Ektron CMS400.NET eSync Manual

Version 7.6.6 Rev 3

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LA10031, Revision 2.0

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Introduction to eSync

Ektron's eSync revolutionizes the way that Web sites are built, deployed and maintained and is the only synchronization solution that can keep Web sites up-to-date efficiently, giving you a level of control over your site that was impossible before. From single sites, to global multi-sites, to server farms, eSync gives you scalable, geo-synchronization capabilities that allow you to easily update exactly what you want, when you want to.

The following videos introduce eSync.

- http://media.ektron.com/flash/esync/800x600/esync.html
- http://media.ektron.com/webinars/esync/esyncwebinar.html
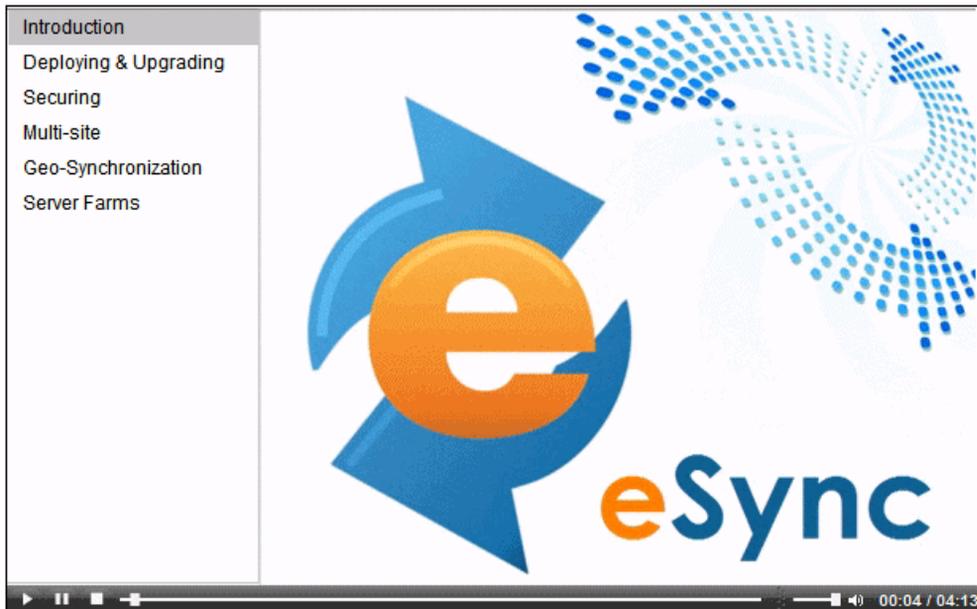
eSync moves only the changes you want to move, from single pieces of content to entire sites, making updates efficient and eliminating site downtime. With its intelligent synchronization technology, eSync is able to securely move selected content bidirectionally: Web 2.0 sites have a wealth of user-generated content and membership information. That data can now be synchronized back to the development side of the firewall.

By employing certificate-based authentication to secure your Web site, Ektron's eSync lets CMS users update content anywhere safely, whether it is on a production server or within the development environment. Alternatively, all of your updates can take place on the safe side of your firewall before they are moved to the live site.

If conflicting versions of content exist, eSync's configurable conflict resolution engine ensures that you won't lose your most up-to-date content. The version that isn't posted is saved in a history, along with other previous versions, enabling you to track changes or restore content if the need arises.

Within complex IT infrastructures, eSync can synchronize content, assets, HTML pages and other components of your Web site, whether it is managed by CMS400.NET or not.

Synchronization can be scheduled to take place at strategic times that assure optimal performance while facilitating site updates. Global multi-site setups can take advantage of this to coordinate synchronizations with servers around the world, taking advantage of low traffic periods. Or, use eSync's scheduling feature to set up time-sensitive events. Synchronization can take place with single or multiple servers, whatever your needs are.

eSync's ability to move and copy data is unparalleled, and it offers a host of options for managing multiple servers. If there is a need for multiple development servers, eSync can create another copy of the live site for you to work with. As your developers build out changes to the site, their updates can by synchronized to the staging and production servers. eSync can also support advanced infrastructures, including load balancing and failover server configurations.

Ektron's eSync is the only solution in the marketplace today that gives you the level of control you need to keep your Web sites completely up-to-date. Whatever your Web site structure is, Ektron's synchronization technology lets updates happen efficiently and quickly, and provides the tools to deal with today and tomorrow's information-hungry world.

eSync is more fully explained through these topics.

Setting Up eSync

This chapter helps you install and start using **Ektron CMS400.NET**'s eSync. For full details about the feature, see .

For this configuration	See this section
Two sites on same server	"Scenario 1: Synching Two Sites on the Same Server" on page 4
One Local to one Remote server	"Scenario 2: Synching an Ektron CMS400.NET Server with Another Server" on page 5
Development to Staging to Production servers	"Scenario 3: Setting up a Development > Staging > Production Environment" on page 17

Scenario 1: Synching Two Sites on the Same Server

Although it is unlikely that you will use this configuration in "real-life" situations, it the simplest way to begin testing and learning how eSync works.

1. Install the first site.

   See Also: **Ektron CMS400.NET** Setup Manual sections "Installing Ektron CMS400.NET" and "Installing the Minimum and Starter Sites."

2. Near the end of the installation, the following dialog appears.

Question

? Core installation is complete. The eSync feature requires a security certificate. You can run this tool later if desired but must be run prior to usi... eSync. Would you like to run the tool at this time?

[Yes]   [No]

3. Click **Yes**.

4. Install a second site on the same server.

5. Near the end of the installation, the same dialog appears.

6. Click **Yes**.

7. Both sites' security certificates have been set up and configured. Continue from "Part Three: Connect the Local and Remote Servers" on page 10.

Scenario 2: Synching an Ektron CMS400.NET Server with Another Server

Local   **Remote**

database & templates

Existing CMS400.Net Site
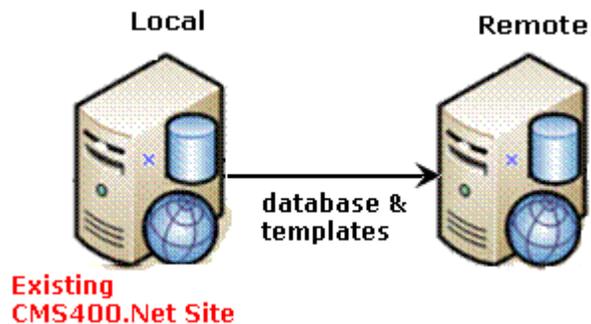
This scenario assumes you have **Ektron CMS400.NET** on one server (call it local), and want to sync it with another (call it remote). To accomplish this, you install a minimal **Ektron CMS400.NET** site to the new, remote server. Next, use eSync to upload your **Ektron CMS400.NET** site from the local to the remote server.

After the you complete the initial and template syncs explained in this chapter, the two sites are a mirror image of each other.

Follow these steps to configure two servers to sync with each other.

Prerequisites - See "eSync Requirements" on page 44

Part One: Set up a Min Site on the Remote Server

1. Upgrade the local server to the latest version of **Ektron CMS400.NET** if necessary.

2. On the remote server, install a minimum site whose **Ektron CMS400.NET** version matches the version on the local server.

   To do this, run the **Ektron CMS400.NET** base installation file (CMS400Base7x.exe). For more information, see the **Ektron CMS400.NET** Setup manual.

3. If the current site with which you will sync is precompiled, you must also precompile the min site.

Part Two: Generate and Copy Security Certificates

Security certificates authorize the synchronization of files between servers. In this part, you generate security certificates on the local server, then copy them to the remote.

Follow these steps to complete this procedure.

1. Sign on to the local server.

2. Click the **Windows Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

3. The following screen appears.
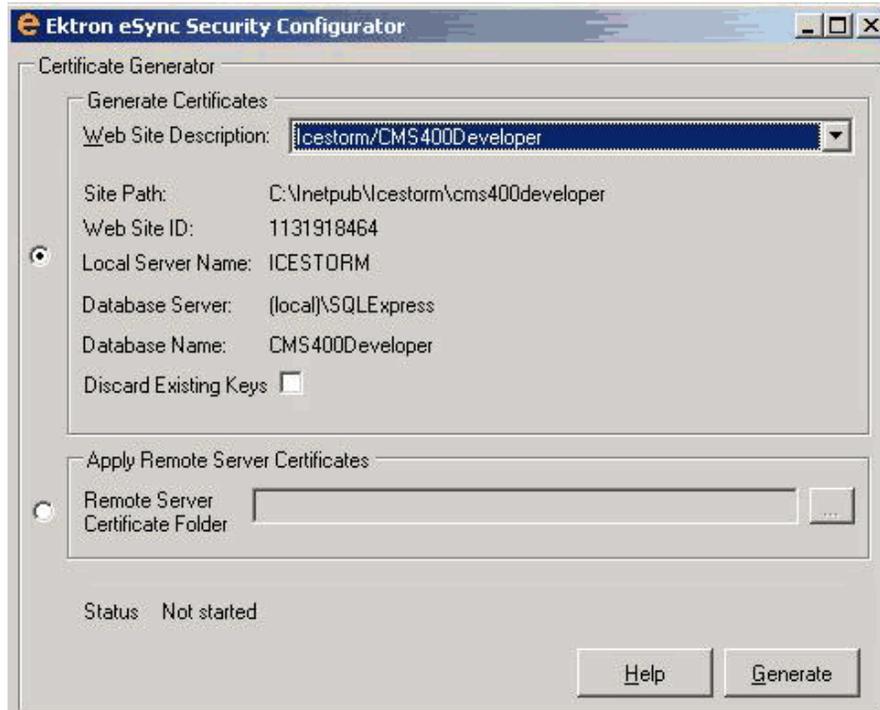
4. At the **Web Site Description** field, select the Web site on the local server.

5. Press **Generate**.

6. The certificates are created on the local server.

7. Close the Security Configurator dialog.

8. Open two Windows Explorer windows side-by-side: one showing the local server's file system, and the other showing the remote server's file system.

9. In the remote server window, create a folder underneath the root folder. Name the folder **local security certificates**.

WARNING! Do not create the new folder under the web root, C:\inetpub\wwwroot.

10. In the local server window, open the following folder:
    `C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityConfigurator`.

11. From that folder, copy these files.

    - *servername*_SyncClient.pfx

    - *servername*_SyncClient.pvk

    - *servername*_SyncClient.cer

    - *servername*_SyncServer.pfx

    - *servername*_SyncServer.pvk

    - *servername*_SyncServer.cer

12. Paste the files into the folder you created in Step 9. Make sure there are no other security files in the folder.

13. Close both windows you opened in Step 8.

NOTE   After copying security certificates to the remote folder, you need to register and move them to the correct folders. The Security Configurator screen does this.

14. Sign on to the remote server.

15. Open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

16. The security configurator screen appears.
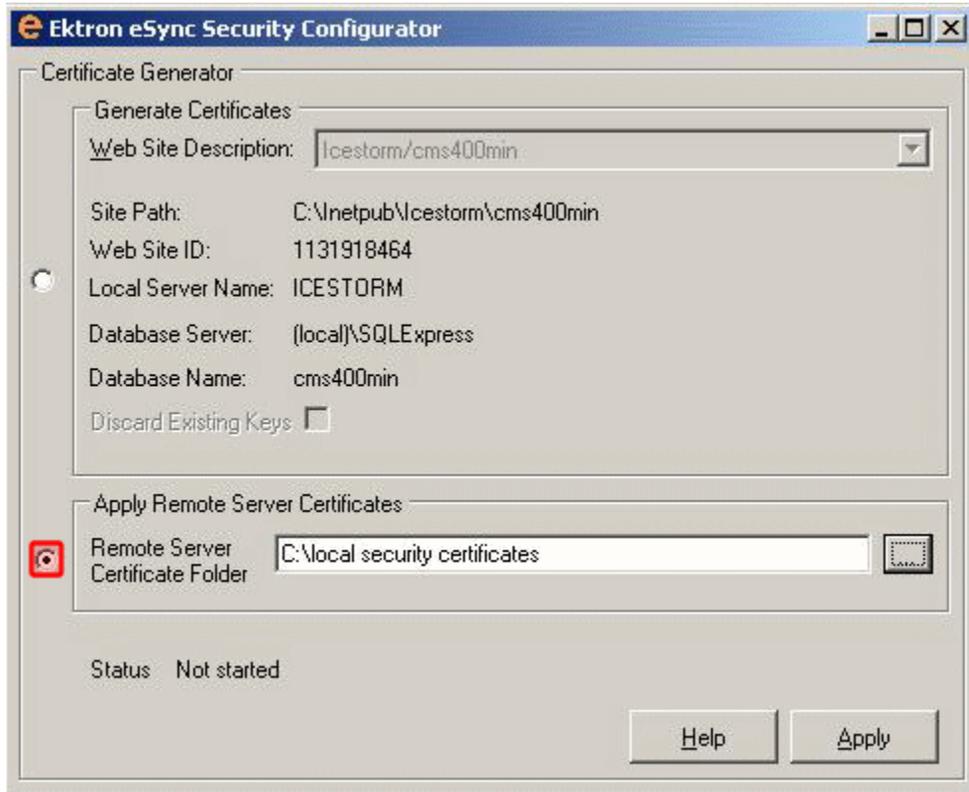
17. Click the **Apply Remote Server Certificates** button (circled above).

18. Click the **Browse** button next to that field.

19. Browse to the folder to which you pasted the security certificates in Step 12.

20. Click the **Apply** button.

21. The security configurator copies the certificates you pasted in Step 12 to the correct folder, and configures them for the remote server.

Next, you need to generate security certificates on the remote server, then copy them to the local.

To accomplish this, follow all steps in "Part Two: Generate and Copy Security Certificates" on page 6, but this time, consider the remote server to be the local server and vice versa.

Now that you have generated and copied security certificates between servers, you can set up eSync.

Part Three: Connect the Local and Remote Servers
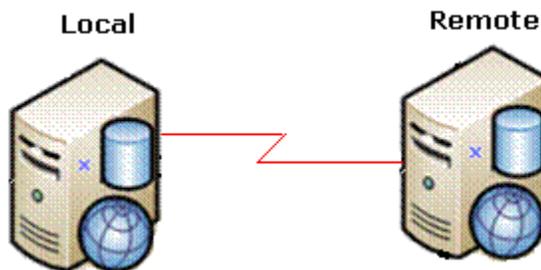
WARNING! Back up your database before beginning this procedure!

1. On the local server, sign on to **Ektron CMS400.NET**.

2. In the **Ektron CMS400.NET** Workarea, go to **Settings > Configuration > Synchronization**.

3. The View All Synchronization Configurations screen appears.

View All Synchronization Configurations

There are no configurations. Please click the "➕" button above to begin creating a synchronization configuration.

4. Click the **Add** button (➕).

5. The Create Synchronization Server Relationship screen appears.

6. At the **Remote Server** field, enter the name of the remote server.

7. At the **Choose Certificate** field, the name of the remote server appears.

8. Click the **Connect** button. This action connects the local with the remote server.

9. After you connect to the remote server, a new screen appears showing its database.
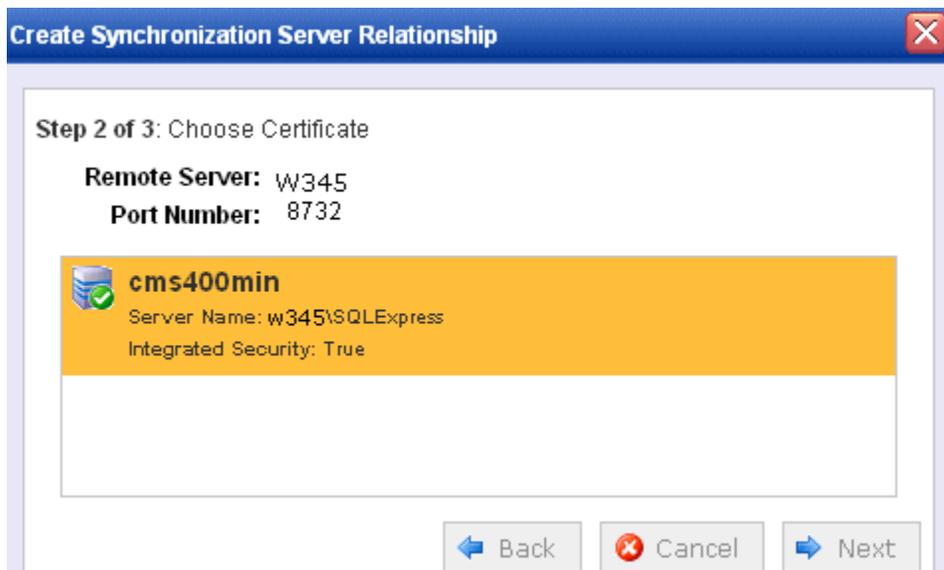
10. Click **Next**.

