arabic-Indic characters:

   Note: At times, you might want to exclude the numbers in certain variables from being converted to the complex text language script (if, for example, a variable value contains numbers that must not be converted, such as those in an email address). In such cases, you can select the **Do not convert numbers on language layers** check box on the **Output Format** tab of the variable properties.

   For more information about formatting variable values in output, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

9. If you want to allow the Windows language bar to automatically select the necessary numerical digit set, select the **Use Language Bar** check box. When the **Use Language Bar** check box is selected, the Windows language bar will override any numerical digit setting applied to the language object.

10. In the **Language system tag** field, enter a language system tag to ensure proper display (in both Designer and in engine output) of the specific font characters used by this language object.

    If you do not know the language system tag for the language object, click **Find language system tag** to select from a list of language system tags available in Exstream, then click **OK** to close the **Select Language System Tag** dialog box.

> **Note:** Although this setting is optional, specifying a language system tag is especially useful when your design uses fonts that contain multiple representations of a particular non-Latin DBCS character. For more information, see the explanation in "When Is the Language System Tag Necessary?" below.

11. From the **Edit** menu, select **Save**.

When Is the Language System Tag Necessary?

The **Language system tag** field is an optional setting on the language object properties that allows you to ensure proper display of the specific font characters used by that language object. This field becomes available only when you enable complex text layout in the **System Settings**. If you do not specify a language system tag on a non-Latin DBCS language object, Exstream internally assigns a system tag so that all characters appear in Designer and in engine output. However, if there are multiple options within a font for how a particular glyph or ligature can appear, the internal tag that Exstream uses might not be correct. In those cases, you should be sure to specify a value in the **Language system tag** field.

It is important to remember that language system tags identify the systems supported in an OpenType Layout font. The language system in this case determines how text in a given script should be presented. For example, Chinese, Japanese, and Korean are all language systems within the Han script. So if your application uses all three of those languages, and your design uses an OpenType font like Arial MS Unicode, you might see incorrect characters across those languages in Designer or in output produced by the engine if you do not specify a language system tag on each language object.

Using the same example, suppose that your design uses the U+76F4 UTF-8 character. Without a language system tag, that character would be rendered as  in all three languages in Designer and in output produced by the engine. That particular character is correct for Japanese and Korean, but is incorrect for Chinese. When you apply the `ZHS` language system tag on the Chinese language object in Design Manager, however, the character then appears correctly as  for Chinese in both Designer and in output produced by the engine.

Specifying Font Settings for Different Output Types

Complex text layout functionality is available for the following output types:

- AFP
- DLF
- DOCX
- HTML: EDGAR HTML, HTML, and HTML (email)
- PDF

- PostScript
- RTF
- XML: XML (composed), XML (content), and XML (multi-channel)

If your application contains complex text languages, you must specify certain font settings on the AFP, PDF, and PostScript output objects so that the engine can render valid output files. Because fonts cannot be embedded in HTML and XML output, you do not have to configure font settings on those output objects. Also, font settings are not available on DOCX and RTF output objects.

Keep in mind that, because of the extra positioning information necessary to properly render complex text characters, enabling complex text layout functionality in your database will likely result in larger output files produced by the engine.

To specify font settings for AFP, PDF, or PostScript output:

1. In Design Manager, from the Library, drag an AFP, PDF, or PostScript output object to the Property Panel.
2. Click the **Resource Management** tab.
3. In the **Font management** section, in the **Font usage** drop-down list, select **Embed all fonts**.
4. Depending on your output type, do one of the following:

For	Do this
AFP output objects	In the **Font type** drop-down list, select **Subset Bitmap**.
PDF output objects	In the **Font type** drop-down list, select **Build Subset fonts (CFF)**.
PostScript output objects	In the **Font type** drop-down list, select **Build Type 1 subset fonts**.

5. From the Menu bar, select **Edit > Save**.

Design Differences

As you create applications that use complex text languages, you might encounter behavior that is specific to complex text layout functionality. This section discusses some of the design differences that can result when you enable complex text layout in your database.

> **Note:** Throughout this section, **right-to-left** is abbreviated as **RTL**, and **left-to-right** is abbreviated as **LTR**.

When working with complex text languages, keep in mind the following design considerations:

- **Output support—**Complex text layout functionality is available for the following output types:
  - AFP
  - DLF
  - DOCX
  - HTML: EDGAR HTML, HTML, and HTML (email)
  - PDF
  - PostScript
  - RTF
  - XML: XML (composed), XML (content), and XML (multi-channel)
- **Exstream product support—**Complex text layout functionality is not supported in Exstream Empower.
- **Data file support—**Farsi and Cambodian (Khmer) support all data file types except for Interactive.
- **Bi-directional text—**If your design contains adjacent bi-directional characters (that is, a mix of LTR and RTL text), you might see unexpected results in the following areas:
  - **Designer/engine output—**Spacing and neutral characters (such as %, @, parentheses, and punctuation) might not behave as expected.
  - **LiveEditor (revision tracking)—**If end users enter bi-directional characters in a revision comment, then the text that they enter might not align properly.
  - **LiveEditor (editable variables)—**End users might experience difficulty selecting editable variables that contain bi-directional text.
  - **DOCX and RTF output—**Because of a limitation in Microsoft Word, bi-directional text appears out of order in DOCX output, and in RTF output that you open in Word.
- **Tab stops (Designer and LiveEditor)—**If you need to set tab stops (including those for leader dots) for an RTL language, set the stops exactly as you would for a LTR language. For example, a one-inch tab set from the left margin will result in a one-inch tab from the right margin in an RTL language.
- **Language layers—**RTL languages are not supported on the default language layer, so you must create a separate language layer for those languages. Note that this limitation is true whether you enable complex text layout in your database or not. For best results, you should always enable complex text layout for RTL languages.
- **Live calendar controls—**LiveEditor does not support RTL languages for calendar controls in Live documents.
- **Multiple-up (MUP) output—**If your design contains multiple language layers, multiple-up

(MUP) output does not appear as expected. As a best practice, you should not use language layers on MUP objects (also known as MUP sheets).

- **RTF output—**If your design contains a complex text language that does not use spaces between words (such as Cambodian (Khmer)), RTF output does not appear as expected. As an alternative to producing RTF output in these languages, you can produce DOCX output instead.
- **Copying and pasting—**Be aware of the following limitations when copying and pasting complex text content:
  - If you copy and paste text from an LTR language layer to an RTL language layer (or vice versa), the pasted text does not appear as expected. If you want to copy and paste between mixed language layers, first paste the text into a separate text editor and then copy and paste it as needed.
  - Similarly, copying objects to and from mixed language layers is not supported. Instead, you can copy the contents of the object itself and then paste the contents into another object on the other language layer.
  - For Cambodian (Khmer) text, you cannot copy and paste text from PDF files created by the Exstream engine. If you need to copy content from a design, copy the content from Designer instead of from PDF output produced by the engine.
- **Visual indicators—**For RTL languages, visual indicators for variables do not behave as expected. However, this behavior is limited to Designer and does not affect your final output.
- **Combined characters—**If a word in an RTL language contains combined characters and you apply formatting (such as bold or italic, but *not* color) to only part of the word, Designer separates the combined characters in order to apply the formatting change. For best results, apply character formatting only to whole words.
- **Design rules reports—**If you are generating a design rules report for a language layer that uses complex text layout, characters in the report can sometimes appear incorrectly. In order for the design rules report to appear as expected in this case, you must temporarily change the default font for your database to the font used in the rules on the language layer for which you want to run the design rules report. (You set the default font for your database in the **System Settings**, on the **Text and Fonts** tab, in the **Default font** section.) After you generate the report, be sure to change the default font back to its previous setting.

  For information about creating design rules reports, see *Using Logic to Drive an Application* in the Exstream Design and Production documentation.

For the latest information about defects and other reported issues surrounding complex text languages, be sure to read the "Reported Issues for Exstream Design and Production" section of the *Exstream Software Release Notes* for the product version that you are using. (In the "Related feature" column, look for the "Complex text languages" tag.)

Tips and Tricks: Controlling Line Breaks in Languages That Do Not Use Spaces Between Words

Challenge:

Trying to control line breaks in DBCS languages that do not use spaces between words—such as Cambodian (Khmer), Lao, and Thai—can present a unique set of challenges. In Designer, for example, it is easy to add soft returns to control where line breaks occur in static text, because static text flows the same way in engine output as it does in Designer. But what happens if your design contains variables? When the engine populates variable data, the reflowing of text can completely change the locations of any soft line breaks that you had previously added, resulting in lines that could break in awkward or undesirable locations.

Note: The functionality discussed in this topic is available only when you have enabled complex text layout in your database (by selecting the **Enable complex text layout** check box on the **Text and Fonts** tab in the **System Settings** in Design Manager).

Solution:

To help with these challenges, Designer provides a set of tools that allow you to fine-tune where your text can break when it reflows. First of all, Designer allows you to see where lines will potentially break based on International Components for Unicode (ICU) standards. Then, if any of those suggested line breaks seem problematic, you can fine-tune them, either by overriding the suggested line breaks, or by adding your own.

Note that the break control options described here add line breaks only when text needs to reflow. They are non-printing characters that are visible only in Designer, and only when you click  on the Standard toolbar. Furthermore, they are available strictly in DBCS databases, and work exclusively for languages that do not use spaces between words.

The following table describes the break control options available in Designer specifically for languages that do not use spaces between words:

Break control options for DBCS languages that do not use spaces between words

Symbol	Name	Description
	Potential line break	Designer inserts this character automatically based on ICU standards. If Designer inserts a potential line break, you can override it by inserting a joiner at the same position.

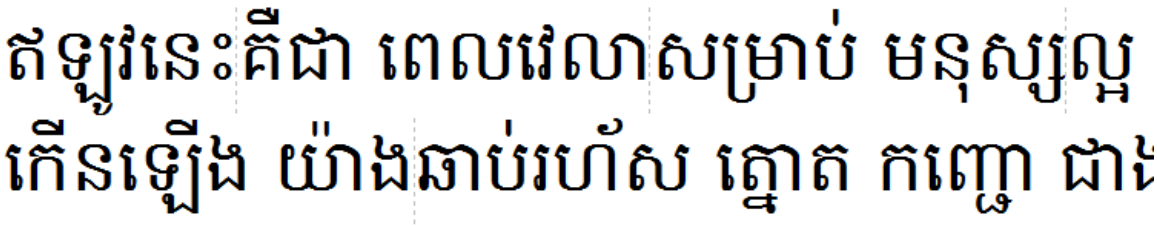
Break control options for DBCS languages that do not use spaces between words, continued

Symbol	Name	Description
	Joiner	You can insert this character to override any potential line breaks that Designer automatically inserts. This option ensures that adjacent characters stay together both in Designer and in output produced by the engine.
	Zero-width space	You can insert this character in Designer to add a potential line break between any two characters.

How to do it:

To apply a line break to languages that do not use spaces between words:

1. In Designer, on the Standard toolbar, click  .
   The potential break characters appear as non-printing symbols between characters as in this example:

2. Place your cursor where you want to add a non-breaking joiner or zero-width space.
3. Right click and select **Insert > Break Control**.
   The **Type of Break Control** dialog box opens.
4. Select one of the following radio buttons:
   - **Joiner (DBCS only)**—This option prevents a line break between the two characters. If text reflows, the engine will not allow a break between the characters.
   - **Zero-width space (DBCS only)**—This option adds a potential line break between the two characters. If text reflows and the zero-width space falls at the logical place for a line break, then the engine will break the line at this character.
5. Click **OK**.
   The **Type of Break Control** dialog box closes and the non-printing break control symbol appears where you placed the cursor.

When the engine processes the design, line breaks are added according to the settings that you specified.

11.1.4 Setting Case Exceptions for a Language

If you want to set exceptions to letter case rules for a language, you can override the internal case conversion routines in Exstream Design and Production by creating a case exception file. For example, the name "Mcdonald" can be spelled as "McDonald." By including this spelling in your case conversion exception file, Exstream Design and Production arranges the letter cases as indicated in the case conversion exception files. A case conversion exception file is a text file that you create and associate with a language. The case conversion exception files must contain one entry per line, exactly as you want the text to appear.

To match words at the beginning of names and places (for example, McDonald or MacGregor), use a prefix exception. Each prefix in the case exception file ends with a hyphen (for example, Mc-). The hyphen syntax tells the engine how to look for this pattern at the beginning of a word, and if it encounters the pattern, to do the following:

- Change the case to match that of the exception.
- Treat the remainder of the word as a separate word.
- Capitalize the remainder of the word appropriately.

The remainder of the word is still subject to the rules of the exception file, and multiple prefixes can be matched in a single word. Prefixes will not match entire words, so characters must follow a prefix.

Prefix exceptions examples

Prefix exceptions example	Mc- Mac-
Input	mcdonald macgregor m.c. mc
Output (without exceptions)	Mcdonald Macgregor M.C. Mc
Output (with exceptions)	McDonald MacGregor M.C. Mc

Suffixes match words or patterns at the end of a word (for example, don-t). Each suffix in the file begins with a hyphen (for example, -'s). Suffixes are used to correct punctuation.

Since multiple languages are supported, Exstream Design and Production does not make assumptions about where word breaks might occur. Because of the way words are separated, word breaks might occur where they really do not exist. For example, "J.S. Bach's" would be treated as four words: "J", "S", "Bach", and "s."

Suffixes let you indicate that certain patterns are a part of a single word and therefore should not be capitalized independently. Suffixes do not match whole words, and can be matched multiple times, as shown in the following table:

Suffixes exception examples

Suffix exceptions	--s --t
Input	won't st. peter's
Output (without exceptions)	Won'T St. Peter'S
Output (with exceptions)	Won't St. Peter's

Case exceptions can be composed of multiple words. This capability lets you match specific combinations of words, where using two separate exceptions might have caused problems. For example, if you stored "CATCH 22"as two separate entries ("CATCH" and "22"), the word would be capitalized incorrectly at every occurrence of the word "catch."

Multi-word entries do not need special syntax, like prefixes and suffixes, but multi-word patterns must match both their "targets" punctuation and spacing (for example, "St Peter" would not match "StPeter" or "St. Peter").

Multiple word case examples

Multiple words exceptions	CATCH 22 ROCKY III
Input	catch 22 catch catch22 rocky iii iii rocky
Output (without exceptions)	Catch 22 Catch Catch22 Rocky Iii Iii Rocky
Output (with exceptions)	CATCH 22 Catch Catch22 ROCKY III Iii Rocky

The engine uses the following process when comparing mapped strings with the exceptions in the case exception file:

1. Scan input for multiple word patterns and apply the case changes to any patterns found.
2. Break up unchanged input along whitespace boundaries.
3. Check each fragment for prefixes, suffixes, and whole-word patterns, and correct accordingly.
4. Break up unchanged input between non-alphabetic groups of characters (punctuation).
5. Check again for case exceptions.
6. Capitalize remaining portions manually (first letter uppercase, all others lowercase).

   The result is that large patterns of words are detected and corrected with the exception file, but small word fragments are correctly capitalized.

Compare process

Exceptions	AFTER USD AIRCRAFT ALERT
Input	before/after $500.00usd anti-aircraft *alert*
Output (without exceptions)	Before/After $500.00Usd Anti-Aircraft *Alert*
Output (with exceptions)	Before/AFTER $500.00USD Anti-AIRCRAFT *ALERT*

For information about how the engine reads characters in a string, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.

To associate a case conversion exception file with a language:

1. In the Library, go to **Environment > System > Language**.
2. Drag the appropriate language to the Property Panel.
3. In the **Case conversion** area, in the **Test exception file** box, specify a file that contains a per-language exception list indicating how to handle mixed cases for specific words.
4. In the **Case conversion** area, in the **Production exception file** box, specify a file that contains a per-language exception list indicating how to handle mixed cases for specific words.
5. From the **Edit** menu, select **Save**.

11.1.5 Setting Up a Custom Dictionary for a Language

In addition to the regular Spell Checker function, you can fine-tune your word checks by creating two types of custom dictionaries: spelling and excluded word. You must set dictionaries on languages objects. For example, if you create a spelling dictionary for Spanish words, you must add the dictionary to the Spanish language object.

Spelling dictionaries contain words that are considered misspelled by standard dictionaries, but that you want to be considered correct. For example, if you want to spell the word "excellent" as "eggcellent," you can add the word "eggcellent" to the spelling dictionary and it will no longer be flagged as incorrect. The spelling dictionaries function as your company's custom additions to the regular Spell Checker. Spelling dictionary entries are case-sensitive.