11. A new screen appears, showing both servers.

Create Synchronization Server Relationship

Step 3 of 3: Configure Initial Synchronization

Database will be copied from:

cms400min (Remote)
Server Name: w345\SQLExpress
Integrated Security: True

Replacing database:

CMS400Developer (Local)
Server Name: (local)\SQLExpress
Integrated Security: True

Switch Synchronization Direction

Back   Cancel   Create
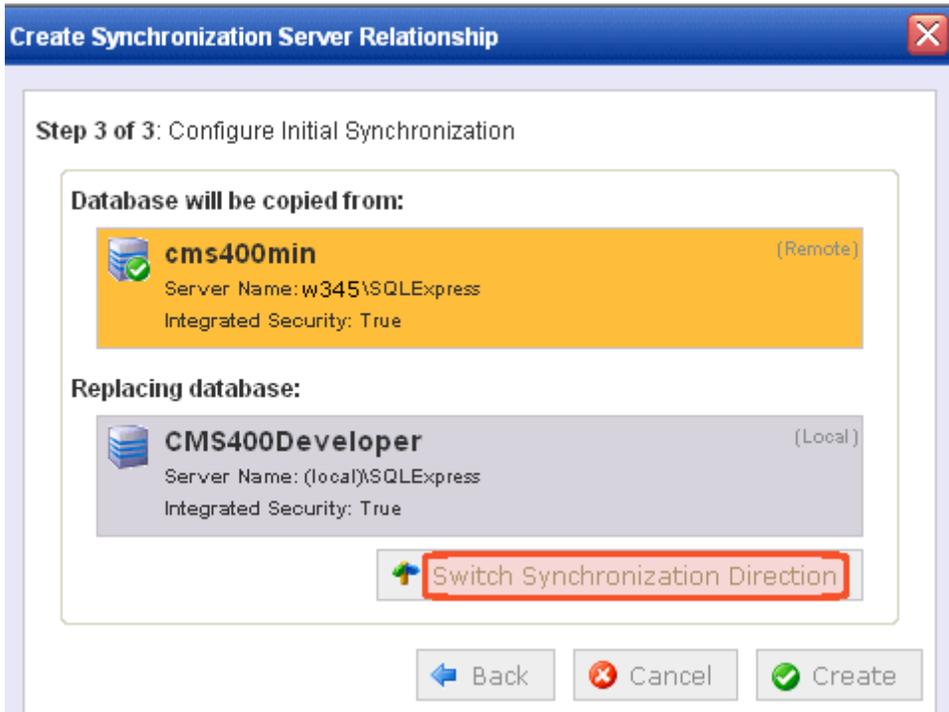
12. Click the **Switch Synchronization Direction** button.

13. Now the screen indicates that the database will be uploaded from your local server (which contains the CMS400 Developer site) to the new, remote server. See below.

Create Synchronization Server Relationship

Step 3 of 3: Configure Initial Synchronization

Database will be copied from:

CMS400Developer (Local)
Server Name: (local)\SQLExpress
Integrated Security: True

Replacing database:

cms400min (Remote)
Server Name: w345\SQLExpress
Integrated Security: True

Switch Synchronization Direction

Back | Cancel | Create
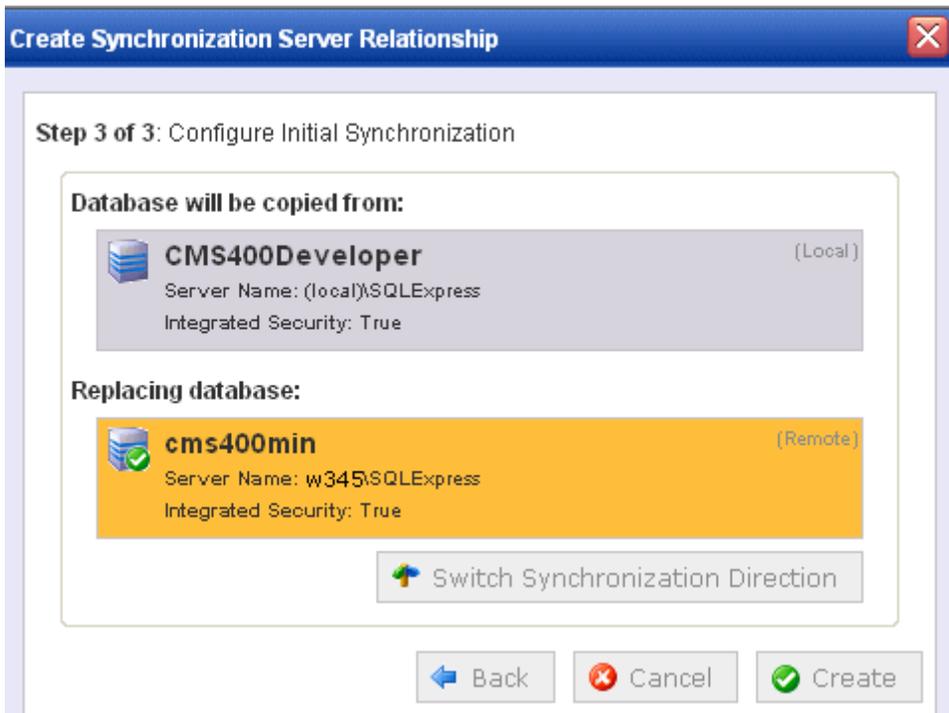
> 14. Click **Create**. This action connects the local and remote servers.

Part Four: Upload the Local Server's Database to the Remote Server
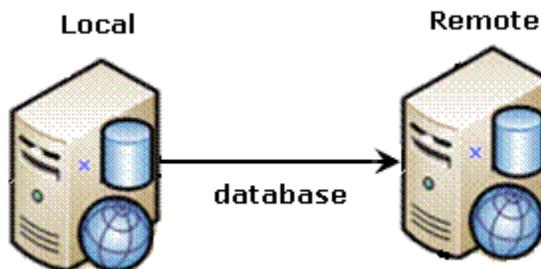
Local   Remote

database

> 1. From the View All Synchronization Configurations screen, click the **Start Initial Sync** button.

View All Synchronization Configurations

➕ ⓘ

🗄 **cms400developer**
Server Name: (local)\sqlexpress
Integrated Security: True

🔄 [Start Initial Sync]   🗑 Delete
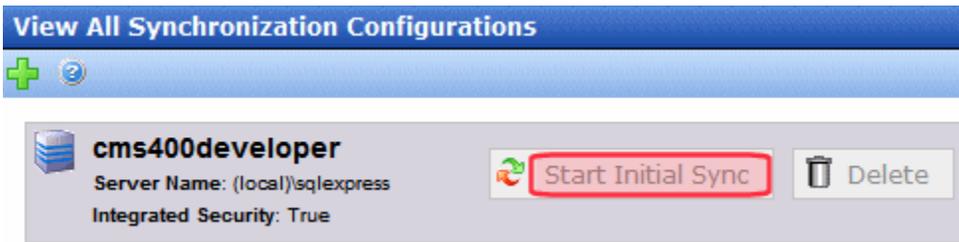
2. The initial sync uploads the local server's database to the remote server.

3. A screen tracks the progress.

Synchronization Status ✖

✔ Synchronization Is Complete

Private Assets Synchronization Started
    Last item synchronized: 216
Private Assets Synchronization Ended
Asset Library Synchronization Started
    Last item synchronized: FBEEEFDD-97ED-4D5B-BA0D-07578408E527
Asset Library Synchronization Ended
Updating Search Catalogs

Synchronization Is Complete

[Close]

4. When the sync is finished, **Synchronization is Complete** appears.

The initial sync also creates a *default database profile*. The profile remembers information about the sync, such as source and destination databases, sync direction, and the fact that it syncs the database and resource files (see example below). You can reuse this profile to sync your database/resource files any time in the future.

Edit Synchronization Profile "Default DB profile1"

Synchronization Name	Default DB profile1
Local Site	server=(local)\SQLExpress;databas
Remote Site	server=(local)\SQLExpress;databas
Items To Synchronize	⦿ Database/Resources ○ Workarea Files ○ Templates
Include/Exclude Files	○ No Filter ○ Only Include ○ Exclude
Synchronization Direction	○ Bidirectional ⦿ Upload (Local to Remote) ○ Download (Remote to Local)
Conflict Resolution Policy	○ Version on Remote Site Wins ○ Version on Local Site Wins
Schedule	⦿ None

Part Five: Upload the Local Server's Templates to Remote
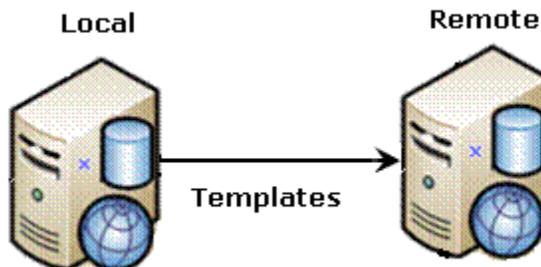
1. From the View All Synchronization Configurations screen, click the **Add Sync Profile** button.

2. The Add Synchronization Profile screen appears.

3. At the **Synchronization name** field, give this profile a name, such as Local - Remote Template Sync.

4. At the **Items to Synchronize** field, select **Templates**.

5. For **Direction**, choose **Upload**.

6. For **Schedule**, choose **None**. (See example below.)

7. Save the profile.

8. Click the Run button to the right of the template sync (circled below).

View All Synchronization Configurations

cms400developer
Server Name: (local)\sqlexpress
Integrated Security: True

[+ Add Sync Profile] [🗑 Delete]

Sync Profile	Schedule	Last Full Sync	Last Run Result		
Default DB profile1		2/16/2009 8:13 AM	success	♻	🗑
Local-Remote Template Sync		Never		♻	🗑

9. A screen tracks the sync's progress.

10. When the sync is complete, **Synchronization is Complete** appears.

You can reuse the template sync profile to sync templates any time in the future.

Scenario 3: Setting up a Development > Staging > Production Environment

Before
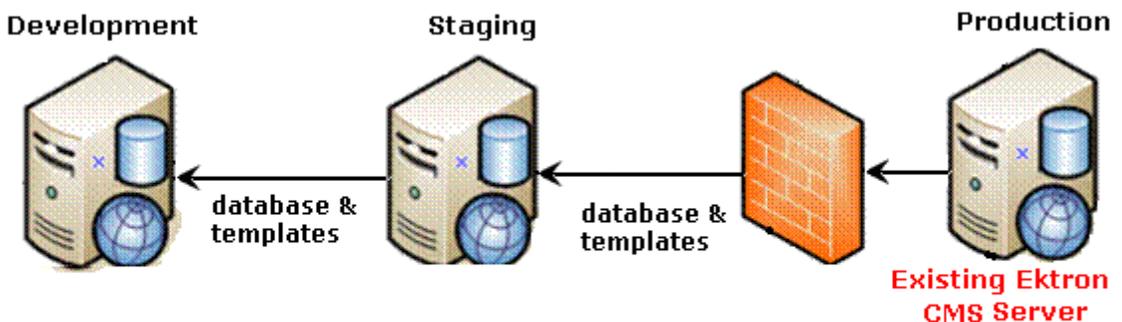
Initially, you have an existing, production Web site. It will be synched to newly-added staging and development servers.

After
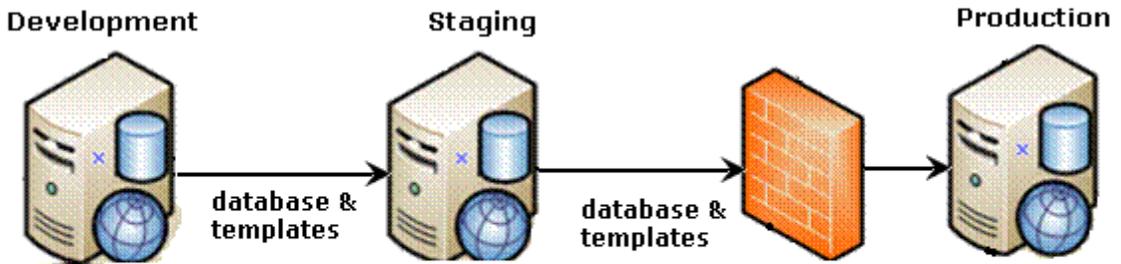
When done, you will have the configuration shown above.
Developers can update files on the Development server, then sync
them to the staging and production servers.

In this scenario, a version of **Ektron CMS400.NET** resides on one
server. You will consider that your production server and use it to
initialize the staging and development servers.

Here's a preview of the steps you will follow.

- "Part One: Set up a Min Site on the Staging and Development
  Servers" on page 19
- "Part Two: Generate and Copy Security Certificates" on
  page 19
- "Part Three: Connect Staging and Production Servers" on
  page 29
- "Part Four: Download the Production Server's Database to the
  Staging Server" on page 31
- "Part Five: Download the Production Server's Templates to
  Staging" on page 34
- "Part Six: Connect the Development and Staging Servers" on
  page 36
- "Part Seven: Download the Staging Server's Database to the
  Development Server" on page 39
- "Part Eight: Download the Staging Server's Templates to
  Development" on page 41

Prerequisites - See "eSync Requirements" on page 44

Part One: Set up a Min Site on the Staging and Development Servers

1. Upgrade your existing server to the current version of **Ektron CMS400.NET** if necessary.

2. Install a minimum site on the staging and development servers.

   To do this, run the **Ektron CMS400.NET** base installation file (CMS400Base7x.exe) version 7.6 or higher. (For more information, see the **Ektron CMS400.NET** Setup manual.)

Part Two: Generate and Copy Security Certificates

Security certificates authorize synchronization between servers. In an eSync configuration, every server needs a security certificate from every other server, as shown below.
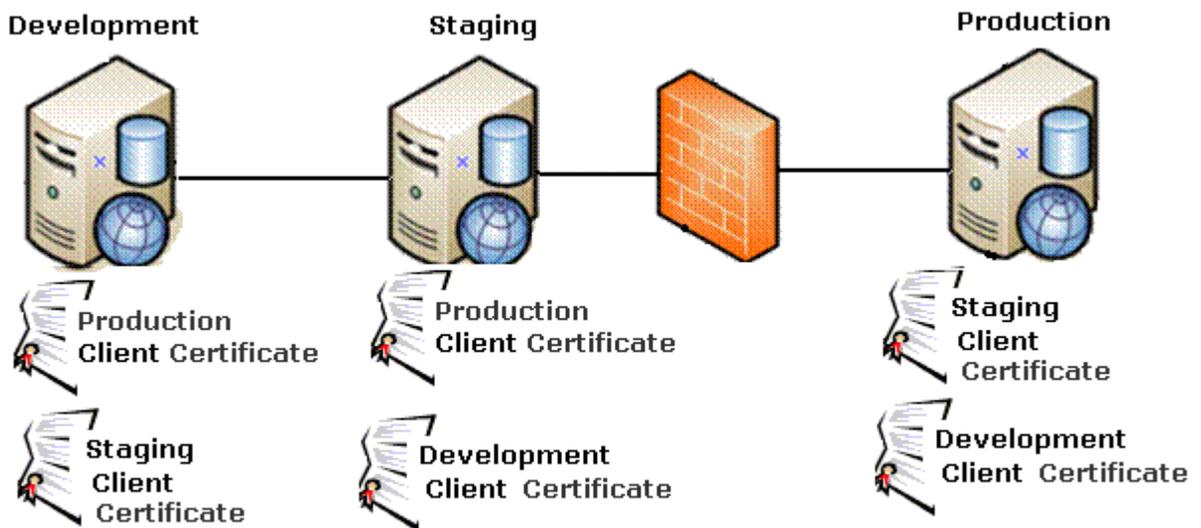
This configuration requires security certificates to be generated then copied to other servers.

To generate and copy these certificates, follow these steps.