Excluded word dictionaries contain words design users or end users can not use. For example, if your company does not want the word "lawyer" used in its documents, you can add this word to the excluded word dictionary. When the design user or end user turns on the excluded word

check, a brown wavy line appears under the word "lawyer" alerting the user to remove it. You cannot use custom dictionaries without language layers.

To create a new dictionary:

1. In the Library, go to **Environment > System**.
2. Right-click the **Dictionaries** heading and select **New Dictionary**.

   The **New Dictionary** dialog box opens.
3. In the **Name** box, enter a name for the new dictionary.
4. In the **Description** box, enter a description (optional).
5. From the **Usage** drop-down list, select either **Spelling Dictionary** or **Excluded Word Dictionary**.
6. Click **Finish**.

7. Use the following buttons in the **Entries** box to define your custom dictionary.

To	Do this
Add an entry	a. Click  . A text box appears in the **Entries** box. b. In the text box, enter the word that you want to add.
Delete an entry	a. Select the word that you want to delete. b. Click  .
Delete all entries	Click  . All words are deleted from the **Entries** box.
Change the selected entry	a. Select the word that you want to change. b. Click  . The selected word becomes editable.
Change entries with an external text editor	a. Select the word that you want to change. b. Click  . A text file opens. c. Change the words in the text file as needed. d. Save the text file. e. Click  . The words in the **Entries** box change to match your edits in the text file.
Add entries by uploading a text file	a. Click  . A file open dialog box opens. b. Browse to the text file you want to upload. c. Click **Open**. d. The words in the **Entries** box are updated to include entries from the text file.

8. From the **Edit** menu, select **Save**.

11.2 Encodings

Encodings specify how a sequence of bytes are converted to or from Unicode and which characters are available for customizing. Encodings let you translate characters between a native encoding such as Shift JIS or IBM- 939 and the Unicode format that Exstream Design and Production uses internally. Exstream Design and Production supports multiple-byte encodings (up to 4 bytes). Encodings apply to DBCS databases, with the exception of Native, ASCII, and EBCDIC, which can also be used in SBCS databases.

When working with DBCS applications, you can use encodings as a basis for creating customized encodings. For example, if you want to correspond with customers in China using their language and your organization uses IBM-930-78 but needs several encoding sequences to map to different characters, you can create a new encoding based on IBM-930-78. Using the encoding editor in Exstream Design and Production, you can customize as many sequences as you want, while the rest remain at the default. You can also export these customized encodings to a text file to be used or edited elsewhere.

Multiple-byte encodings can significantly expand your ability to capture a global customer base. For example, suppose you want to create a new customer communications application that offers promotions for a telephone company expanding into the Taiwan country/region. If you select **EUC-TW** as the default encoding, the 4–byte characters in your data file are interpreted in the Edit Panel and when your application is produced, the 4–byte characters display correctly in the output.

For more information about the encoding editor, see “Encoding Editor” on page 204.

You can define encodings by indicating the encoding sequence (for example, 0xF040) and the Unicode value to which it translates. When a code point in the table is encountered, it is translated to the assigned Unicode value. The International Components for Unicode (ICU) library is used with support for approximately 250 encodings. The ICU library is used to handle the translation of data from code points to Unicode values, and back again. Not all encodings can be customized.

Many encodings have set aside a series of code points in a "private-use" area. For example, Shift-JIS uses a range starting at F040 (hex) for this purpose. Each customer can use it in a different way so there is no standard use of this area. Interpretation is difficult when different customers interpret the code points differently. SJIS (Base Encoding) is identical to Shift-JIS, except the private use area does not have a default Unicode encoding, and there are 13 character encodings that do not have a set Unicode equivalent. SJIS (Base Encoding) leaves these 13 characters that have multiple interpretations unassigned. In Exstream Design and Production, you can use the encoding editor to specify a Unicode value by attaching an encoding with the necessary interpretation to the data file.

Any of the characters in the private-use area that are used in a Shift-JIS dataflow must have an attached encoding. If such a character is found in a dataflow without an entry in the encode table, a "substitution" character is used. This substitution character is specific to each encoding, and some (like Shift-JIS) have a substitute for single-byte characters and another for double-byte characters.

This section discusses the following topics:

11.2.1 Creating an Encoding

When working with DBCS applications, you can create a new encoding by customizing a base encoding. An encoding consists of one or more hexadecimal values for the encoding sequences to translate and a four-digit hexadecimal value for the Unicode value it translates to. Encoding sequences are represented with a prefix of "0x" and Unicode values are represented with a prefix of "U+".

To create a new encoding:

1. In the Library, go to **Environment > System > Encodings**.
2. Right-click the **Encoding** heading and select **New Encoding**.

   The **New User Encoding** dialog box opens.
3. Click  .

   The **Select Base Encoding** dialog box opens. A list of all internal names, assumed names, and ICU library names is available in the **Select Base Encoding** dialog box.
4. Select an encoding and click **OK**.
5. In the **Name** box, enter a name for the new encoding.
6. In the **Description** box, enter a description (optional).

   Some encoding descriptions are set by default when the encoding is created based on comments present in the ICU library.
7. Click **OK**.

   The encoding opens in the Property Panel.
8. Specify how encodings can be used by selecting from the following check boxes:
   - **Data files**—Allows this encoding to be used with data files

     For more information about using encodings with data files, see *Using Data to Drive an Application* in the Exstream Design and Production documentation.
   - **Placeholder variables**—Allows this encoding to be used with placeholder variables
   - **Designer import**—Allows this encoding to be used with file import in Designer. Design users can specify the encoding when importing mapped text and tables into Designer. Design can also import text with mapped encodings into text boxes.

- **Font mapping**—Allows this encoding to be used with output font mapping. You can specify an encoding for AFP and PostScript output devices. By specifying this encoding, you can use a non-Unicode font when printing with these drivers.

9. To change the based encoding used to define this encoding's default mapping:
   a. In the **Base encoding** box, click  .

      The **Select base encoding** dialog box opens.
   b. From the **Select base encoding** dialog box, select an encoding.

      Changing the base encoding removes all user-specified mappings.
   c. Click **OK**.
10. From the **Edit** menu, select **Save**.

11.2.2 Encoding Editor

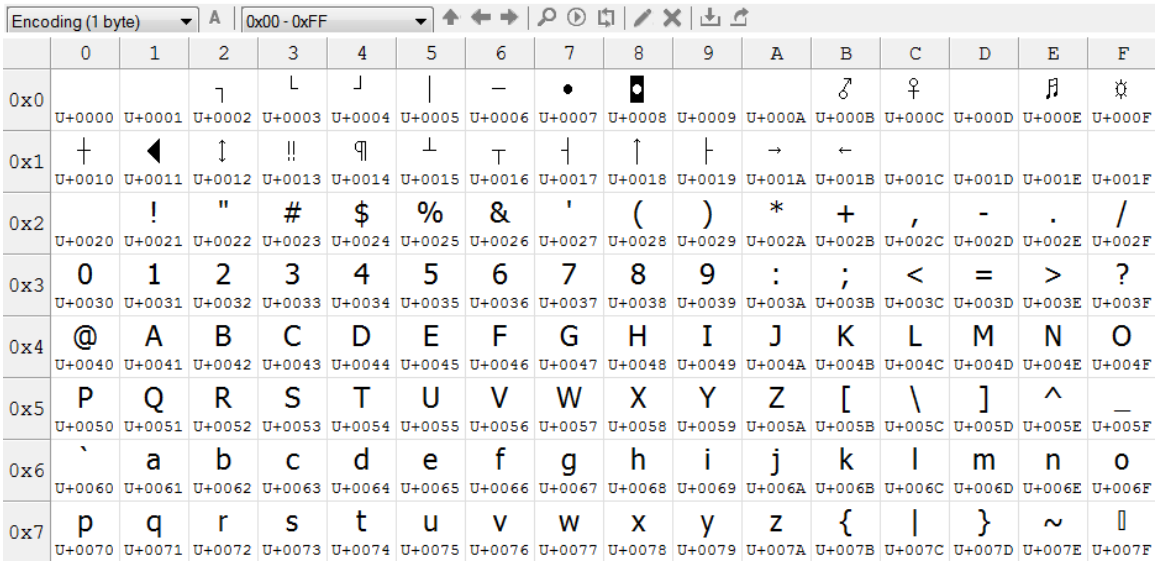
You can view and change encoding sequences and Unicode values within the encoding editor in the Edit Panel. To specify mappings for encodings, you can use the encoding editor. In the encoding editor, multiple encoding sequences or Unicode values are represented in a 16X16 grid of cells. You can use the encoding editor as a reference to view multiple encoding sequences or Unicode values.