- "A. Generate Security Certificates on Production and Copy Them to Staging and Development" on page 20
- "B. Generate Security Certificates on Staging and Copy Them to Development and Production" on page 23

A. Generate Security Certificates on Production and Copy Them to Staging and Development
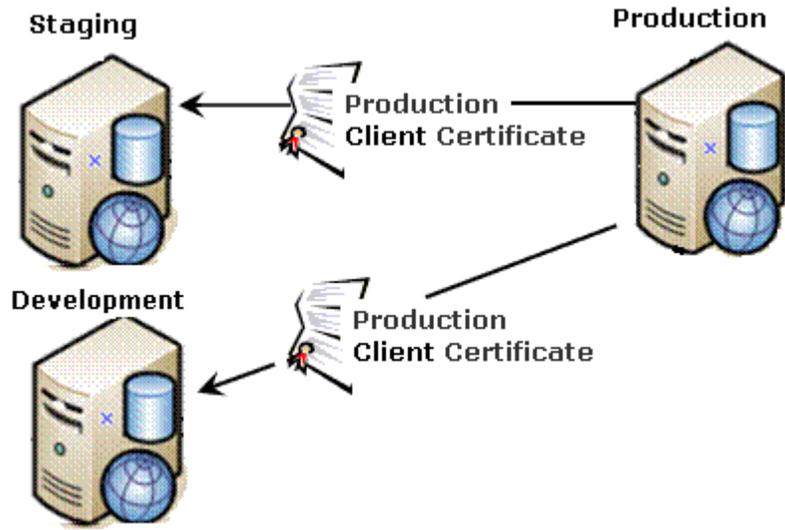
Follow these steps to complete this procedure.

1. Sign on to the production server.

2. Click the **Windows Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

3. The following screen appears.
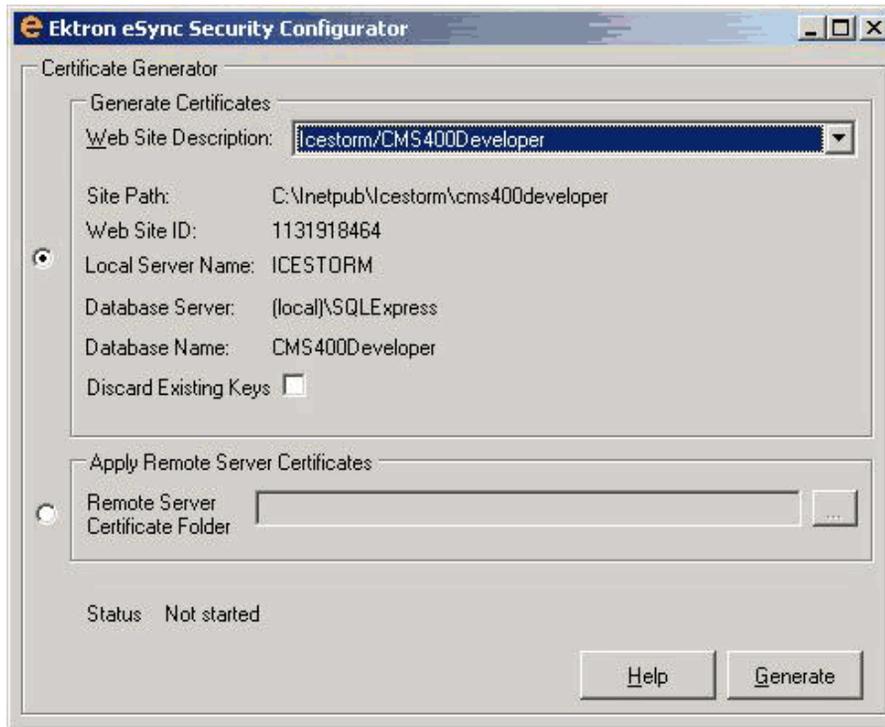
4. At the **Web Site Description** field, select the Web site on the production server.

5. Press **Generate**.

6. The certificates are created on the production server.

7. Open two Windows Explorer windows: one showing the production server's file system, and the other showing the staging server's file system.

8. In the staging server window, create a folder underneath the root folder. Name the folder **Prod security certificates**.

WARNING! Do not create the new folder under the web root, C:\inetpub\wwwroot.

9. In the production server window, open the following folder:
   C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityCon figurator.

10. From that folder, copy these files.

   • *servername*_SyncClient.pfx

   • *servername*_SyncClient.pvk

- *servername*_SyncClient.cer

- *servername*_SyncServer.pfx

- *servername*_SyncServer.pvk

- *servername*_SyncServer.cer

11. Paste the files into the folder you created in Step 9. Make sure there are no other security files in the folder.

12. Close both windows you opened in Step 8.

    After copying the security certificate files to the staging folder, you need to register and move them to the correct folders. The Security Configurator screen does this.

13. Sign on to the staging server.

14. Open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

15. The security configurator screen appears.

16. Click the **Apply Remote Server Certificates** button (circled above).

17. Click the browse button next to that field.

18. Browse to the folder to which you pasted the security certificates in Step 12.

19. Click the **Apply** button.

20. The security configurator copies the certificates you pasted in Step 12 to the correct folder, and configures them for the staging server.

21. Follow the same procedure to move production certificates to the development server. To do this, begin at Step 8 and follow all steps. Wherever the instructions mention a staging server, substitute the development server.

B. Generate Security Certificates on Staging and Copy Them to Development and Production
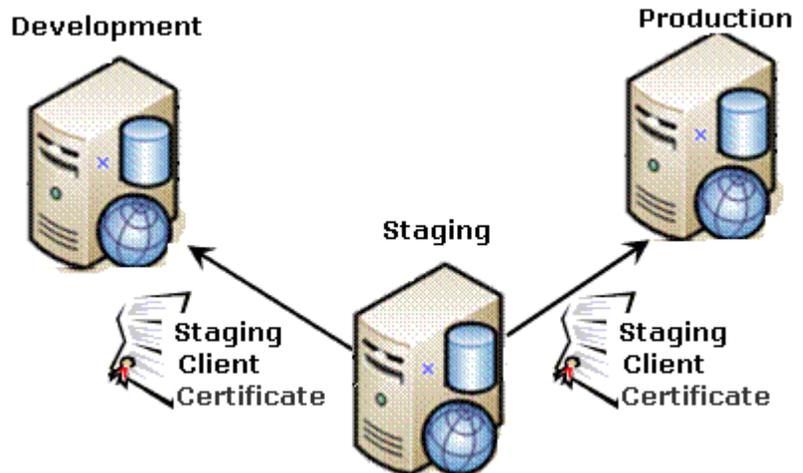
Follow these steps to complete this procedure.

1. Sign on to the staging server.

2. Click the **Windows Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

3. The following screen appears.
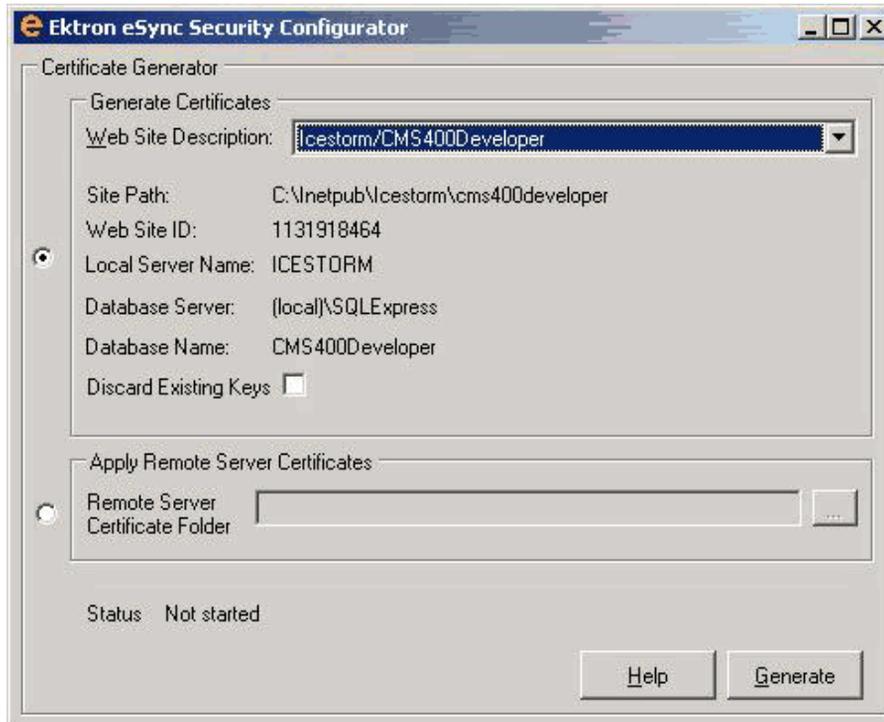
4. At the **Web Site Description** field, select the Web site on the staging server.

5. Press **Generate**.

6. The certificates are created on the staging server.

7. Open two Windows Explorer windows: one showing the staging server's file system, and the other showing the production server's file system.

8. In the production server window, create a folder underneath the root folder. Name the folder **staging security certificates**.

<table>
<tr><td>**WARNING!**</td><td>Do not create the new folder under the web root, C:\inetpub\wwwroot.</td></tr>
</table>

9. In the staging server window, open the following folder:
   C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityCon figurator.

10. From that folder, copy these files.

   •*servername*_SyncClient.pfx

   •*servername*_SyncClient.pvk

• *servername*_SyncClient.cer

• *servername*_SyncServer.pfx

• *servername*_SyncServer.pvk

• *servername*_SyncServer.cer

11. Paste the files into the folder you created in Step 9. Make sure there are no other security files in the folder.

12. Close both windows you opened in Step 8.

    After copying the security certificate files to the production folder, you need to register and move them to the correct folders. The Security Configurator screen does this.

13. Sign on to the production server.

14. Open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

15. The security configurator screen appears.
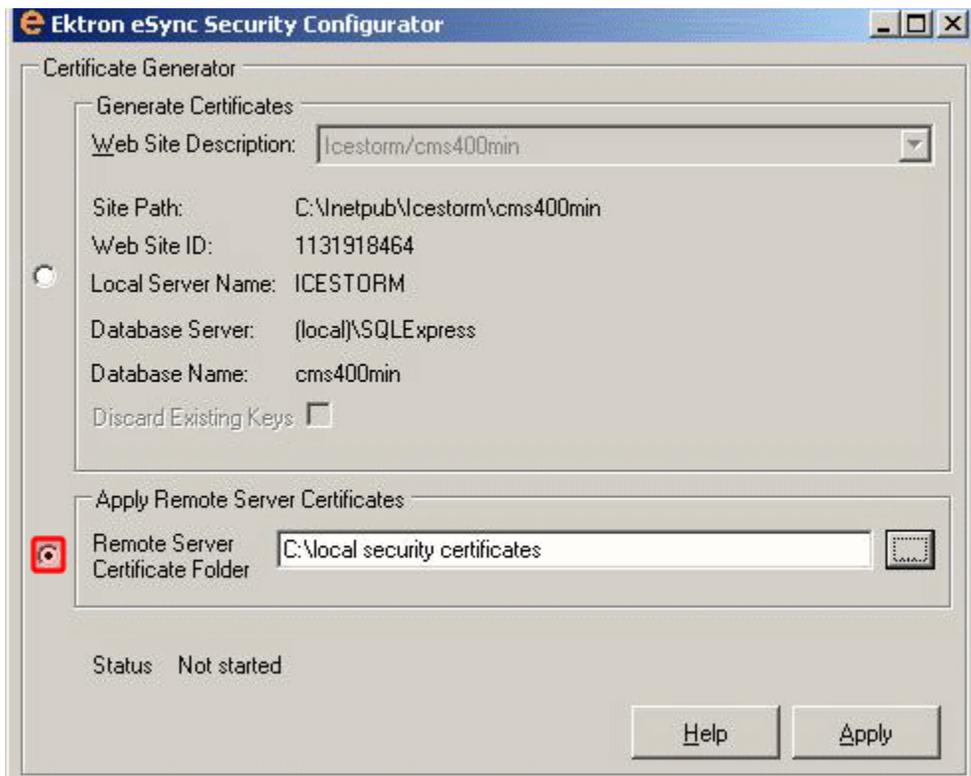
16. Click the **Apply Remote Server Certificates** button (circled above).

17. Click the browse button next to that field.

18. Browse to the folder to which you pasted the security certificates in Step 12.

19. Click the **Apply** button.

20. The security configurator copies the certificates you pasted in Step 12 to the correct folder, and configures them for the production server.

21. Follow the same procedure to move staging certificates to the development server. To do this, begin at Step 8 and follow all steps. Wherever the instructions mention a production server, substitute the development server.

C. Generate Security Certificates on Development and Copy them to Staging and Production
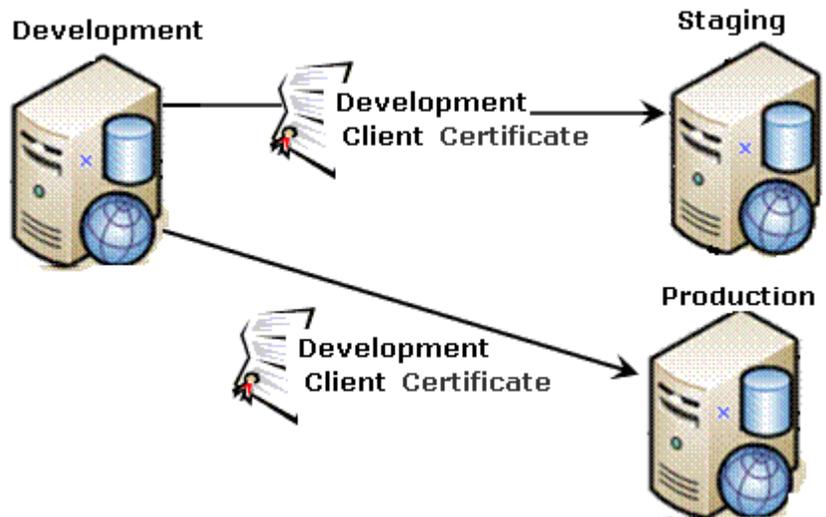
1. Sign on to the development server.

2. Click the **Windows Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

3. The following screen appears.
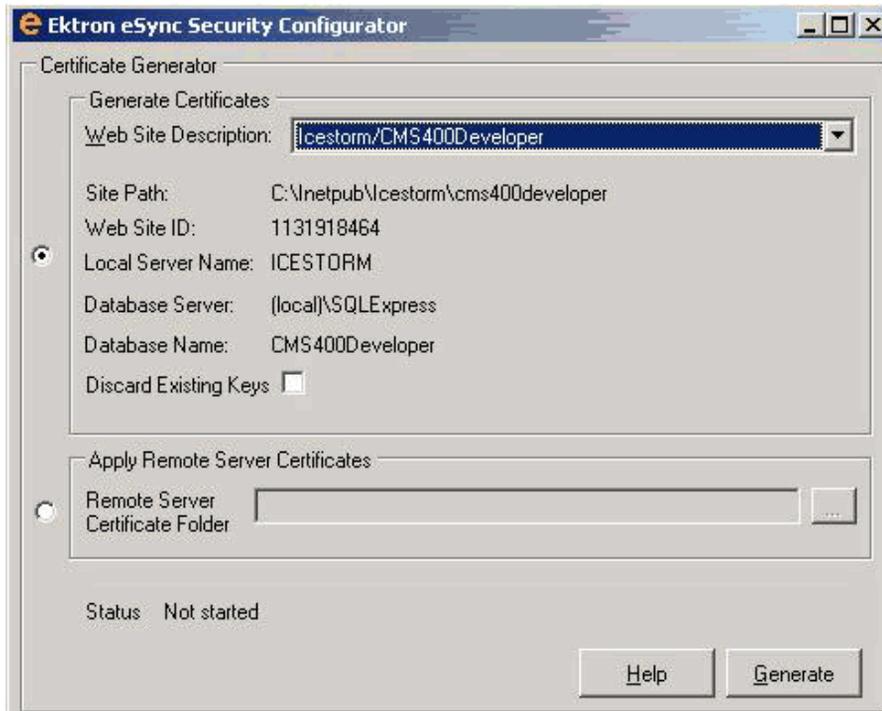
4. At the **Web Site Description** field, select the Web site on the development server.

5. Press **Generate**.

6. The certificates are created on the development server.

7. Open two Windows Explorer windows: one showing the development server's file system, and the other showing the staging server's file system.

8. In the staging server window, create a folder underneath the root folder. Name the folder **Dev security certificates**.

WARNING! Do not create the new folder under the web root, C:\inetpub\wwwroot.

9. In the development server window, open the following folder:
   `C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityConfigurator`.

10. From that folder, copy these files.

    • *servername*_SyncClient.pfx

    • *servername*_SyncClient.pvk

    • *servername*_SyncClient.cer

•*servername*_SyncServer.pfx

•*servername*_SyncServer.pvk

•*servername*_SyncServer.cer

11. Paste the files into the staging server folder you created in Step 9. Make sure there are no other security files in the folder.

12. Close both windows you opened in Step 8.

    After copying the security certificate files to the staging folder, you need to register and move them to the correct folders. The Security Configurator screen does this.

13. Sign on to the staging server.

14. Open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

15. The security configurator screen appears.

16. Click the **Apply Remote Server Certificates** button (circled above).

---

17. Click the browse button next to that field.

18. Browse to the folder you created in Step 9.

19. Click the **Apply** button.

20. The security configurator copies the certificates you pasted in Step 12 to the correct folder, and configures them for the staging server.

21. Follow the same procedure to move development certificates to the production server. To do this, begin at Step 8 and follow all steps. Wherever the instructions mention a staging server, substitute the production server.

Part Three: Connect Staging and Production Servers
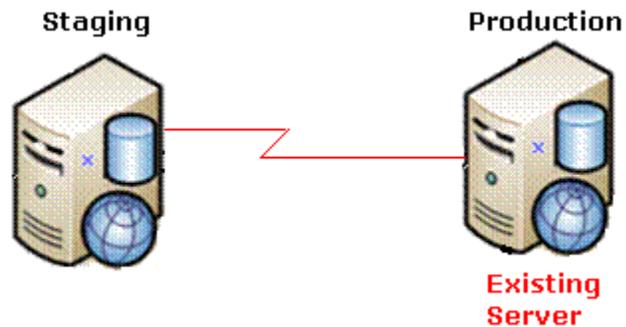
WARNING! Back up your database before beginning this procedure!

1. On the staging server, sign on to **Ektron CMS400.NET**.

2. In the **Ektron CMS400.NET** Workarea, go to **Settings > Configuration > Synchronization**.

3. The View All Synchronization Configurations screen appears.

4. Click the **Add** button ( ).

5. The Create Synchronization Server Relationship screen appears.
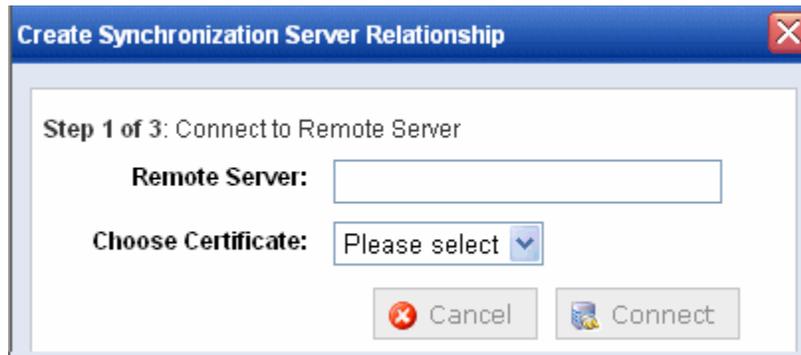
6. At the **Remote Server** field, enter the name of the production server.
7. At the **Choose Certificate** field, the name of the production server appears.
8. Click the **Connect** button. This action connects the staging with the production server.
9. After you connect to the production server, a new screen appears showing its database.
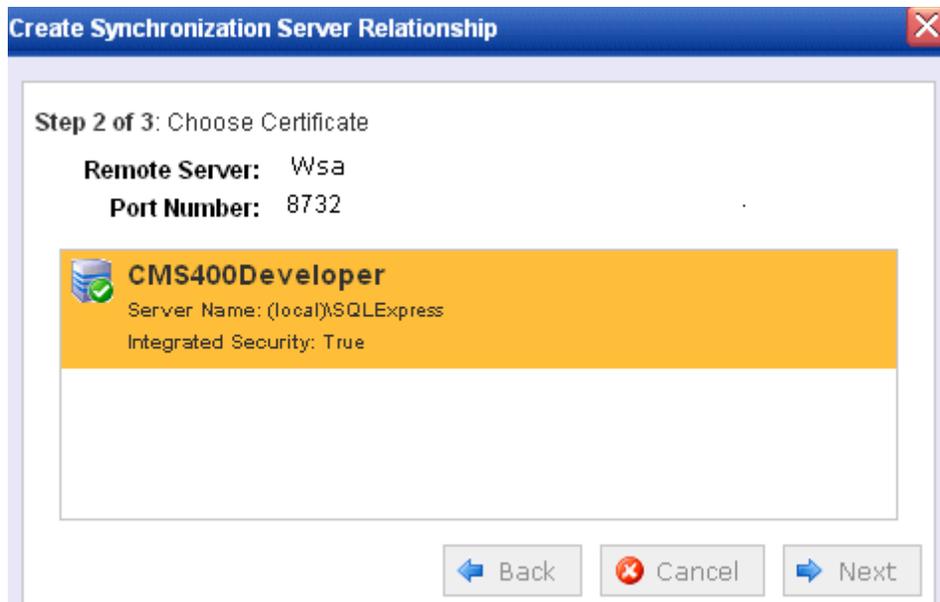
10. Click **Next**.

11. A new screen appears, showing both servers.
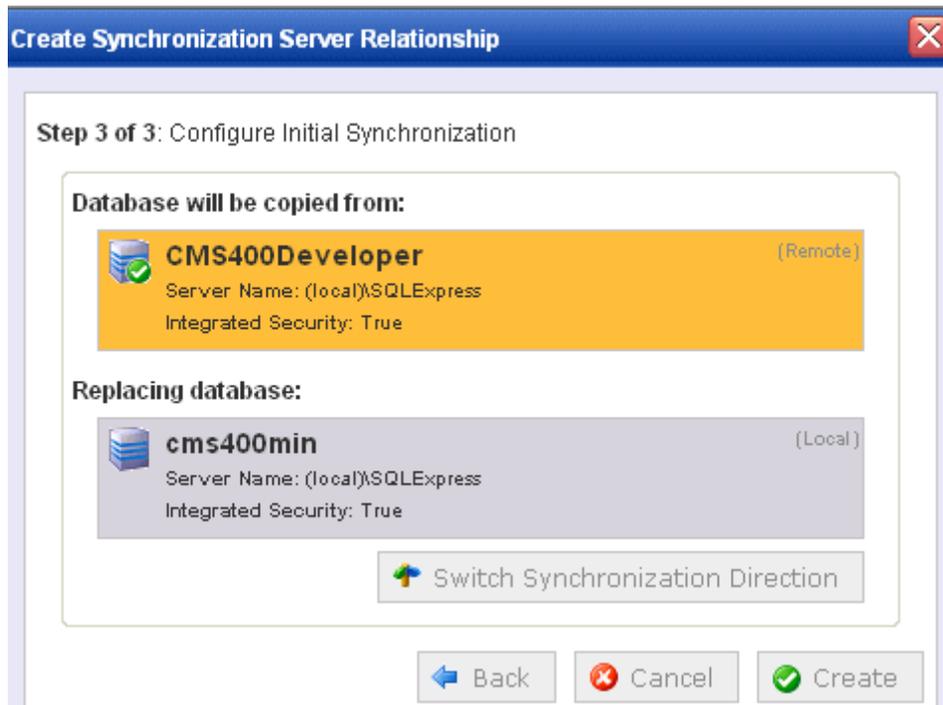
12. Click **Create**. This action connects the staging and production servers.

Part Four: Download the Production Server's Database to the Staging Server
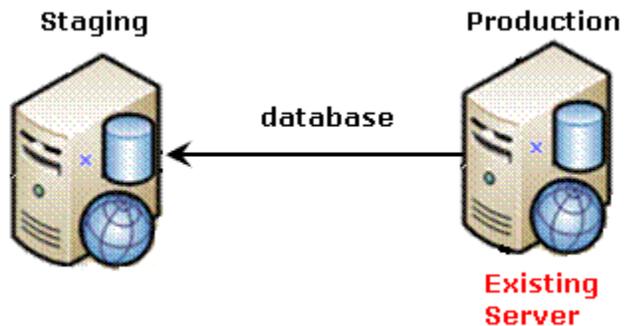
1. From the View All Synchronization Configurations screen, click the **Start Initial Sync** button.

View All Synchronization Configurations

cms400developer
Server Name: (local)\sqlexpress
Integrated Security: True

Start Initial Sync   Delete
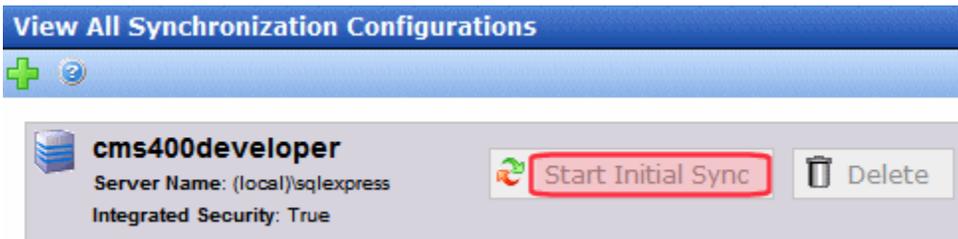
2. The initial sync downloads the production server's database to the staging server.

3. A screen tracks the sync's progress.
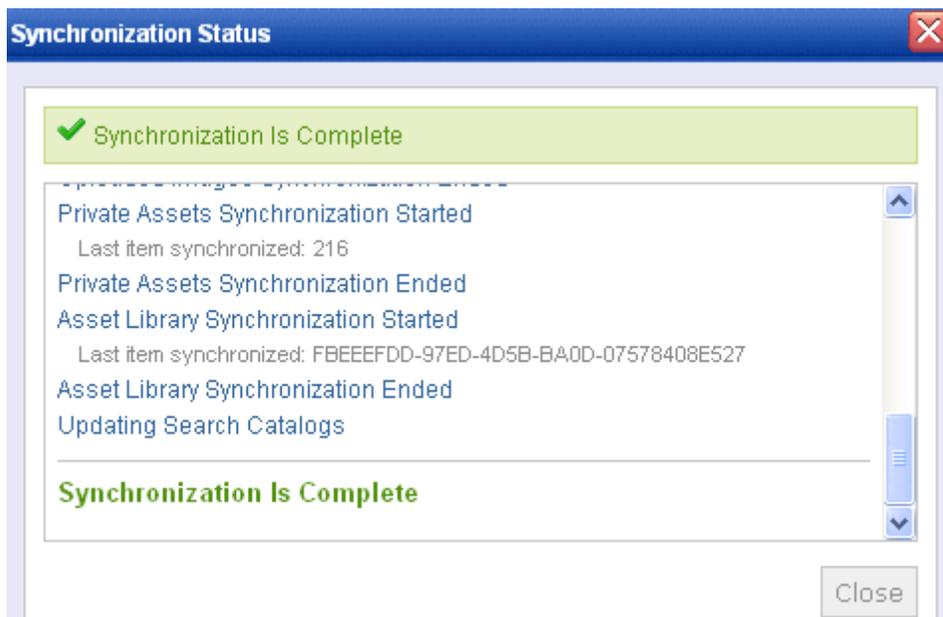
Synchronization Status

✔ Synchronization Is Complete

Private Assets Synchronization Started
  Last item synchronized: 216
Private Assets Synchronization Ended
Asset Library Synchronization Started
  Last item synchronized: FBEEEFDD-97ED-4D5B-BA0D-07578408E527
Asset Library Synchronization Ended
Updating Search Catalogs

Synchronization Is Complete

Close

4. When the sync is complete, **Synchronization is Complete** appears.

The initial sync also creates a *default database profile*. The profile remembers information about the sync, such as the source and destination databases, sync direction, and the fact that it syncs the

database and resource files (see example below). You can reuse this profile to run database/resource syncs any time in the future.

Edit Synchronization Profile "Default DB profile1"

Synchronization Name	Default DB profile1
Local Site	server=(local)\SQLExpress;databas
Remote Site	server=(local)\SQLExpress;databas

Items To Synchronize
- ⦿ Database/Resources
- ○ Workarea Files
- ○ Templates

Include/Exclude Files
- ○ No Filter
- ○ Only Include
- ○ Exclude

Synchronization Direction
- ○ Bidirectional
- ⦿ Upload (Local to Remote)
- ○ Download (Remote to Local)

Conflict Resolution Policy
- ○ Version on Remote Site Wins
- ○ Version on Local Site Wins

Schedule
- ⦿ None

Part Five: Download the Production Server's Templates to Staging

1. From the View All Synchronization Configurations screen, click the **Add Sync Profile** button.

2. The Add Synchronization Profile screen appears.

3. At the **Synchronization name** field, give this profile a name, such as Prod - Staging Template Sync.

4. At the **Items to Synchronize** field, select **Templates**.

5. For **Direction**, choose **Download**.

6. For **Schedule**, choose **None**. (See example below.)

Add Synchronization Profile

Synchronization Name	Prod – Staging Template Sync
Local Site	server=(local)\SQLExpress;database=
Remote Site	server=(local)\SQLExpress;database=
Items To Synchronize	○ Database/Resources ○ Workarea Files ⊙ Templates
Include/Exclude Files	⊙ No Filter ○ Only Include ○ Exclude
Synchronization Direction	○ Bidirectional ○ Upload (Local to Remote) ⊙ Download (Remote to Local)
Conflict Resolution Policy	⊙ Version on Remote Site Wins ○ Version on Local Site Wins
Schedule	⊙ None ○ One Time

7. Save the profile.

8. Click the Run button to the right of the template sync (circled below).

9. A screen tracks the sync's progress.

10. When the sync is complete, **Synchronization is Complete** appears.

You can reuse the template sync profile to sync templates any time in the future.

Part Six: Connect the Development and Staging Servers
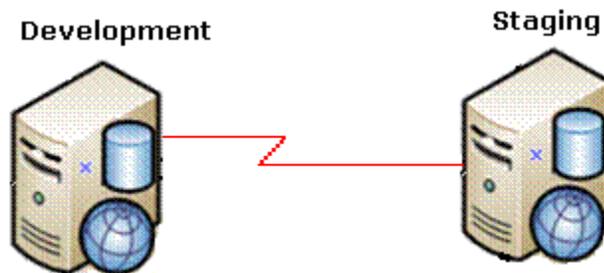
1. Sign on to **Ektron CMS400.NET** development server.

2. In the **Ektron CMS400.NET** Workarea, go to **Settings > Configuration > Synchronization**.

3. The View All Synchronization Configurations screen appears.

View All Synchronization Configurations

There are no configurations. Please click the "➕" button above to begin creating a synchronization configuration.

4. Click the **Add** button (➕).

5. The Create Synchronization Server Relationship screen appears.
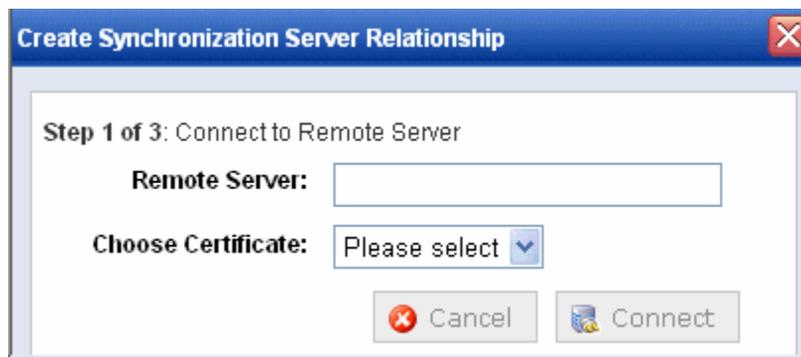
Create Synchronization Server Relationship

Step 1 of 3: Connect to Remote Server

Remote Server:	
Choose Certificate:	Please select ▾

❌ Cancel   🖥 Connect

6. At the **Remote Server** field, enter the name of the staging server.

7. At the **Choose Certificate** field, the name of the staging server appears.

8. Click the **Connect** button. This action connects the development with the staging server.

9. After you connect to the staging server, a new screen appears showing its database.

Create Synchronization Server Relationship

Step 2 of 3: Choose Certificate

    Remote Server: Wdr

      Port Number: 8732

CMS400Developer
Server Name: (local)\SQLExpress
Integrated Security: True

   Back   Cancel   Next

> 10. Click **Next**.
>
> 11. A new screen appears, showing both servers.