To open the encoding editor:

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding to the Edit Panel.

   In the Edit Panel, the encoding editor opens and displays multiple encoding sequences or Unicode values.

Encoding in Edit Panel



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0	U+0000	U+0001	┐ U+0002	└ U+0003	┘ U+0004	│ U+0005	─ U+0006	• U+0007	◘ U+0008	U+0009	U+000A	♂ U+000B	♀ U+000C	U+000D	♫ U+000E	☼ U+000F
0x1	┼ U+0010	◄ U+0011	↕ U+0012	‼ U+0013	¶ U+0014	┴ U+0015	┬ U+0016	┤ U+0017	↑ U+0018	├ U+0019	→ U+001A	← U+001B	U+001C	U+001D	U+001E	U+001F
0x2	U+0020	! U+0021	" U+0022	# U+0023	$ U+0024	% U+0025	& U+0026	' U+0027	(U+0028	) U+0029	* U+002A	+ U+002B	, U+002C	- U+002D	. U+002E	/ U+002F
0x3	0 U+0030	1 U+0031	2 U+0032	3 U+0033	4 U+0034	5 U+0035	6 U+0036	7 U+0037	8 U+0038	9 U+0039	: U+003A	; U+003B	< U+003C	= U+003D	> U+003E	? U+003F
0x4	@ U+0040	A U+0041	B U+0042	C U+0043	D U+0044	E U+0045	F U+0046	G U+0047	H U+0048	I U+0049	J U+004A	K U+004B	L U+004C	M U+004D	N U+004E	O U+004F
0x5	P U+0050	Q U+0051	R U+0052	S U+0053	T U+0054	U U+0055	V U+0056	W U+0057	X U+0058	Y U+0059	Z U+005A	[U+005B	\ U+005C	] U+005D	^ U+005E	_ U+005F
0x6	` U+0060	a U+0061	b U+0062	c U+0063	d U+0064	e U+0065	f U+0066	g U+0067	h U+0068	i U+0069	j U+006A	k U+006B	l U+006C	m U+006D	n U+006E	o U+006F
0x7	p U+0070	q U+0071	r U+0072	s U+0073	t U+0074	u U+0075	v U+0076	w U+0077	x U+0078	y U+0079	z U+007A	{ U+007B	| U+007C	} U+007D	~ U+007E	▯ U+007F

This section discusses the following topics:

Viewing Unicode Values or Encoding Sequences in the Encoding Editor

Most encodings contain more than 256 values. To accommodate these values, multiple encoding sequences or Unicode values are represented in a single cell, in the grid. Since multiple values are represented in one cell you can zoom in to see the values these cells represent. Some sets are so large that you must zoom several times to see the characters.

When the encoding grid is zoomed out, cells do not show glyphs or numbers. A magnifying glass icon indicates a cell where you can zoom in. When you click in the cell, the view changes show only the mappings the cell represents. To zoom out from an magnified cell, click .

To view Unicode values or encoding sequences in the encoding editor:

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding to the Edit Panel.
3. Use the following tools to navigate in the encodings editor:

To	Do this
View either Unicode values or encodings	From the drop-down list in the left corner of the encoding editor, select one of the following options: • **Encoding (1 byte)** • **Encoding (2 byte)** • **Encoding (3 byte)** • **Encoding (4 byte)** • **Unicode** **Note:** The **Encoding (3 byte)** and **Encoding (4 byte)** options appear in the drop-down list only if the selected encoding options support multiple bytes.
Zoom in or zoom out	From the second drop-down list in the left corner of the encoding editor, select a zoom level.
Navigate up to a particular cell	Click  .
Navigate to the 256-byte range prior to the current range	Click  .
Navigate to the 256-byte range following the current range	Click  .
Switch between the encoding view, and the Unicode view	Click  .
Revert the mapping to its default behavior in the encoding	Click  .

Searching in the Encoding Editor

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding to the Edit Panel.
3. Click  to find multiple items or click  to find a particular item.

The **Navigate** dialog box opens.

4. From the box on the left side of the **Navigate** dialog box, select what you want to search:

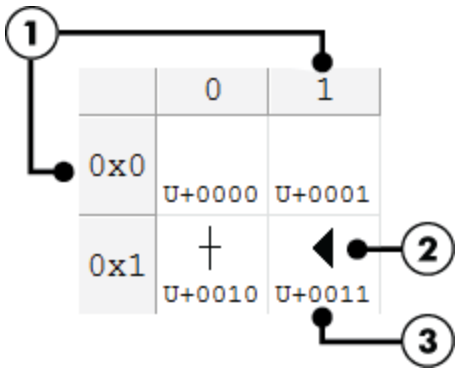
To	Do this
Navigate to the encoding sequence	a. Select **Go to encoding**. The **Enter the encoding sequence to go to:** box appears. b. In the **Enter the encoding sequence to go to:** box, enter the encoding sequence to which you want to navigate. c. Click **Go**.
Navigate to the Unicode value	a. Select **Go to Unicode**. The **Enter the Unicode code point to go to:** box appears. b. In the **Enter the Unicode code point to go to:** box, enter the encoding sequence to which you want to navigate. c. Click **Go**.
Navigate directly to the Unicode value(s) that maps to an encoding sequence	a. Select **Find mapping to encoding**. The **Enter the encoding sequence to find mappings for:** box appears. b. In the **Enter the encoding sequence to find mappings for:** box, enter the encoding sequence to which you want to navigate. c. Click **Find Next**.
Navigate directly to the encoding sequence) that maps to the hexadecimal values	a. Select **Find mapping to Unicode**. The **Enter the Unicode code point to find mappings for:** box appears. b. In the **Enter the Unicode code point to find mappings for:** box, enter the Unicode code point to which you want to navigate. c. Click **Find Next**.
Navigate directly to the first user-modified mapping	a. Select **Find user mappings**. b. Press the F3 key and the SHIFT + F3 keys to navigate to the next or prior user-modified mappings. c. Click **Find Next**.
Navigate directly to the first mapped field	a. Select **Find mapped fields**. b. Press the F3 key and the SHIFT + F3 keys to navigate to the next or prior mapped fields. c. Click **Find Next**.

To	Do this
Navigate directly to the first unmapped field	a. Select **Find unmapped fields**. b. Press the F3 key and the SHIFT + F3 keys to navigate to the next or prior unmapped fields. c. Click **Find Next**.

Changing the Fonts in the Encoding Editor

In the encoding editor, you can change fonts for headings and mapping fields. Enlarging the text of the headings and mapping fields lets you improve readability without affecting the accuracy of what you are editing. For example, you can increase the font size for the row and column headings to make the text easier to read. Fonts are not associated with a particular encoding; if you specify a particular font for the mapping field of an encoding, the design environment reverts to the default the next time the encoding is opened.

Editor fonts explanation



1. **Heading Font**— **Heading Font** is used in row and column headings and indicates what each field represents. It also lets you enlarge the text for better readability.
2. **Character Font**— **Character Font** is used to show a character sample of what the field represents. For example, you might want to change the character font to match the encoding you are editing (so the glyphs match).
3. **Mapping Font**— **Mapping Font** is used to show text that describes the mapping a field represents. It also lets you enlarge the text for better readability.

You can also change the font of the character field so that it matches how your output will appear. For example, after creating and modifying an encoding, you might want to change the character font to match the encoding you are editing (so the glyphs match). Changing the character field font lets you see how the encoding will look in the output.

To change fonts in the encoding editor:

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding to the Edit Panel.
3. Click  .

   A drop-down list opens.
4. From the drop-down list, select one of the following options:
   - **Character Font**
   - **Mapping Font**
   - **Heading Font**

   The **Font** dialog box opens.
5. In the **Font** dialog box, select how you want the font to appear:
   a. From the **Font** list, select a font.
   b. From the **Font style** list, select a font style.
   c. From the **Size** list, select a font size.
6. Click **OK**.

Modifying Unicode Values or Encoding Sequences in the Encoding Editor

When an encoding is in the Edit Panel, you can edit the encoding and import or export the encodings. You can edit both the encoding sequence or the Unicode value of an encoding. Not all values can be mapped. These values are denoted in the editor with gray lines through the cell. In many cases, there are values that can be mapped, but by default do not have mapping. These unmapped cells appear with a blue background.