Create Synchronization Server Relationship

Step 3 of 3: Configure Initial Synchronization

Database will be copied from:

CMS400Developer   (Remote)
Server Name: (local)\SQLExpress
Integrated Security: True

Replacing database:

cms400min   (Local)
Server Name: (local)\SQLExpress
Integrated Security: True

     Switch Synchronization Direction

   Back   Cancel   Create

12. Click **Create**. This action connects the development and staging servers.

Part Seven: Download the Staging Server's Database to the Development Server
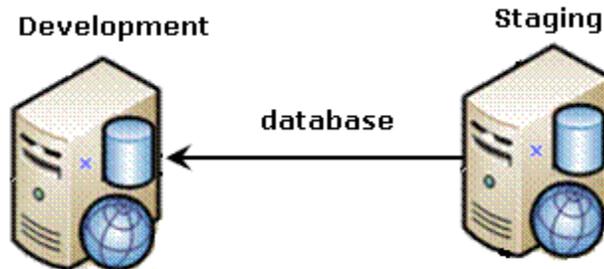
1. From the View All Synchronization Configurations screen, click the **Start Initial Sync** button.
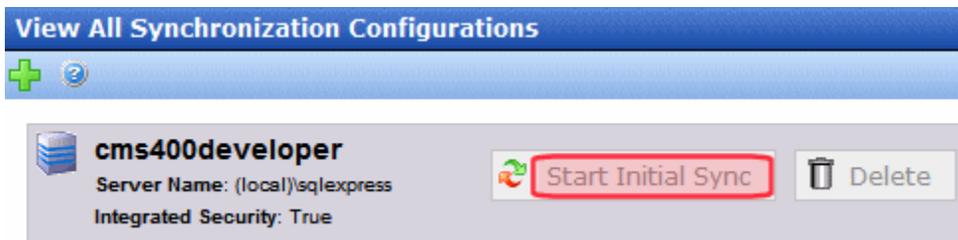
2. The initial sync downloads the staging server's database to the development server.
3. A screen tracks the sync's progress.
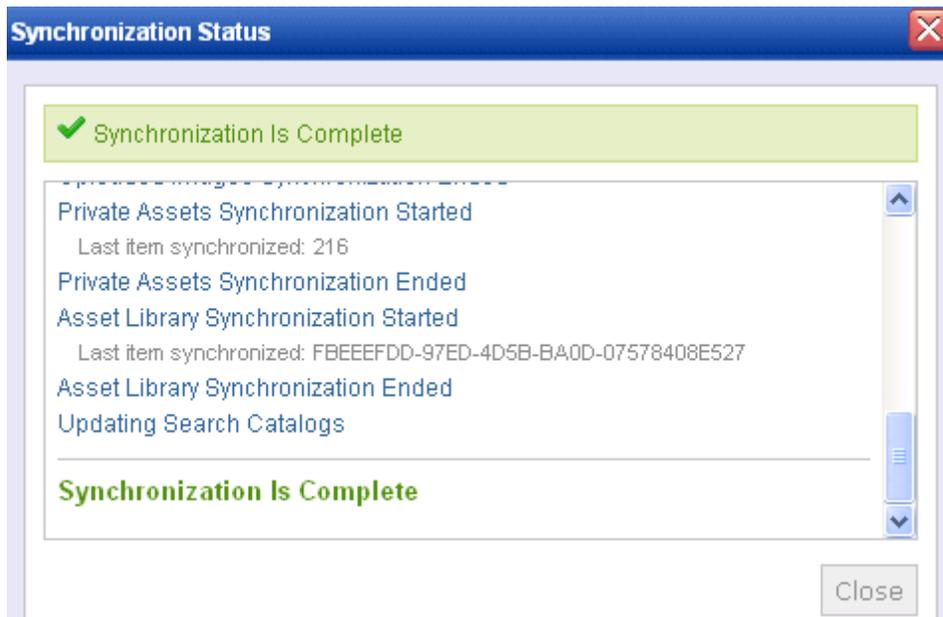
Synchronization Status

✔ Synchronization Is Complete

Private Assets Synchronization Started
  Last item synchronized: 216
Private Assets Synchronization Ended
Asset Library Synchronization Started
  Last item synchronized: FBEEEFDD-97ED-4D5B-BA0D-07578408E527
Asset Library Synchronization Ended
Updating Search Catalogs

Synchronization Is Complete

Close

4. When the sync is complete, **Synchronization is Complete** appears.

The initial sync also creates a *default database profile*. The profile remembers information about the sync, such as the source and destination databases, sync direction, and the fact that it syncs the database and resource files (see example below). You can reuse this profile to sync the database/resources between these two servers at any time in the future.

Edit Synchronization Profile "Default DB profile1"

Synchronization Name	Default DB profile1
Local Site	server=(local)\SQLExpress;databas
Remote Site	server=(local)\SQLExpress;databas
Items To Synchronize	⊙ Database/Resources ○ Workarea Files ○ Templates
Include/Exclude Files	○ No Filter ○ Only Include ○ Exclude
Synchronization Direction	○ Bidirectional ⊙ Upload (Local to Remote) ○ Download (Remote to Local)
Conflict Resolution Policy	○ Version on Remote Site Wins ○ Version on Local Site Wins
Schedule	⊙ None

Part Eight: Download the Staging Server's Templates to Development
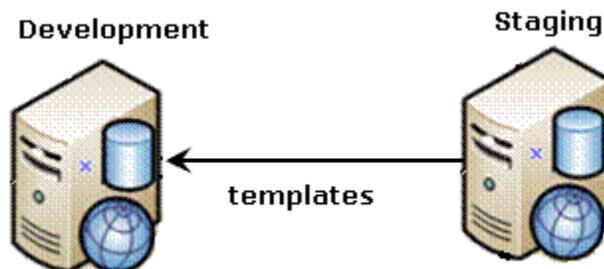
1. From the View All Synchronization Configurations screen, click the **Add Sync Profile** button.

2. The Add Synchronization Profile screen appears.

3. At the **Synchronization name** field, give this profile a name, such as Staging-Dev Template Sync.

4. At the **Items to Synchronize** field, select **Templates**.

5. For **Direction**, choose **Download**.

6. For **Schedule**, choose **None**. (See example below.)

Add Synchronization Profile

Synchronization Name	Staging-Dev Template Sync
Local Site	server=(local)\SQLExpress;database=
Remote Site	server=(local)\SQLExpress;database=
Items To Synchronize	○ Database/Resources ○ Workarea Files ⊙ Templates
Include/Exclude Files	⊙ No Filter ○ Only Include ○ Exclude
Synchronization Direction	○ Bidirectional ○ Upload (Local to Remote) ⊙ Download (Remote to Local)
Conflict Resolution Policy	⊙ Version on Remote Site Wins ○ Version on Local Site Wins
Schedule	⊙ None ○ One Time

7. Save the screen.

8. Click the Run button to the right of the template sync (circled below).

View All Synchronization Configurations

➕ ❓

cms400developer			➕ Add Sync Profile	🗑 Delete
Server Name: (local)\sqlexpress				
Integrated Security: True				

Sync Profile	Schedule	Last Full Sync	Last Run Result	
Default DB profile1		2/16/2009 8:13 AM	success	🔁 🗑
Staging-Dev Template Sync		Never		🔁 🗑

9. A screen tracks the sync's progress.

10. When the sync is complete, **Synchronization is Complete** appears.

You can reuse the template sync profile to sync templates any time in the future.

Using eSync

This section explains the following eSync topics.

- "eSync Requirements" on page 44
- "Characteristics of eSync" on page 45
- "Managing eSync Security Certificates" on page 54
- "Using eSync to Initialize a New Site" on page 65
- "Setting up eSync Profiles" on page 66
- "Optional Steps before Running a Sync" on page 80
- "Previewing a Sync" on page 80
- "Running a Sync" on page 81
- "Backing up the Destination Server During an eSync" on page 85
- "Synching Custom Database Tables" on page 93
- "Reviewing Resolved Collisions" on page 90
- "Content and Folder Sync Options" on page 94
- "eSync in a Load Balanced Environment" on page 100
- "Using eSync in a Multi-site Environment" on page 109
- "Using eSync with Web Alerts" on page 114
- "eSync and Integrated Search Folders" on page 114
- "Using eSync with eCommerce" on page 115
- "eSync Troubleshooting" on page 116

eSync Requirements

Ektron Software and Files

- **Ektron CMS400.NET** version 7.6 or higher

- An **Ektron CMS400.NET** base installation file (for example, cms400Base7*x*.exe). Use this file to install a second site with which you will sync your current site.

- **Ektron CMS400.NET** licenses that support Enterprise or Professional with eSync on every server being synched.

- Matching security certificates on every server being synched. *See Also:* "Managing eSync Security Certificates" on page 54

Microsoft Software

- Windows Server 2003 or higher; Vista Ultimate or Business

- Microsoft .NET Framework 3.5

  Ektron CMS400.NET's installation checks for this version of the framework during installation/upgrade. If it's not on your server, you are asked for permission to install it.

| NOTE | It is not a problem if your templates were created using the 2.0 Framework. |

- Microsoft SQL 2005 SP2 or higher

User Permissions

- You are a member of the Administrators group or assigned the Synchronization Admin role. *See Also:* "Defining Roles" on page 795

- The user performing the sync has either a db_ddladmin or dbowner role for the SQL database

Server

The GMT time on each server's clock must be within 5 minutes of each other.

Characteristics of eSync

Easy and Flexible Setup and Usage

You administer eSync through **Ektron CMS400.NET**'s **Workarea > Settings > Configuration > Synchronization** screens. The screens let you establish a sync *configuration* between two databases, then specify any number of sync *profiles* for each configuration.

Each profile lets you specify data to sync, a direction, and a schedule. You can always sync immediately by clicking the sync ( ) button.

You create profiles to sync these kinds of data.

- all content, assets, and library assets
- all Workarea folder files
- the remaining site files (with a few exceptions)
- a selection of Windows files in your site root folder and its subfolders

See Also: "Setting up eSync Profiles" on page 66

Individual file types can be included or excluded from the sync. In addition, you can sync **Ektron CMS400.NET** content or folders. *See Also:* "Content and Folder Sync Options" on page 94

Sync Configurations

Several eSync configurations are shown below. You can synchronize any server to or from any other server with one important exception: *you cannot initiate a sync from a server outside the firewall*. You can only initiate a sync from a server inside the firewall and copy to a server outside the firewall. This is because the outside server does not know the address of servers inside the firewall. However, you can use a staging server to push and pull updated information to and from a production server.

IMPORTANT! All eSync transmissions use port 8732. This is not configurable.

Configuration 1: One Staging Server, One Production Server

This is the most basic eSync configuration, showing one staging and one production server. Each server has a database and one site.
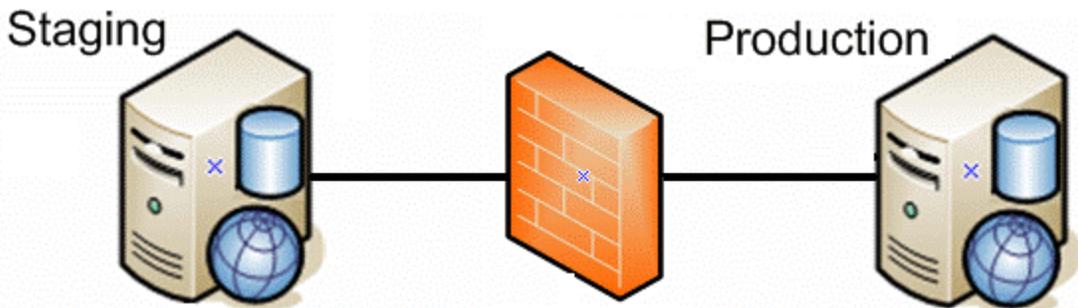
The eSync feature can automatically create a production server from your staging server. *See Also:* "Using eSync to Initialize a New Site" on page 65

For installation instructions for this configuration, see "Scenario 2: Synching an Ektron CMS400.NET Server with Another Server" on page 5.

Configuration 2: One Development Server, One Staging Server, One Production Server

This configuration includes a development server. Developers can use it to create new features and modify existing ones. When they are done, they can sync the changes to the staging server, where the changes can be verified before being moved to production.
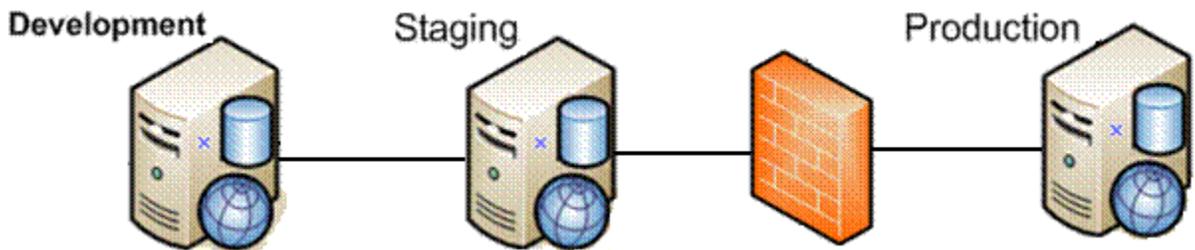
For installation instructions for this configuration, see "Scenario 3: Setting up a Development > Staging > Production Environment" on page 17.

Configuration 2a: Multi-site Staging Server, Multi-site Production Server

The following configuration illustrates synching several sites on a staging server with those sites on production.

www.mysite.com
product1.mysite.com
product2.mysite.com

www.mysite.com
product1.mysite.com
product2.mysite.com
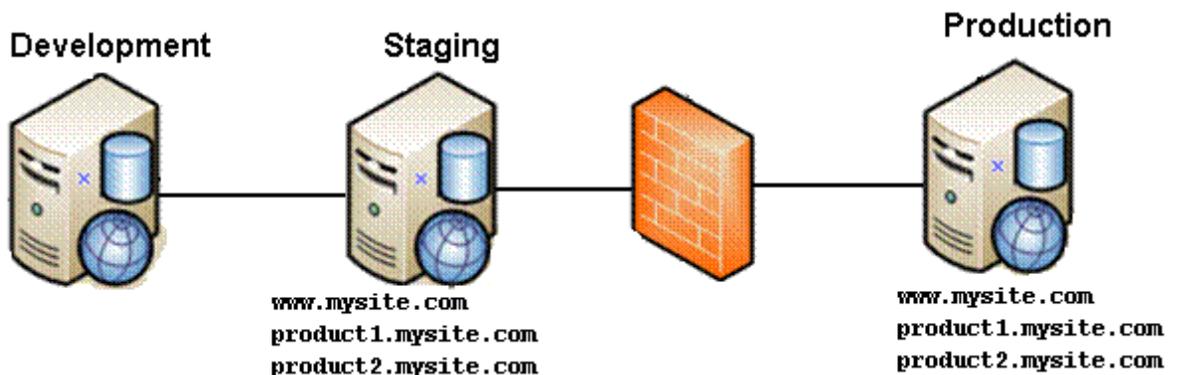
Configuration 3: Several Development Servers, One Staging Server, One Production Server

As shown in the illustration, any number of development servers can sync to each other and to your staging servers.
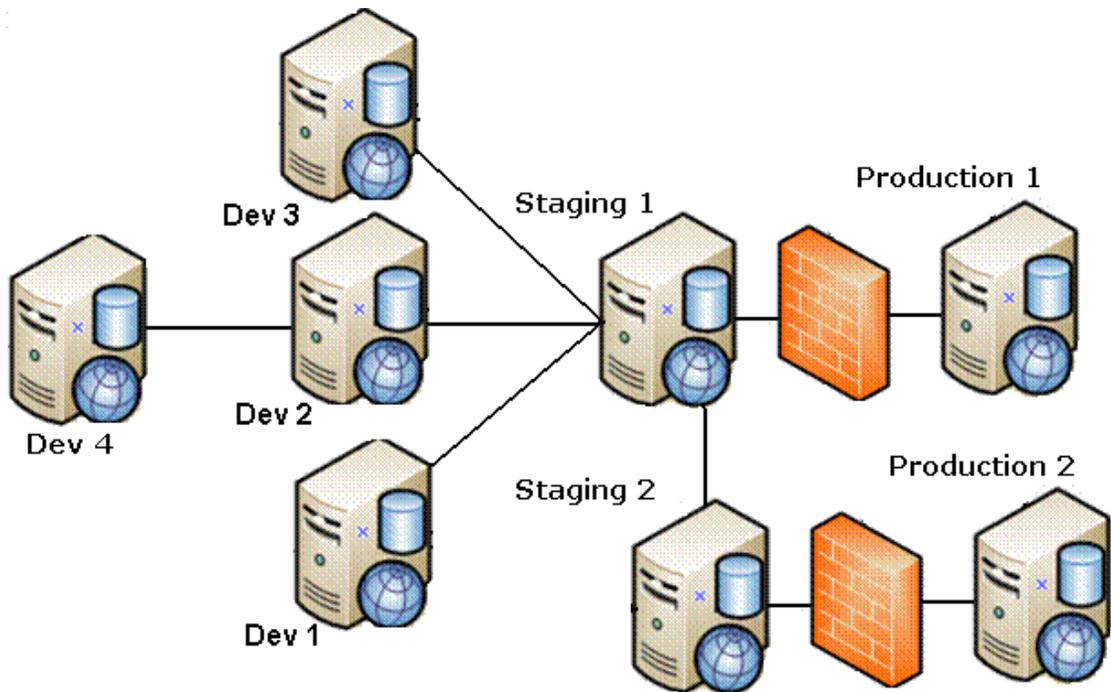
Configuration 4: One Development Server, One Staging Server, One Production Site Server, One Production Database Server

In this configuration supported by eSync, the production site has two servers: one for site files, and another for the database.