Modifying an Encoding Sequence

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding into the Edit Panel.
3. In the encoding editor, select a cell.
4. Click  on the toolbar.

   The **Edit Mapping** dialog box opens.

5. In the **Encoding sequence** box, enter a sequence.
6. To make the mapping one-directional (Unicode to encoding), select the **Fallback encoding** check box. When this option is selected, the encoding appears blue with a white background in the editor.

   Note: When you create a new encoding or replace an existing encoding, and the **Fallback encoding** check box is selected, the character and mapping fonts appear in blue with a red background.

7. Click **OK**.

   The modified encoding appears red in the cell with a red background to denote change.

Modifying a Unicode Value

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding into the Edit Panel.
3. In the encoding editor, select a cell.
4. Click  .

   The **Edit Mapping** dialog box opens.
5. In the **Unicode value** box, enter a value.
6. Click **OK**.

   The changed encoding appears red in the cell with a red background to denote change.

If an invalid mapping is selected, you receive a message and the change is discarded.

Importing and Exporting Encoding Sequences and Unicode Values

In the encoding editor, you can import and export encoding sequences and Unicode values. For example, you can use the import feature if you have a list of customized mappings that you have been using for other applications, and want to import these without entering them manually into the encoding editor. Or, if you have a large number of changes to make, you can export the encoding to a text file, make encoding the changes, then import the modified encoding back into the encoding editor. When you import the modified file, only the changed mappings are applied to the encoding.

To add comments into the imported or exported file, enter a semicolon. Everything on the line after the semicolon is ignored. To specify a mapping in the file, enter the Unicode value, followed by the encoding sequence, followed by the mapping type. The Unicode value must be prefixed with `U+`. The encoding sequence must be prefixed with `0x`, and should only include the

digits needed to specify a single character. A mapping type of `0` means the mapping is Round Trip or valid for conversion from the encoding sequence to Unicode and from Unicode to the encoding sequence. A mapping type of `1` means the mapping is a fallback, or valid only for translating from Unicode to the encoding sequence. A reverse fallback mapping means the mapping is only valid for translating from an encoding sequence to Unicode. A reverse fallback mapping type for user modified encodings is not supported for import.

Example:

```
; Exstream Encoding export for encoding 937 (version 1), which is based on
base
encoding IBM-937, exported on 5/8/2016 5:50:24 PM.
; Format: Unicode Value        Encoding Sequence        Mapping Type
(0=Round Trip, 1= Fallback)
; ***** Base (unmodified) encoding mappings *****
U+0000    0x00   0
U+0001    0x01   0
U+0002    0x02   0
U+0003    0x03   0
U+009c    0x04   0
```

Importing Encoding Sequences and Unicode Values

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding into the Edit Panel.
3. In the encoding editor, select a cell.
4. Click  .

   The **Select File to Import** dialog box opens.
5. Select a file to import.
6. Click **Open**.

   The encoding is imported into the cell and you are returned to the encoding editor. Changes are applied in the order they are encountered in the file, so in case of conflicting mappings, the last one in the file is the one used.

Export Encoding Sequences and Unicode Values

1. In the Library, go to **Environment > System > Encodings**.
2. Drag the appropriate encoding into the Edit Panel.
3. In the encoding editor, select a cell.
4. Click  .

The **Select File for Export** dialog box opens.

5. In the **File name** box, enter the name of the file that you want to export.
6. Click **Save**.

   The **Select File for Export** dialog box closes and the encoding is exported to the folder you specified.

11.3 Locales

In Exstream Design and Production, a locale is a geographic area or country/region that lets you specify language, currency, and date formats for a group of customers. If you distribute your communications materials to one or more geographic countries/regions, you must use locales. Simply translating the language is often not enough to provide a publication in that locale. Locales assist with expressing numeric values such as money notation, decimal notation and date formatting. You can specify currency and date formats based on a locale. You can specify the locale in which each customer lives so the currency and date values are formatted properly with the settings you have specified.

For example, people in both America and Great Britain both speak the English language, but there are still a number of differences in how they represent money and dates:

Attribute	United States	England
Language	English (American)	English (British)
Money	Dollars ($)	Pounds (£)
Date Format	12/30/2005	30/12/2005

When a locale is specified, all of these attributes are appropriately modified in the document. For example, monetary data is properly converted and denoted in the locale's currency.

To use locales to distribute documents to multiple geographic areas, you must complete the following tasks:

1. “Adding a Locale” on the next page
2. “Defining the Currency Format for a Locale” on page 214
3. “Defining the Floating Point Number Format for a Locale” on page 215
4. “Defining the Line Break Characters for a Locale” on page 216

11.3.1 Adding a Locale

1. In the Library, go to **Environment > System > Locales**.
2. Right-click the **Locales** heading and select **New Locale**.

   The **New Locale** dialog box opens.
3. In the **Name** box, enter a name for the new locale.
4. In the **Description** box, enter a description (optional).
5. Click **Next**.

   The **New Locale** dialog box opens.
6. From the **Language** drop-down list, select a language for this locale.

   Note that you must have already defined a language before it appears in the **Language** drop-down list.

   For more information about languages, see "Adding a Language" on page 178.
7. Click **Finish**.
8. In the Property Panel, define the following attributes:

To	Do this
Change the language for persons residing in this locale	a. In the **Language** box, click  . The **Select Language** box opens. b. From the **Select Language** dialog box, select a language for the locale. c. Click **OK**.
Select the formatting for dates to be printed	From the **Date Format**drop-down list, select a date format.
Enter the conversion factor used to convert the base currency amount to the currency amount in this locale	In the **Currency conversion** text box, enter a conversion factor. To use this function, you must have a single currency base from which to convert all the currency in your customer data. For example, if your currency base is U.S. dollars, you must enter the conversion rate from U.S. dollars to the currency used in the locale. You must also maintain this rate on a periodic basis as dictated by your organization.

9. From the **Edit** menu, select **Save**.

11.3.2 Defining the Currency Format for a Locale

In Exstream Design and Production, you can specify which characters a locale uses to represent currency.

To configure the currency character format:

1. In the Library, go to **Environment > System > Locale**.
2. Drag the appropriate locale to the Property Panel.
3. In the **Currency format** area, define the following currency characters for this locale:
    a. In the **Symbol** text box, enter the symbol that defines currency. For example, enter $ for dollars.
    b. In the **Thousands** box, enter the character symbol to use as the thousands separator. For example:

Separator	One thousand
,	1,000
.	1.000

    c. In the **Decimal** box, enter the character symbol to use as the decimal separator. For example:

Decimal separator	One point five
,	1,5
.	1.5

    d. From the **Negative** drop-down list, select the formatting method for indicating negative currency amounts. For example:

Formatting method	Negative five dollars
-$1	-$5
-1$	-5$

    e. From the **Positive** drop-down list, select the formatting method for indicating positive currency amounts. For example:

Formatting method	Positive five dollars
$1	$5
1$	5$

4. If you want to specify a zero value to appear as a different character, select the **Set zero** check box and enter the string that you want to use in place of `0` in the **Character** box.
5. From the **Edit** menu, select **Save**.

11.3.3 Defining the Floating Point Number Format for a Locale

In Exstream Design and Production, you can specify which characters a locale uses to represent floating point numbers. Floating point numbers are numbers that are not whole numbers (for example, 1.257).

To specify which characters are used to format floating point numbers:

1. In the Library, go to **Environment > System > Locale**.
2. Drag the appropriate locale to the Property Panel.
3. In the **Default floating format** area, define the following floating point number formats for this locale:

To	Do this
Select the number of digits to show after the decimal point when calculating numbers	In the **Digit** text box, enter the number of digits to show after a decimal point. The highest number you can set is 4.
Select the character to use for the thousands separator in floating point numbers	In the **Thousands** box, enter the character symbol to use as the thousands separator.
Select the character to use as the decimal separator in floating point numbers	In the **Decimal** box, enter the character symbol to use as the decimal separator.
Select the formatting method to indicate negative floating point numbers	From the **Negative** drop-down list, select the formatting method for indicating negative currency amounts.
Show leading zero in amounts less then one	Select the **Show leading zero** check box.
Specify a zero value to appear as a different character in floating point numbers	a. Select the **Set zero** check box. The **Character** box become active. b. In the **Character** box, enter the string that you want to use in place of `0`.