Separate site and database servers
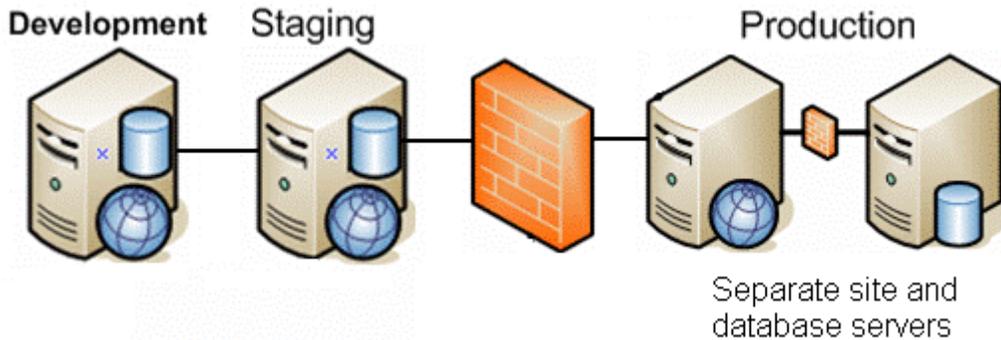
To synchronize these servers, set up several eSync profiles. One syncs the database, assets, and templates to the production database server. Use additional profiles to sync the staging server's workarea files with the production site server.

Configuration 5: Configuration 4 Plus Pre-Production Server

This eSync configuration adds an extra server between staging and production. The preproduction server can be used for review and testing of changes before they are moved to production.

Separate site and database servers
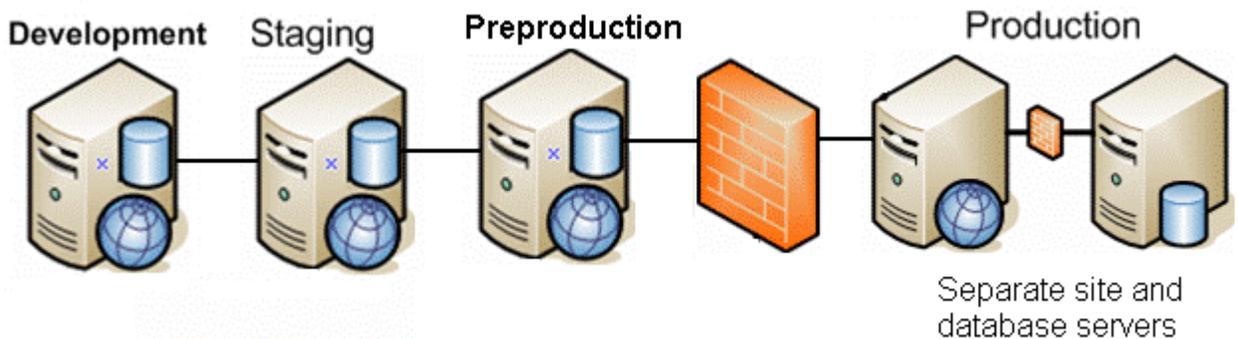
Configuration 6: Multi-site Configurations, Each Site and Database on its own Production Server

In this configuration, each production server has its own database plus the site files. As an alternative, you could have a separate

server for each production database, with all sites on one production server.

Development

Staging

www.mysite.com
product1.mysite.com
product2.mysite.com

Production

www.mysite.com   productl.mysite.com   product2.mysite.com
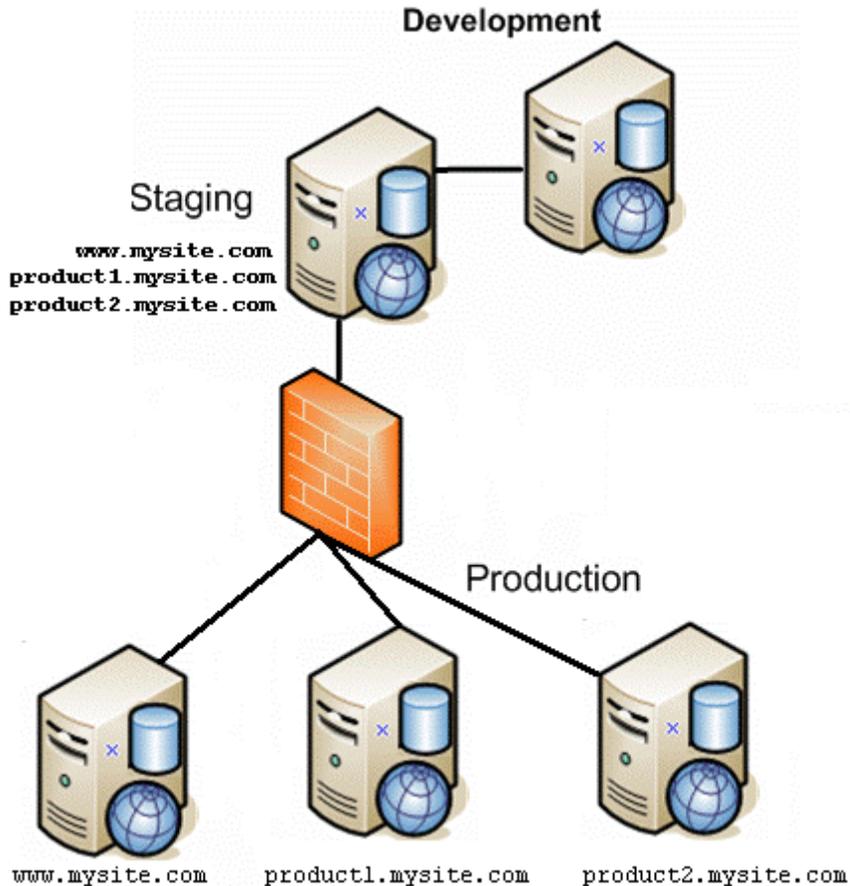
NOTE The above configuration also supports separate site and database servers.

To synchronize this type of configuration, set up several eSync profiles, one for each site.

- Three database and template profiles
- Three Workarea profiles

The Server Number

Every server in a sync configuration is assigned a unique number. The originating server is numbered 1, the first server with which it establishes a relationship is numbered 2, etc.

The server number is in the serverinfo.xml file, located in the
`c:\sync\inetpub\wwwroot\siteroot` folder, as shown below.

```
<SyncServerInfoList>
  <SyncServerInfo IsSyncRunning="true" MaxId="2" ServerNumber="1" IsMulti-SiteStaged="false">
    <ServerId>b0cccb5a-1d45-4262-8857-79f1333696dc</ServerId>
    <ServerUrl>http://localhost:8732/Ektron.Sync.Communication/
SyncCommunicationScheduleService.svc</ServerUrl>
    <ConnectionInfo>server=WS10080\SQLExpress;database=CMS400Developer;Integrated
Security=TRUE;user=;pwd=;</ConnectionInfo>
  </SyncServerInfo>
</SyncServerInfoList>
```

Unique ID Numbering

All **Ektron CMS400.NET** data is assigned a unique ID number to distinguish it from similar objects. Examples are content (see illustration below), folders, menus, users, etc.
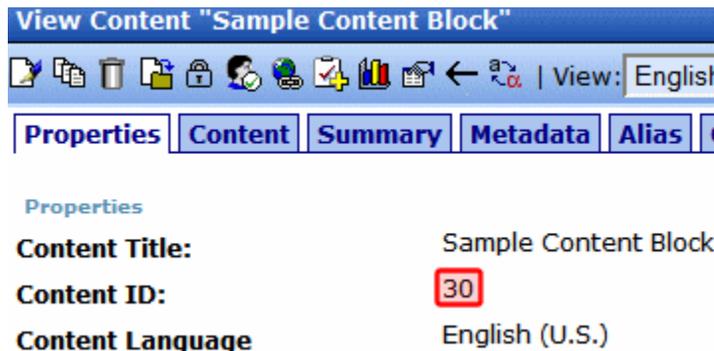
When you create a sync relationship, **Ektron CMS400.NET** applies to each server a new ID numbering range to ensure that, from then on, objects created on either server have a unique ID. This prevents collisions when synching between servers. For example, since membership users created on a production server have a different ID number range from those created on the staging server, eSync does not overwrite them.

To view a server's ID number range, open its serverinfo.xml file, located in the `c:\sync\inetpub\wwwroot\siteroot` folder, and check the MaxId value (highlighted in red below).

```
<SyncServerInfoList>
  <SyncServerInfo IsSyncRunning="true" MaxId="1" ServerNumber="1" IsMulti-SiteStaged="false">
    <ServerId>b0cccb5a-1d45-4262-8857-79f1333696dc</ServerId>
```

```
    <ServerUrl>http://localhost:8732/Ektron.Sync.Communication/
SyncCommunicationScheduleService.svc</ServerUrl>
    <ConnectionInfo>server=WS10080\SQLExpress;database=CMS400Developer;Integrated
Security=TRUE;user=;pwd=;</ConnectionInfo>
  </SyncServerInfo>
</SyncServerInfoList>
```

Multiply that number by 1 trillion to get the largest ID number which that server can assign. So for example, if $MaxId$ = 3, possible ID numbers range from 2,000,000,000,001 to 3,000,000,000,000.

eSync Moves Changes Only

eSync only copies data that changed since the last sync. So, for example, if your site has 100 menus but only 3 changed since the last sync, it only copies three. As a result, eSync is very quick.

To track changes to **Ektron CMS400.NET** data between syncs, eSync sets up a `c:\sync` folder structure that mirrors your site's Windows folder structure. This structure is created on each server when sync relationships are first established.
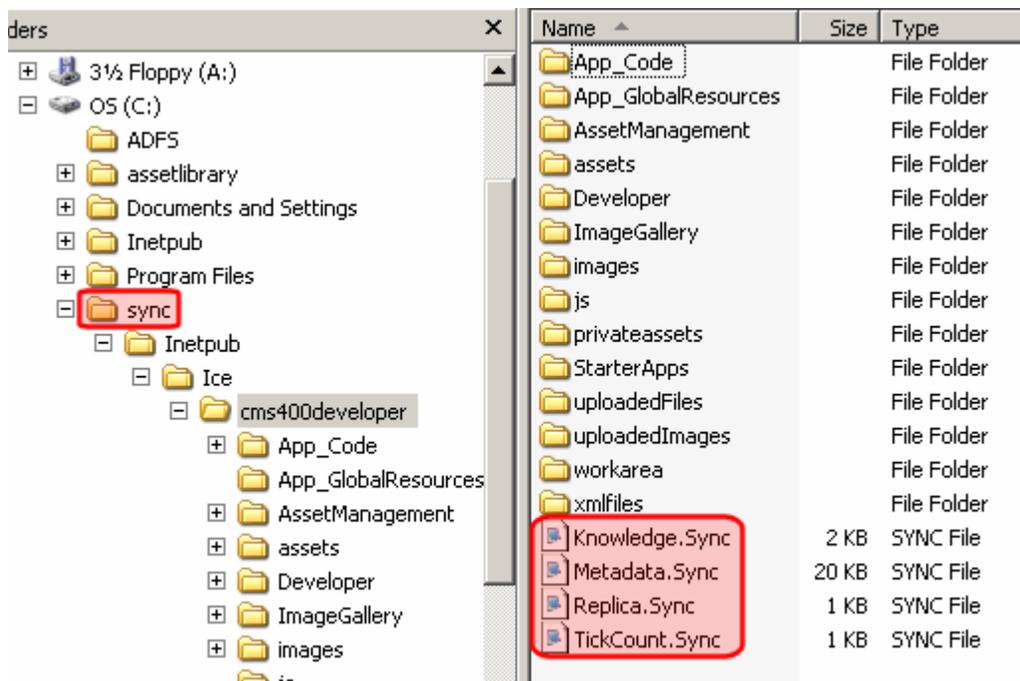
No **Ektron CMS400.NET** files reside in the `\sync` folders. Instead, each folder has four .sync files that monitor changes to the **Ektron CMS400.NET** files in the corresponding folder.

Managing eSync Security Certificates

Ektron CMS400.NET's eSync feature uses security certificates to ensure secure communication between servers. That is, all servers in an eSync configuration must have matching, encrypted security certificates in order to establish an eSync relationship.

NOTE   If your configuration features separate database servers, you do not need to install security certificates on them. You only need to install certificates on servers that host Ektron CMS400.Net.

This section explains how to create and replace security certificates on a server through the following topics.

The Client and Server Certificates

Before you can establish an eSync relationship between servers, each server must have its own (local) security certificate *and* one from every other server in the configuration, as shown below.
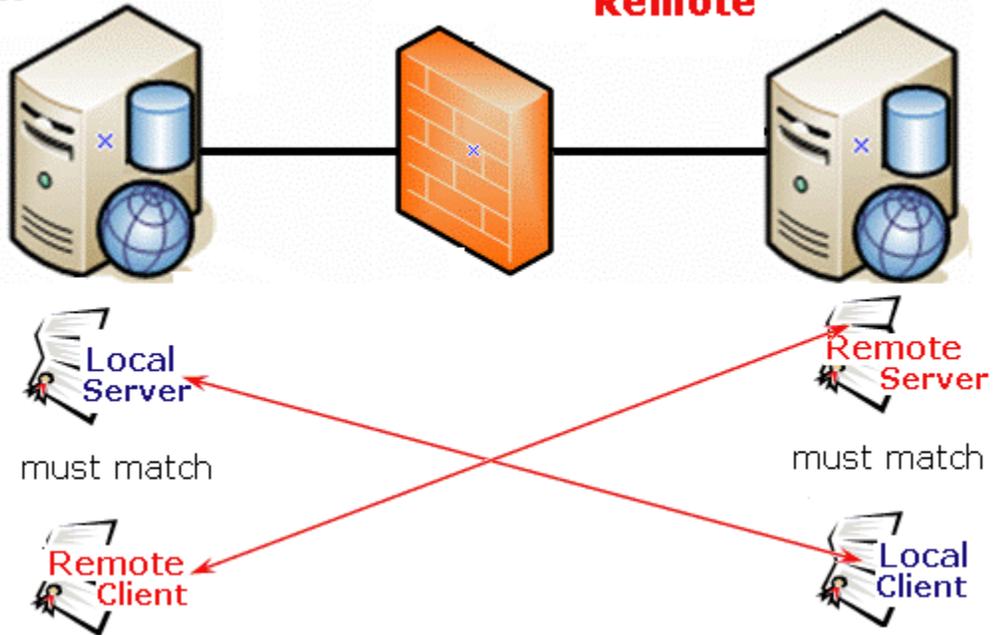
certificates connected by arrows must match for eSync to occur

As another example, if an eSync configuration consists of five servers, each server would require five security certificates: one local and four remote certificates.

Each server creates two sets of certificates: a server and a client set. Then, you copy the certificates to the other server. The local machine's *server* certificate must match a *client* certificate on the remote server, and vice versa.

Certificates are typically copied only when you first establish an eSync relationship between servers. After that, any eSync activity triggers a background check, and the user can proceed only if the certificates match.

Each certificate consists of the following files.

- Server certificate
  - *servername*_SyncServer.pfx
  - *servername*_SyncServer.pvk

- *servername*_SyncServer.cer
- Client certificate
  - *servername*_SyncClient.pfx
  - *servername*_SyncClient.pvk
  - *servername*_SyncClient.cer

The security certificates can apply to one site or all sites on a server. You determine this when installing them.

See Also: "Installing Security Certificates" on page 56

Installing Security Certificates

Prerequisite: Permission to copy and paste files between local and remote servers

To create and place eSync security certificates in the correct locations, follow these steps.

- "Step 1: Create Security Certificates on Your Local Server" on page 56
- "Step 2: Create Security Certificates on the Remote Server" on page 58
- "Step 3: Copy Local Client Certificate to Remote Server" on page 59
- "Step 4: Copy Remote Client Certificate to Local Server" on page 61
- "Step 5: Test the Security Certificates" on page 62

Step 1: Create Security Certificates on Your Local Server

1. At the end of the **Ektron CMS400.NET** installation, you are asked if you want to install eSync security certificates. If you agree, the following screen prompts you to enter information needed to create the certificates.

NOTE You can access this screen at any time screen by opening **Windows Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.
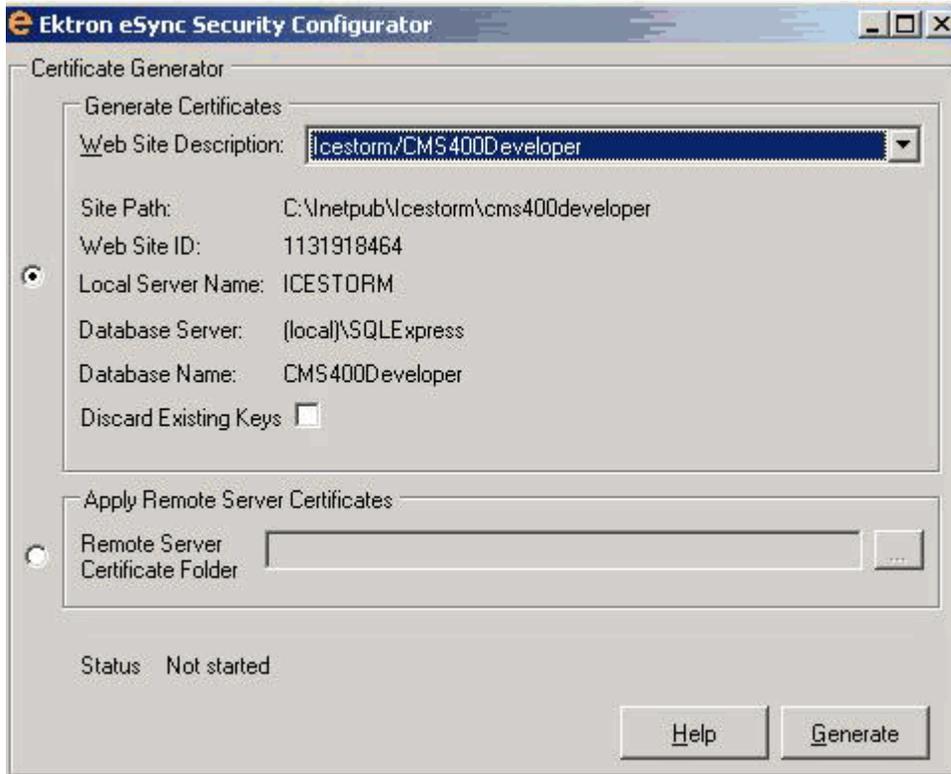
Use the following table to complete this screen.

Field	Description
Generate Certificates - Use this screen area to create security certificates that must be copied to a remote server with which you want to sync.	
Web Site Description	If more than one site is set up on this server, use the pull-down list to select the Web site for which you are installing security certificates. Or, click **All** to apply the certificates to all sites on this server.
Apply Remote Server Certificates - Use this screen area to apply eSync security certificates that were copied from a remote server to your local server. *See Also:* "Step 3: Copy Local Client Certificate to Remote Server" on page 59	

2. Click **Generate**.

3. Local security certificates are created and configured (illustrated below).
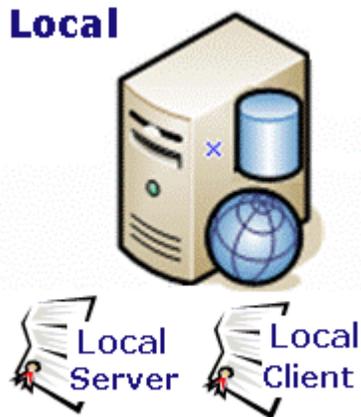
NOTE	Only click **OK** once. The status field at the bottom of the screen updates the status as it progresses. If you click **OK** more than once, you delay the certificates' creation.

Step 2: Create Security Certificates on the Remote Server

1. Sign on to remote server.

2. Generate security certificates for the remote server, following instructions in "Step 1: Create Security Certificates on Your Local Server" on page 56.

3. When you complete this procedure, remote client and server security certificates are created and configured (illustrated below).
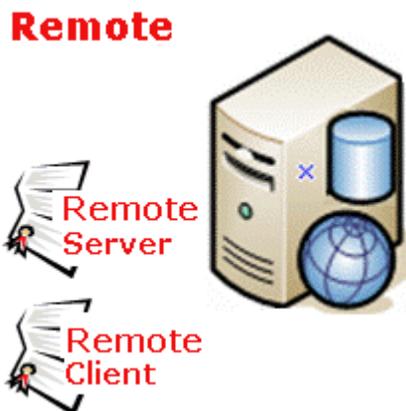
Step 3: Copy Local Client Certificate to Remote Server

Copy client certificate to other server
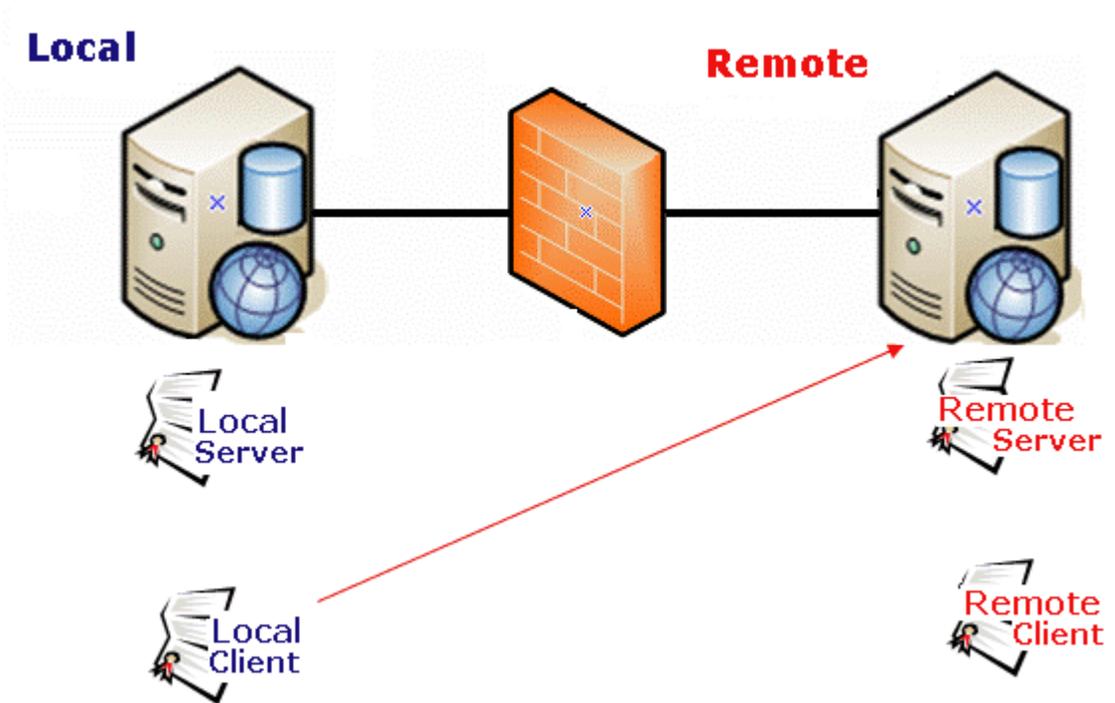
1. On the local server, open two Windows Explorer windows: one showing the local server's file system, and the other showing the remote server's file system.

2. In the remote server window, create a folder underneath the root folder. The folder name is not important.

WARNING! Do not place it under the web root folder, C:\inetpub\wwwroot.

3. In the local server window, open the following folder:
   C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityCon figurator.

4. Copy the following files.

   •*servername*_SyncClient.pfx

   •*servername*_SyncClient.pvk

•*servername*_SyncClient.cer

•*servername*_SyncServer.pfx

•*servername*_SyncServer.pvk

•*servername*_SyncServer.cer

NOTE These files were created when you completed the eSync Security Configurator Screen in Step 1.

5. Paste the files into the remote server folder that you created in Step 2. Make sure there are no other security files in the folder.

After the local server's security certificates are copied to the remote server, you need to register and move them to the correct folders. The Security Configurator screen does this.

6. On the remote server, open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

7. The security configurator screen appears.
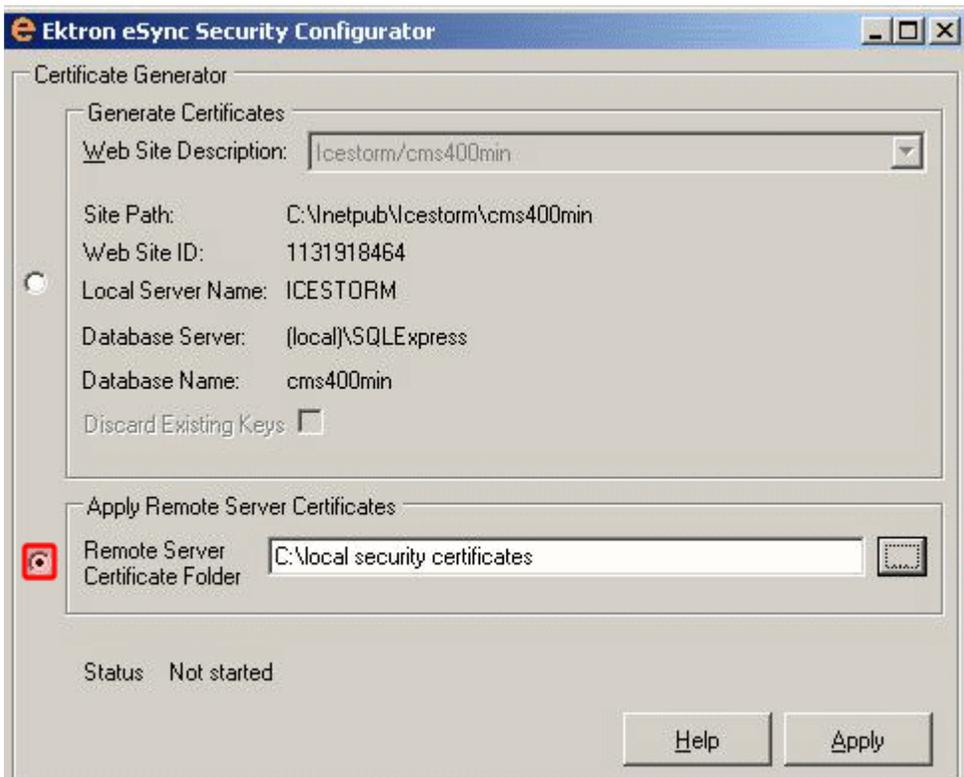
8. Click the **Apply Remote Server Certificates** button (circled above).

9. Click the browse button next to that field.

10. Browse to the folder to which you pasted the security certificates in Step 5.

11. Click the **Apply** button.

12. The utility copies the security certificates you pasted in Step 5 to the correct folder, and configures them for the remote server.

Step 4: Copy Remote Client Certificate to Local Server

Copy client certificate to other server
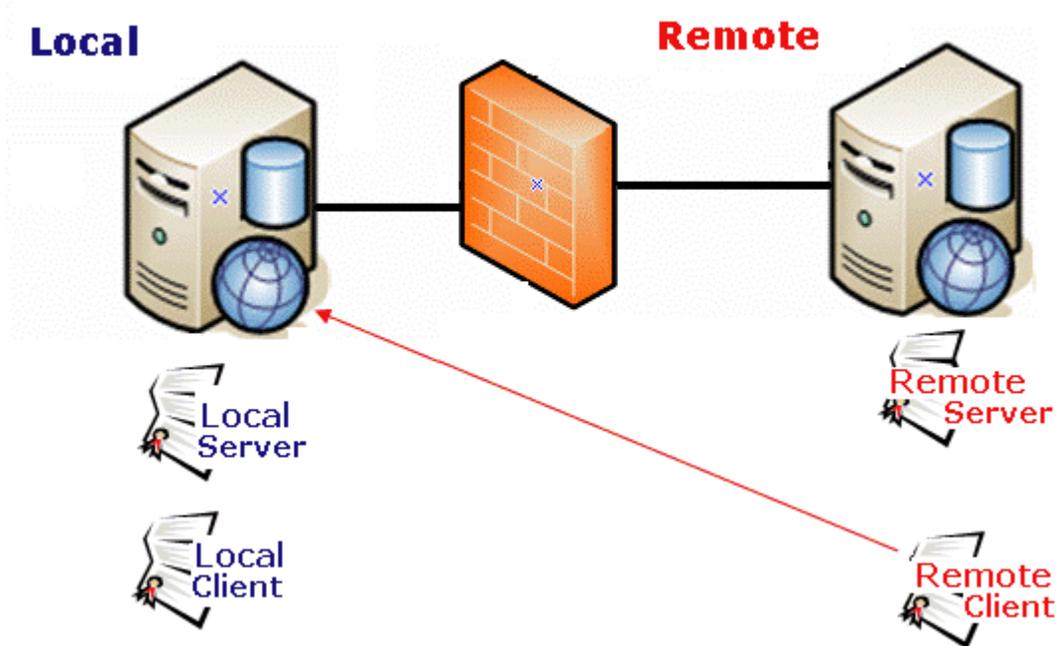
1. Sign on to the remote server.

2. Follow the steps described in "Step 3: Copy Local Client Certificate to Remote Server" on page 59, except substitute remote for local.

Step 5: Test the Security Certificates

1. From the local server, sign on to **Ektron CMS400.NET**.

2. In the Workarea, go to **Settings > Configuration > Synchronization**.

3. Click the plus sign (➕).

4. Insert the name of the **Remote Server**.

5. Select the security certificate you are testing.

6. Click **Connect**.

7. If the next screen appears, the security certificates are working properly.

Regenerating Security Certificates

Follow these steps to regenerate security certificates. You may need to do this if they stop working, or you are concerned about a security breach.

1. Access the eSync Security Configurator screen via **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

2. Use the **Web Site** pulldown field to select a site on your server, or choose **All** sites.

3. Click the **Discard Existing Keys** checkbox (circled below).
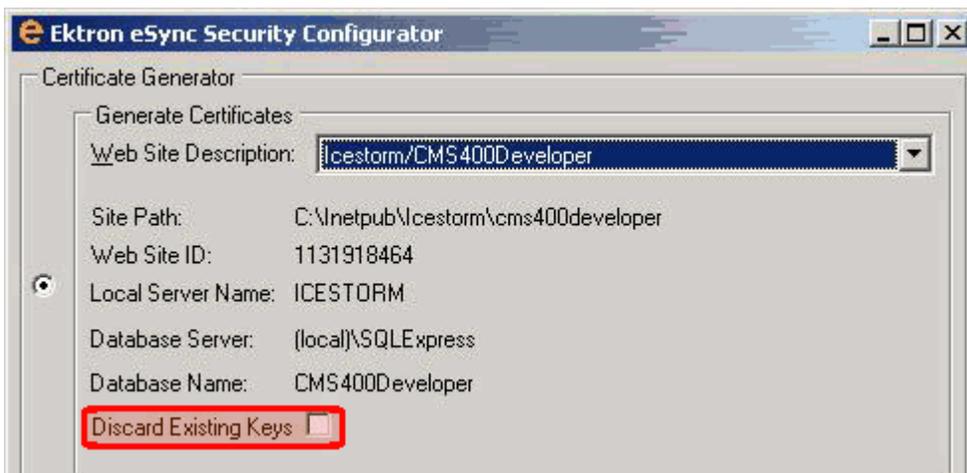
4. Click **Generate**.

---

5. The existing security certificates are removed from your local server.

6. Reopen the Security Configurator screen.

7. Choose the correct Web Site, verify the other settings, and click **Generate**. *See Also:* "Step 1: Create Security Certificates on Your Local Server" on page 56

8. This action generates new security certificates on your server.

9. Copy the new certificates to all other servers in the eSync configuration. This is explained in "Step 3: Copy Local Client Certificate to Remote Server" on page 59.

Troubleshooting Security Certificates

- "Could Not Connect Error" on page 63
- "No Endpoint Error" on page 65

Could Not Connect Error

When trying to connect to a remote server, after selecting a security certificate, you may see the following message.

Create Synchronization Server Relationship ⊠

Step 1 of 3: Connect to Remote Server

⚠ An exception occurred.
Could not connect to
http://localhost:8732/Ektron.Sync.Communication/SyncCommunicationScheduleService.svc.
TCP error code 10061: No connection could be made because the target
machine actively refused it 127.0.0.1:8732.

Possible causes include:

1. The remote server could not be found.
2. There are no CMS site(s) installed on the remote server.
3. The Ektron Windows Services 3.0 is not running on the remote server.
4. The local and remote server's clocks are not synchronized.
5. If this problem persists, please stop and restart the Ektron Windows Service (EktronWindowsService30).

Remote Server: ws10290

❸ Cancel   📇 Connect

Here are some steps to resolve the problem.

- Check the Windows Event Viewer > EktronL2 log for the error. If the service is hosted but already exists, stop then start the service (do not restart).

- The certificates may be corrupted. To resolve this, see "Regenerating Security Certificates" on page 62.