4. From the **Edit** menu, select **Save**.

11.3.4 Defining the Line Break Characters for a Locale

In Exstream Design and Production, you can specify which characters a locale uses to determine where a line breaks. For example, suppose that your locale contains an Asian language, such as Japanese, that limits which characters you can use at the beginning of a line and at the end of a line. In this case, you can select a predefined set of line break characters, or specify the line break characters for your locale.

To specify which characters are used when determining where to break lines, complete the following steps:

1. In the Library, go to **Environment > System > Locale**.
2. Drag the appropriate locale to the Property Panel.
3. To limit which characters are used to start and end lines for this locale, do one of the following:

To	Do this
Specify that the standard set of line break characters for your locale determines where a line breaks	In the **Line break characters** area, select **Standard**. When you select **Standard**, the predefined characters included in the standard line break set for your locale are displayed in the **Cannot start a line** and **Cannot end a line** text boxes.
Specify that the strict set of line break characters for your locale determines where a line breaks	In the **Line break characters** area, select **Strict**. When you select **Strict**, the predefined characters included in the strict line break set for your locale are displayed in the **Cannot start a line** and **Cannot end a line** text boxes.
Specify which characters cannot be used at the start of a line or at the end of a line	a. In the **Line break characters** area, select **Custom**. b. In the **Cannot start a line** text box, enter the characters that cannot be used at the start of a line. c. In the **Cannot end a line** text box, enter the characters that cannot be used at the end of a line.

4. From the **Edit** menu, select **Save**.

11.4 Jurisdictions

Jurisdictions are geographic locations labeled for the distribution of communications. Jurisdictions let you target specific locations with personalized information. For example, if you create a document that contains sales tax information for customers in Florida, you can include different sales tax information depending on the county in which a customer lives. You can create several versions of the document, with each version containing sales tax information for one of the counties. You can then assign which versions go to which counties. In this case, each county is a jurisdiction.

Jurisdictions are useful when dealing with different countries/regions. For example, the laws and policies for France might be different from those for Japan. You might also want to convey a different message to clientele in a certain country/region. To accomplish this distinction, you can create jurisdictions.

Aside from establishing a customer's location, a jurisdiction is also used to determine what kind of content needs to be presented. For example, insurance customers in Texas are not concerned with laws specific to Ohio. You can use jurisdictions to map the appropriate information from a larger document that includes laws from both states. By using jurisdictions, you can pull out the text that is relevant only to Ohio contracts, or information that is relevant to only to Texas contracts.

The key to assigning a jurisdiction is the identifier. The identifier is the field each record is evaluated against to determine if it belongs in the current jurisdiction. For example, if your identifier is "WY," then anything labeled with a "WY" identifier is included. You can also create a formula variable as the jurisdiction variable to pull the customer state (or postal code or other information) from the customer data and return an identifier value. Remember that the identifier does not have to be for a state or even a geographical location. The jurisdiction can select any information you want to use.

To use jurisdictions, you must have licensed the Compliance Support module. In addition, the **Jurisdictions** check box must be selected in the **System Configuration** dialog box. Then, the design user must set the effectivity of the jurisdiction. In other words, the design user must specify when the jurisdiction goes into effect and when it expires. The design user configures these details on the **Regulatory** tab of an object.

For more information about jurisdictions and effectivity, see *Designing Customer Communications* in the Exstream Design and Production documentation.

To send information to customers based on location, you must complete the following tasks:

1. “Creating a Jurisdiction” on the next page
2. “Adding Jurisdictions to a Group Jurisdiction” on the next page

11.4.1 Creating a Jurisdiction

Jurisdictions instruct the engine to select specific versions of paragraphs, sections, messages, pages, and documents based on geographical or virtual locations. Jurisdictions target specific information for specific customers while reducing processing time and the number of messages and rules in an application.

To create a jurisdiction:

1. In the Library, go to **Environment > System**.
2. Right-click the **Jurisdictions** heading and select **New Jurisdiction**.

   The **New Jurisdiction** dialog box opens.
3. In the **Name** box, enter a name for the new jurisdiction.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.

   The new jurisdiction opens in the Property Panel.
6. In the **Identifier** box, enter the text that identifies this jurisdiction in the application.

   Note: A two-letter code is generally sufficient to produce unique identifiers for all your jurisdictions, but you can enter a longer name. The maximum length is 256 characters.
7. From the **Edit** menu, select **Save**.

You can create multiple versions of objects to use with jurisdictions. To package only objects which have jurisdictional rules applied to them, select the **Exclude non-jurisdictional versions when jurisdictional versions present** check box located on the **Workflow** tab of the **System Configuration** dialog box.

11.4.2 Adding Jurisdictions to a Group Jurisdiction

You can create a group jurisdiction by adding multiple jurisdictions to a single jurisdiction. For example, suppose you have an object that applies to multiple jurisdictions. You can use a group jurisdiction to simplify jurisdiction management by creating a single inclusion rule that manages a group of jurisdictions rather than creating separate rules for each one.

To add a jurisdiction to a group jurisdiction:

1. In the Library, go to **Environment > System > Jurisdictions**.
2. Drag the appropriate jurisdiction to the Property Panel.
3. Select the **Group** check box.

4. Click  to add a jurisdiction to the group.

   The **Select a jurisdiction to add to the group** dialog box opens.

5. Select a jurisdiction.
6. Click **OK**.

   The selected jurisdiction is added to the group jurisdiction.

7. From the **Edit** menu, select **Save**.

For more information about group jurisdictions, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Chapter 12: Setting Up Design Workflow

In Exstream Design and Production, design workflow refers to the progression of an object from initial design to final approval. By submitting all components of an application to a designated approver, you can ensure content is consistent and conforms to company standards. Designated approvers are design users who are members of design groups that have **Approver** access.

In the basic design workflow included in Exstream Design and Production, an object can be submitted and then approved by any single designated approver. The basic design workflow lets designated approvers review and approve new objects in the system before they are used. This means that anyone with the proper permissions can create new objects in Exstream Design and Production, but these objects must be approved before being used in a production capacity.

You can manage multiple versions of objects with the version control features of Exstream Design and Production. Version control lets design users create and approve multiple versions of an object. Version control is closely linked to workflow in Exstream Design and Production. For example, if an approved object was changed to a work in progress, then two versions of the object will appear in the history. Design users can make as many versions of an object as needed, up to the amount specified on **System Settings > Workflow > Number of Archived versions to keep** box.

For more information about version control, see *Getting Started* in the Exstream Design and Production documentation.

The basic submission, approval, and rejection processes are the same whether you are using the basic design workflow functionality included with Exstream Design and Production or the advanced design workflow that you get by licensing the Advanced Design Workflow module. However, the number of approval steps varies depending on whether or not you use basic design workflow or the advanced design workflow. The Advanced Design Workflow module offers additional advantages that allow you to do the following:

- Define as many approval steps as needed.
- Define as many approving groups per step as needed.
- Define any specified number of approvers.
- Assign custom names to approval states (such as Development, Marketing, or Legal).
- Set up email notification.

12.1 Basic Design Workflow

If you use basic design workflow, only one designated approver approves or rejects an object after it has been submitted for approval.

To use the basic design workflow, you must complete the following tasks:

1. "Enabling Basic Design Workflow" below
2. "Setting Approver Permissions" on the next page

12.1.1 Enabling Basic Design Workflow

In order for design users to use basic design workflow in Exstream Design and Production, you must enable several properties in the property panel.

To enable basic design workflow:

1. Drag the **System Settings** heading to the Property Panel.
2. Click **System configuration**.

   The **System Configuration** dialog box opens.
3. On the **System Configuration** dialog box, click the **Workflow** tab.
4. In the **General workflow** area, select the **Version control and approval** check box to activate the approvals feature.
5. Click **OK**.
6. On the **System Settings** Property Panel, click the **Workflow** tab.
7. From the **Application mode** drop-down list, select the application mode in which you want to design.

To	Do this
Design applications using only SBCS object types	Select **SBCS**. In SBCS application mode, you can only view SBCS objects in the Library.
Design applications using only DBCS object types	Select **DBCS**. In DBCS application mode, you can only view DBCS objects in the Library.

To	Do this
Design applications using both SBCS and DBCS object types	Select **SBCS/DBCS**. In SBCS/DBCS application mode, you can view objects SBCS/DBCS objects in the Library.

8. Select the **Submission for approval required** check box.
9. If you want to include the time an object changes status, select the **Approval for effective date should include time (HH:MM)** check box.
10. In the **Number of Archived versions to keep** box, enter the number of old version of objects to maintain.

    The approval process is disabled if the number entered is `0`.

    Note: Keep in mind that excess archived versions are not deleted immediately. They are deleted the next time the object is approved and a new archived version is created. For example, if you have four archived versions of an object and you change the number of archived versions to keep from 4 to 1, four archived versions will remain until you submit and approve the object again.

11. From the **Edit** menu, select **Save**.

You have enabled design workflow. You must now set approver permissions for design users who can approve objects.

For more information about workflow, see *Designing Customer Communications* in the Exstream Design and Production documentation.

For more information about application modes, see "Features on the Workflow Tab—General Workflow Area" on page 100.

12.1.2 Setting Approver Permissions

In order for a design user to approve an object, the design user must belong to a design group that has approver permissions.

To enable approver permissions on a design group:

1. Navigate to **Environment > System > Design Groups**.
2. Drag the design group that you want to give approver permissions to the Property Panel.
3. In the **Functional access** area, select the **Approver** check box.
4. From the **Edit** menu, select **Save**.

12.2 Advanced Design Workflow

If you have licensed the Advanced Design Workflow module, you can customize an advanced design workflow that can have multiple approval steps and multiple approvers. This module gives you the ability to create workflows that route objects through an approval process. When an object has been submitted, it is approvable by any approver(s) for the first step of the approval process. The object remains in the same approval state until approved by the necessary approver(s). After an object has been approved by the necessary approver(s) from the first step, the object moves to the next step of the process. For example, you can have a document reviewed and approved by multiple groups in your organization, and you can customize how many approvals are required for each step of the process.

System administrators can define design workflow approval processes for objects and route them to different business groups—such as legal, compliance, marketing, and quality assurance business groups. For example, an investment company might require a more stringent approval workflow process for documents going out to customers than those for internal groups. You can create a separate approval process for these two types of documents.

Objects can be routed using single group (serial) or multiple group (parallel) paths. Administrators can easily track design workflows, verify object status, review comments, and maintain different versions in separate folders. Rejected objects are sent back to the originator for changes and resubmission.

For more information about folder management, see *Getting Started* in the Exstream Design and Production documentation.

To set up the advanced design workflow, you must complete the following tasks:

1. “Enabling Advanced Design Workflow” below
2. “Setting Approver Permissions” on page 225
3. “Creating an Approval State” on page 225
4. “Creating an Approval Process” on page 226
5. “Assigning an Approval Process to a Folder” on page 228

You can also complete the following optional task as needed:

- “Setting Up the Email Notification System” on page 230

12.2.1 Enabling Advanced Design Workflow

In order for design users to use advanced design workflow in Exstream Design and Production, you must enable several properties in the property panel.

To enable advanced design workflow:

1. In the Library, navigate to **Environment > System**.
2. Drag the **System Settings** to the Property Panel.
3. Click **System configuration**.
4. On the **System Configuration** dialog box, click the **Key** tab.
5. In the **Advanced workflow** area, select the **Advanced design workflow** check box.
6. Click the **Workflow** tab.
7. In the **General workflow** area, select the **Version control and approval** check box to activate the approvals feature.
8. Click **OK**.
9. Click the **Workflow** tab.
10. In the **Application mode** list, select the application mode in which you want to design.

To	Do this
Design applications using only SBCS object types	Select **SBCS**. In SBCS application mode, you can only view SBCS objects in the Library.
Design applications using only DBCS object types	Select **DBCS**. In DBCS application mode, you can only view DBCS objects in the Library.
Design applications using both SBCS and DBCS object types	Select **SBCS/DBCS**. In SBCS/DBCS application mode, you can view objects SBCS/DBCS objects in the Library.

11. If you want to include the time an object changes status, select the **Approval for effective date should include time (HH:MM)** check box.
12. Select the **Submission for approval required** check box.
13. In the **Number of Archived versions to keep** box, enter the number of old versions of objects to maintain.

    The approval process is disabled if the number entered is `0`.

> **Note:** Keep in mind that excess archived versions are not deleted immediately. They are deleted the next time the object is approved and a new archived version is created. For example, if you have four archived versions of an object and you change the number of archived versions to keep from 4 to 1, four archived versions will remain until you submit and approve the object again.

14. From the **Edit** menu, select **Save**.

For more information about application modes, see "Features on the Workflow Tab—General Workflow Area" on page 100.

12.2.2 Setting Approver Permissions

In order for a design user to approve an object, the design user must belong to a design group that has approver permissions.

To enable approver permissions on a design group:

1. In the Library, navigate to **Environment > System > Design Groups**.
2. Drag the design group that you want to give approver permissions to the Property Panel.
3. In the **Functional access** area, select the **Approver** check box.
4. From the **Edit** menu, select **Save**.

12.2.3 Creating an Approval State

Approval states are steps that an object must go through before being approved. You must have system administration access to create approval states. These user-defined steps make up the approval process and are created in Design Manager. You can create as many approval states as you need for an approval process (for example, you can have approval states called: Design Review, Business Review, Legal Review).

To create a custom approval state:

1. In the Library, navigate to **Environment > System**.
2. Right-click the **Approval States** heading and select **New Approval State**.

   The **Approval State** dialog box opens.

   In the **Name** box, enter a name for the approval state. In the **Description** box, enter a description (optional).
3. The approval state opens in the Property Panel.

> **Tip:** To make your approval process easy to follow, name approval states after the design group that is the approver. For example, if the design group is named "marketing," name the approval state "marketing."

4. From the **Edit** menu, select **Save**.

12.2.4 Creating an Approval Process

Using the Advanced Design Workflow module lets you create and use multiple approval processes. Instead of achieving the Approved status when receiving the requisite approvals, an object advances to the next step, which may have different approval criteria and different approvers. Only when the object passes the final approval step is it considered approved. You must have system administration access to create an approval process.

To make an approval process unique, you must define it by adding approval steps and approvers. An approval step is defined by an approval state. The state might be common to other processes, but the step is unique to each approval process. Approval states must be created before you can assign them to an approval step. The approval process is sequential. The process moves to the next state upon each approval, and exits the process if any stage fails. Design users cannot return to earlier approval states. If an object is rejected and then resubmitted for approval, the approval process restarts.

To create an approval process:

1. In the Library, navigate to **Environment > System**.
2. Right-click the **Approval Processes** heading and select **New Approval Process**.
3. In the **Name** box, enter a name for the new approval process.
4. In the **Description** box, enter a description (optional).
5. Click **Finish**.
6. Below the **Approval steps** window, click  .
7. From the list of approval states in the **Select Approval State** dialog box, select the approval state that you want to add to this approval process.
8. Click **OK**.

   The selected approval state appears in the **Approval steps** window and the right side of the Property Panel is now active.
9. Select an option in the **Who must approve** list:
   - **All**—All of the design groups set as approver(s) must approve the object before it moves to the next approval step in the process.

When this option is selected, at least one member of each design group (but not all members of the group) must approve the object.

- **Any**—Any one of the design groups set as approver(s) can approve the object and send it to the next approval step.
- **Some**—Some of the design groups set as approver(s) must approve the object before it moves to the next approval step. When this option is selected, the **How many** box becomes active.

10. If you selected **Some** in the **Who must approve** list, in the **How many** box, enter the number of design groups that must approve the object in this step before it moves to the next step of the process. The number must be greater than zero but not greater than the number of design groups set as approvers.
11. You must assign design group(s) to each approval step before adding another step. Below the **Approver(s)** box, click  .

    Note: Some or all of the design groups are responsible for approving or rejecting objects that have reached the approval step, depending on your selection in the **Who must approve** list.

12. From the list of design groups in the **Select Design Group** dialog box, select a design group.

    Note: If the design group that you want to use is not available in the **Select Design Group** dialog box, make sure that it has been assigned approval permissions. Only design groups with approval permissions appear in the **Select Design Group** dialog box.

13. Click **OK**.

    The design group appears in the **Approver(s)** window.
14. Repeat steps 11 through 14 to add as many approver(s) as you need to an approval step.
15. From the **Edit** menu, select **Save**.

For more information about approval processes, see *Designing Customer Communications* in the Exstream Design and Production documentation.

Replacing an Approval State

Replacing an approval state is useful if you create a new approval state to replace a current approval step in an approval process. You can replace approval states without going through the entire process of assigning an approval step. Design Manager automatically enters the approval state you chose as the approval step into the **Approval state** box.

To replace an approval step:

1. In the Library, navigate to **Environment > System**.
2. Drag the appropriate approval process to the Property Panel.
3. In the **Approval state** box, click  .
4. From the list of approval states in the **Select Approval State** dialog box, select the approval state that you want to use as a replacement.
5. Click **OK**.
6. From the **Edit** menu, select **Save**.
7. Close and reopen the approval process in the Property Panel to refresh the name of the approval step.

Changing the Step Order of an Approval Process

Even after you have created an approval process, you can still rearrange the step order. For example, suppose your current step order is a design step, a legal step, and then a marketing step. You can change the step order to be a design step, a marketing step, and then a legal step.

To change the step order:

1. In the Library, navigate to **Environment > System**.
2. Drag the appropriate approval process to the Property Panel.
3. In the **Approval steps** box, select an approval step to move.
4. If you want to move the selected approval step up in the process, click  .
5. If you want to move the selected approval step down in the process, click  .
6. Repeat step 3 through step 5 as needed.
7. From the **Edit** menu, select **Save**.

12.2.5 Assigning an Approval Process to a Folder

Approval processes are assigned on the folder level, and they apply to all objects within that folder. For an object to be submitted through a specific approval process, it must be within the folder where the approval process is assigned. You can only apply one approval process per folder.

After a folder has been assigned an approval process, any subfolder (unless the subfolder has been assigned a different approval process) or object submitted for approval within that folder goes through the approval process before going to the Approved status, unless you use some of the settings discussed below.

Note: You can change the approval process assigned to a folder. However, any object already submitted for approval maintains the prior approval process. If you want an object to follow the new approval process, you must cancel the submission and resubmit the object.

To assign an approval process to a folder:

1. In the Library, drag the appropriate folder to the Property Panel.

   The folder opens in the Property Panel.

2. From the **Approval process** box, click .

   The **Select Approval Process** dialog box opens.

3. Select an approval process.

4. Click **OK**.

   The approval process name appears in the **Approval process** box.

5. From the **Edit** menu, select **Save**.

After an approval process has been assigned to a folder, you can refresh the Library by pressing the F5 key. This refreshes the status of objects submitted for approval in that folder.

Assigning an Approval Process to a Subfolder

Subfolders can be assigned a different approval process from the parent folder. If no other approval process is assigned to a subfolder, it defaults to the approval process of the parent folder, which could be the basic approval process or a custom approval process.

To assign an approval process to a subfolder:

1. In the Library, right-click the folder name and select **Properties**.

   The folder opens in the Property Panel.

2. Under the **Parent** box, clear the **Access and approval are same as parent folder** check box.

3. From the **Approval process** box, click .

   The **Select Approval Process** dialog box opens.

4. Select a new approval process.

5. Click **OK**.

   The approval process name appears in the **Approval process** box.

12.2.6 Setting Up the Email Notification System

If you have licensed the Advanced Design Workflow module, you can configure the email notification system in Exstream Design and Production to inform approvers and submitters that an object's approval status has changed. The notification informs the approvers and submitters when the following occurs:

- A new object requires approval.
- An object has attained a new status (rejected or the submission is cancelled).
- An object needs a new approval vote.

After you have set up the email notification system, the design users in an approval group receive an email when an object is submitted for approval. If another approval step follows, those design users receive a notice after the first group has approved the object. If an object is rejected, an email is sent to all design users who approved the item. Any approval notes will appear in the email.

If you are not using approval processes, all eligible approvers will receive a notification email if your system settings are set to have objects submitted before they are approved.

> **Caution:** Some mail clients, like Microsoft Outlook, might ignore the sender. Outlook might also open a confirmation dialog box when sending mail.

Your network must have an existing, functional email system to use the notification feature.

To take advantage of the Exstream Design and Production email notification feature, you must complete the following tasks:

1. “Enabling Email Notification in the System Settings” below
2. “Enabling Email Notification at the Design User Level” on page 232
3. “Enabling the Email Notification at the Folder Level” on page 232
4. “Testing the Email Notification System” on page 233

Enabling Email Notification in the System Settings

In order for design users to receive email notifications, you must enable several properties in **System Settings** heading.

To enable email notification in the **System Settings** heading:

1. Navigate to **Environment > System**.
2. Drag the **System Settings** heading to the Property Panel.

   The **System Settings** properties open in the Property Panel.

3. Click the **Workflow** tab.
4. In the **Email** area, select the **Send approval/rejection mail notices** check box.
5. In the **Mail DLL name** box, enter the DLL that transfers email. The following DLLs are provided:
   - **ExstreamSMTP.dll**—The default DLL is ExstreamSMTP.dll.
   - **ExstreamMAPI.dll**—This DLL uses the MAPI (Message Application Programming Interface) protocol for mail clients such as Microsoft Outlook.
   - **ExstreamSMTPU.dll**—This DLL supports DBCS characters in the body of the email.
   - **ExstreamMAPIU.dll**—This DLL supports DBCS email addresses, but not in the body of the email.

   For information on custom DLLs, see "Return Codes for DLLs" below.

   > **Note:** In a DBCS application, unicode characters are not supported in the **Mail DLL name** box.

6. In the **Mail** box, enter the server name and any additional required information for your DLL.
   - If you use ExstreamSMTP.dll or ExstreamSMTPU.dll, enter the SMTP server name and the name that you want to appear in the message's From field. Separate the server name and name with a semicolon (for example, `smtpserver;Approval`).
   - If you use the ExstreamMAPI.dll or ExstreamMAPIU.dll, enter the sender's address.
7. From the **Edit** menu, select **Save**.

After you have enabled email notifications in the **System Settings** heading, you must enable email notifications at the design user level and at the folder level.

Return Codes for DLLs

If your SMTP server is not fully compatible with the ExstreamSMTP.dll, you can replace the ExstreamSMTP.dll with a custom DLL. Your custom email.dll file must have a function called SendMail defined as follows:

```
int SendMail (LPCTSTR szServerString, LPCTSTR szRecipients, LPCTSTR szSubject,
LPCTSTR szBody)
```

If you use a custom DLL, you should use the same return codes. The corresponding return codes and messages are as follows:

Message	Return Code
Mail sent successfully.	`0`

Message	Return Code
Error connecting to mail server	-1
Error sending mail	-2
Error disconnecting from mail server	-3
Error: Server string formatted incorrectly. Format: SERVER;FROM_ADDRESS;AUTH_USER;AUTH_PASSWORD (Authentication user and password are optional)	-4
No recipient was specified.	-5

Enabling Email Notification at the Design User Level

In order for design users to receive email notifications, you must enable several properties at the design user level.

To enable email notification at the design user level:

1. In the Library, navigate to **Environment > System > Design Users**.
2. Drag the appropriate design user to the Property Panel.
3. In the **Email address** box, enter the email address of the design user.
4. To confirm that the email that you entered in the **Email address** box is valid, click **Send test email**.

   The **Send test email** dialog box opens and you receive a message in the **Results** area that indicates whether the test was successful or unsuccessful.
5. Select the **Receive pending approval notifications** check box to send notifications if objects need to be approved by the design user.
6. Select the **Receive rejection notifications** check box to send notifications if objects created or approved by the design user are rejected.
7. From the **Edit** menu, select **Save**.

After you have enabled email notifications in the **System Settings** heading and at the design user level, you must enable email notifications at the folder level.

Enabling the Email Notification at the Folder Level

In order for design users to receive email notifications, you must enable several properties at the folder level.

To enable email notification at folder level:

1. In the Library, navigate to the folder on which you want to enable email notifications.
2. Drag the folder to the Property Panel.

   The folder opens in the Property Panel.
3. On the **Basic** tab, select the **Send approval/rejection email notifications** check box.
4. From the **Edit** menu, select **Save**.

Testing the Email Notification System

1. Navigate to **Environment > System**.
2. Drag the **System Settings** heading to the Property Panel.

   The **System Settings** properties open in the Property Panel.
3. Click the **Workflow** tab.
4. In the **Email** area, click **Send test email**.

   The **Send test email** dialog box opens.
5. In the **Send to mail address** box, enter an email address.
6. Click **Send**.

   In the **Results** area, you receive a message indicating if the test was successful or unsuccessful.