No Endpoint Error

Create Synchronization Server Relationship

Step 1 of 3: Connect to Remote Server

⚠ There was no endpoint listening at
http://localhost:8732/Ektron.Sync.Communication/SyncCommunicationScheduleService.svc
that could accept the message. This is often caused by an incorrect
address or SOAP action. See InnerException, if present, for more details.

Remote Server:

Choose Certificate: Loading. Please wait. ▼

❌ Cancel   🔧 Connect

The above error indicates that

- the remote site may not be on the same **Ektron CMS400.NET** version as the local site, *or*

- the Ektron Windows Service is not started

Using eSync to Initialize a New Site

Typically, before you begin using eSync, one server hosts an **Ektron CMS400.NET** Web site, and you want to bring other servers into the configuration. After the servers are synchronized, one will be the *staging server* (the one on which content is created or updated, then approved). Another server, *production*, hosts your live Web site.

IMPORTANT! The names of the site and all folders *must* match on both servers. This is because paths to images, xslt files, etc. refer to a site and its folders. If the servers' site and folder names do not match, the links break.

First, use eSync to initialize the new servers from the existing one. This process is described in "Setting Up eSync" on page 4. Afterwards, use eSync to periodically sync updated content, folders, users, menus, etc.

Setting up eSync Profiles

To minimize data entry, eSync saves your specifications about an individual eSync job in a sync *profile*. So, after you enter specifications the first time, just select the profile every subsequent time you want to sync. A profile contains information about the

- source and destination databases
- type of data being synched
- files to include/exclude
- direction
- schedule

Use the Add Synchronization Profile screen to create and update eSync profiles.

While following the steps in "Setting Up eSync" on page 4, you created a default database and a template profile. This section explains how to modify those profiles and create new ones.

To eSync an entire Web site, you need a minimum of two profiles: one for your `web site root/Workarea` folder, and another for all other site files.

To create a profile for

- your `Workarea` folder, click **Workarea Files** under **Items to Synchronize**.

- all other site files, click **Database/Resources**, **Templates** and **Bin** under **Items to Synchronize**.

The following table explains the kinds of files synched by each category.

Items to Synchronize	Type of data synched	Exceptions	For setup instructions, see
Database/ Resources	The database plus the following site root folders • assets • Privateassets • uploadedimages • uploadedfiles	See "Global File Type Exceptions" on page 69	"Setting up a Profile to Sync a Database and Assets" on page 70
Workarea Files	All files in the site's `Workarea` folder other than the exceptions	Files in these folders: • ewebeditpro • help • explorer • ewebdiff • documents • foundation • resources • sync *See Also:* "Global File Type Exceptions" on page 69	"Setting up a Profile to Sync Workarea Files" on page 72

Items to Synchronize	Type of data synched	Exceptions	For setup instructions, see
Templates	All files in your site root folder other than the exceptions Note: If you perform an initial sync of a recently-installed min site with your staging site, the min site's templates could overwrite templates on your staging site. This is because, when two templates have the same name, the most recently modified one overwrites the other. To avoid this, rename the only template installed with the min site (login.aspx) before performing the initial template sync. You should also rename login.aspx's supporting files, such as login.aspx.vb. Note: If you create a new Windows folder within the site root folder, sync it, then later delete the new folder and sync again, the new folder will not be deleted from the destination server.	Files in these folders: • workarea (covered by Workarea Files sync) • assets, privateassets, upload-edfiles, uploadedimages (covered by Database/Resources sync) • bin (covered by **Bin** checkbox, below) • app_webreferences • latestchanges • app_globalresources These files: • assetManagement.config • web.config See Also: "Global File Type Exceptions" on page 69 Note: If you create a folder within your site root and name any folders under that folder `assets`, `privateassets`, `uploadedfiles`, or `uploadedimages`, those folders are not synched.	"Setting up a Profile to Sync Template and Bin Files" on page 74
Bin	The bin folder		

You can also set up a profile that syncs Windows folders. *See Also:* "Synchronizing Windows Files" on page 78

Global File Type Exceptions

The following file types are *not* synched by default.

• .config files

- .txt files
- .sln files

However, you can add these file types to a sync profile via the **Include/Exclude Files** field. *See Also:* "At the Include/Exclude files field, include files not normally synched, or exclude files that are synched by default." on page 72

Setting up a Profile to Sync a Database and Assets

To set up a profile to sync an **Ektron CMS400.NET** database and its assets, follow these steps.

Prerequisite

- You created a Sync configuration and ran an initial sync. *See Also:* "Setting Up eSync" on page 4

1. Go to the **Settings > Configuration > Synchronization** screen.

   If you are eligible to add a profile to a configuration, the Add Sync Profile button appears, circled below.
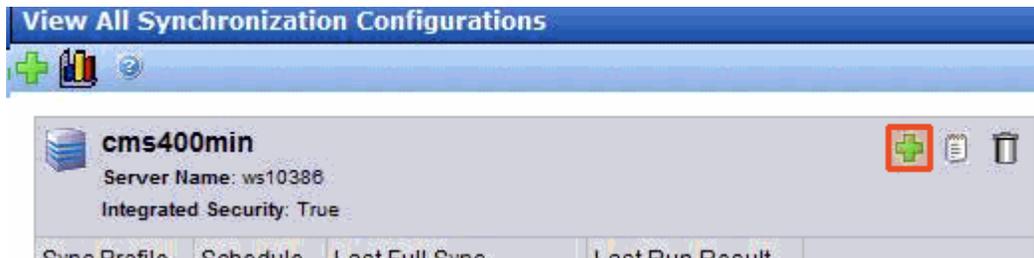
2. Click the Add Sync Profile button. The Add Synchronization Profile screen appears.

3. At the **Synchronization name** field, enter a name for this profile.

4. At the **Items to Synchronize** field, select **database and assets**.

5. At the **Synchronization Direction** field, select the direction of the data copy that will occur. Your choices are:

- **Bidirectional** (that is, both directions). Changed data on either server is updated on the other. If the same data (for example, a membership user profile) is updated on both servers, the conflict resolution policy determines the outcome. *See Also:* "Bidirectional Sync" on page 77; "Conflict Resolution Policy" on page 77

- **Upload** - the database and assets are copied from the local server (the one to which you signed on) to the remote server (specified at the Remote Site field above). Items on the remote server are overwritten.

- **Download** - the database and assets are copied from the remote server to the local server. Items on the local server are overwritten.

6. At the **Conflict Resolution Policy field**, decide what to do if Synchronization Direction is Bidirectional, and the data has changed on both servers since the last sync. Your choices are.

   •**Version on Remote Site Wins** - the remote version overwrites the local version

   •**Version on Local Site Wins** - the local version overwrites the remote version

7. If desired, select a schedule for when the sync will run automatically. The choices are

   •**None** - Don't set up a schedule. Run this sync profile as needed via the Sync Profile screen's **Start Now** button.

   •**One Time** - you specify a start time and date

   •**Hourly** - you specify a start date and time. eSync begins on the start date and time, then runs every hour at that time.

   •**Daily** - you specify a start time and date; this sync profile will run every day at this time

   •**Weekly** - you specify a start time, date, and day. After the start date, this sync profile will run this day every week at this time.

   •**Monthly** - you specify a start time and date (numbers 1 through 31). After the start date, this sync profile will run this day every month at this time.

IMPORTANT! You cannot schedule more than one sync to begin at the same time.

| NOTE | If you enter a date greater than 28, the sync will not run in a month that does not include that date. For example, if you enter 31, the sync will not run in February, April, June, September, and November. |

Setting up a Profile to Sync Workarea Files

Prerequisite

- You created a Sync configuration and ran an initial sync. *See Also:* "Setting Up eSync" on page 4

1. Go to the **Settings > Configuration > Synchronization** screen.

2. If you are eligible to add a profile to a configuration, the Add Sync Profile button appears on the right side, as circled below.

3. Click the Add Sync Profile button. The Add Synchronization Profile screen appears.

4. At the Synchronization name field, enter a name for this profile.

5. At the **Items to Synchronize** field, select **Workarea files**.

6. At the **Include/Exclude** files field, include files not normally synched, or exclude files that are synched by default.

   For example, .txt files are not normally included in a sync, but you want to copy several on your staging server to the production server. In this case, check **Include** and enter ***.txt** into the adjacent field (illustrated below). If you do, only files with that extension are synched.

As an example of the **Exclude** option, assume you do not want to sync Flash (.swf) files. If you check the **Exclude** button, and enter .swf into the text field, eSync ignores them.

NOTE   By default, eSync ignores .config and .txt files.

7. At the **Synchronization Direction** field, select the direction of the data copy that will occur. Your choices are:

- **Bidirectional** (that is, both directions). Changed data on either server is updated on the other. If the same data (for example, a membership user profile) is updated on both servers, the conflict resolution policy determines the outcome. *See Also:* "Bidirectional Sync" on page 77; "Conflict Resolution Policy" on page 77

NOTE   If you are using bidirectional sync and only one version was updated since the last sync, the updated version overwrites the unchanged version.

- **Upload** - if the file on the local server was modified more recently than the one on the remote server, the local file replaces the remote. Otherwise, nothing happens.

- **Download** - if the file on the remote server was modified more recently than the one on the local server, the remote file replaces the local. Otherwise, nothing happens.

8. At the **Conflict Resolution Policy field**, decide what to do if Synchronization Direction is Bidirectional, and the data has changed on both servers since the last sync. Your choices are.

   •**Version on Remote Site Wins** - the remote version overwrites the local version

   •**Version on Local Site Wins** - the local version overwrites the remote version

9. If desired, select a schedule for when the sync will run automatically. The choices are

    •**None** - Don't set up a schedule. Run this sync profile as needed via the Sync Profile screen's **Start Now** button.

    •**One Time** - you specify a start time and date

    •**Hourly** - you specify a start date and time. eSync begins on the start date and time, then runs every hour at that time.

    •**Daily** - you specify a start time and date; this sync profile will run every day at this time

    •**Weekly** - you specify a start time, date, and day. After the start date, this sync profile will run this day every week at this time.

    •**Monthly** - you specify a start time and date (numbers 1 through 31). After the start date, this sync profile will run this day every month at this time.

IMPORTANT!   You cannot schedule more than one sync to begin at the same time.

NOTE   While the following options let you schedule a sync profile, you can sync at any time by accessing the Sync Profile and clicking the Sync button ( ). *See Also:* "Running a Sync" on page 81

NOTE   If you enter a date greater than 28, the sync will not run in a month that does not include that date. For example, if you enter 31, the sync will not run in February, April, June, September, and November.

Setting up a Profile to Sync Template and Bin Files

Prerequisite

- You created an eSync configuration and ran an initial sync. *See Also:* "Setting Up eSync" on page 4

1. Go to the **Settings > Configuration > Synchronization** screen.

2. If you are eligible to add a profile to a configuration, the Add Sync Profile button appears, as shown below.
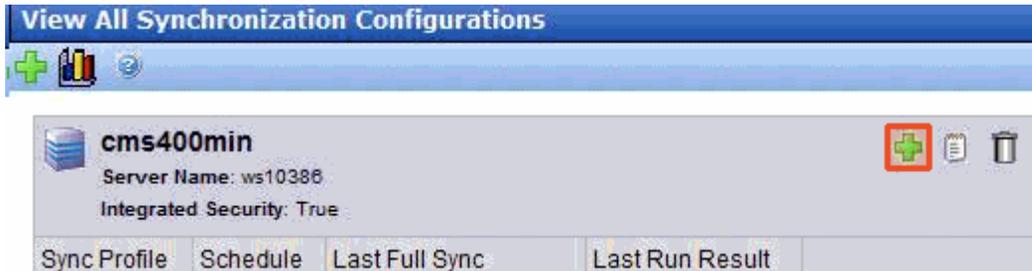
3. Click the Add Sync Profile button. The Add Synchronization Profile screen appears.

4. At the **Synchronization name** field, enter a name for this profile.

5. At the **Items to Synchronize** field, select **Templates** and **Bin**.

6. At the **Include/Exclude Files** field, include files not normally synched, or exclude files that are synched by default. For example, .txt files are not normally included in a sync, but you want to copy several on your staging server to the production server. In this case, check **Include** and enter ***.txt** into the adjacent field (illustrated below). If you do, only files with that extension are synched.

As an example of the **Exclude** option, assume you do not want to sync Flash (.swf) files. If you check the **Exclude** button, and enter .swf into the text field, eSync ignores them.

NOTE By default, eSync ignores .config and .txt files.

7. At the **Synchronization Direction** field, select the direction of the data copy that will occur. Your choices are:

•**Bidirectional** (that is, both directions). Changed data on either server is updated on the other. If the same data (for example, a membership user profile) is updated on both servers, the conflict resolution policy determines the outcome. *See Also:* "Bidirectional Sync" on page 77; "Conflict Resolution Policy" on page 77

NOTE	If you are using bidirectional sync and only one version was updated since the last sync, the updated version overwrites the unchanged version.

•**Upload** - if the file on the local server was modified more recently than the one on the remote server, the local file replaces the remote. Otherwise, nothing happens.

•**Download** - if the file on the remote server was modified more recently than the one on the local server, the remote file replaces the local. Otherwise, nothing happens.

8. At the **Conflict Resolution Policy field**, decide what to do if Synchronization Direction is Bidirectional, and the data has changed on both servers since the last sync. Your choices are.

•**Version on Remote Site Wins** - the remote version overwrites the local version

•**Version on Local Site Wins** - the local version overwrites the remote version

9. If desired, select a schedule for when the sync will run automatically. The choices are

•**None** - Don't set up a schedule. Run this sync profile as needed via the Sync Profile screen's **Start Now** button.

•**One Time** - you specify a start time and date

•**Hourly** - you specify a start date and time. eSync begins on the start date and time, then runs every hour at that time.

•**Daily** - you specify a start time and date; this sync profile will run every day at this time

•**Weekly** - you specify a start time, date, and day. After the start date, this sync profile will run this day every week at this time.

•**Monthly** - you specify a start time and date (numbers 1 through 31). After the start date, this sync profile will run this day every month at this time.

IMPORTANT!	You cannot schedule more than one sync to begin at the same time.

NOTE If you enter a date greater than 28, the sync will not run in a month that does not include that date. For example, if you enter 31, the sync will not run in February, April, June, September, and November.

Bidirectional Sync

Although most CMS data is created and updated on the staging server, certain types of data are collected on the production server. This information can be viewed and edited on the staging server. Here are some examples:

- membership users
- content ratings data
- forum and blog posts
- community folders

When you set up a sync profile to copy this kind of data (maintained in the database), you typically would choose **Bidirectional** as the direction. In this case, if a membership user creates or updates his profile on the production server, those changes are transmitted to staging. On the other hand, if your administrator needs to change that membership user's information, the next eSync transfers that from staging to production.

If changes are made to the same file on both servers since the last sync, your conflict resolution policy determines which data is saved. *See Also:* "Conflict Resolution Policy" on page 77

NOTE The first time you run a sync for templates or Workarea files, the sync is bidirectional, regardless of the direction you specify on the Synchronization Direction screen.

Conflict Resolution Policy

If you are using bidirectional synchronization (*See Also:* "Bidirectional Sync" on page 77), and the same item changed on both servers since the last sync, eSync must decide which version should be kept, and which version overwritten.

Use the **Conflict Resolution Policy** field to determine which version ends up on both servers after synchronization. The following choices are available.

- **Version on Remote Site Wins** - the remote version overwrites the local version
- **Version on Local Site Wins** - the local version overwrites the remote version

Synchronizing Windows Files

As an alternative to selecting a type of data to sync (using the **File types** radio button), you can sync individual Windows files. For example, you updated a few template files and their related .css files on the staging server, and now want to update the production server without moving everything else.

Unlike the full sync, you cannot schedule a Windows file sync. Instead, you select files then sync immediately.

Like the profile sync, the local file replaces the corresponding remote one *only if* the local file was modified more recently than the one on the remote server. Otherwise, nothing happens.

To synchronize Windows files, follow these steps.

1. Create a sync configuration between the two servers whose files you want to sync. See "Setting Up eSync" on page 4.
2. From the View All Synchronization Configurations screen, click the **Add Sync Profile** button (circled below).

3. Complete the fields on the screen except for **Schedule**, which the file sync ignores. See ”Setting up a Profile to Sync Workarea Files” on page 72.

4. Save the profile.

5. From the View All Synchronization Configurations screen, click the profile then the Synchronize files button ( ).

6. All folders in your **Ektron CMS400.NET** site root folder appear. Open folders as needed, and check all files to be synched.

NOTE   If you create a new folder within the site root folder, sync it, then later delete the new folder and sync again, the new folder will not be deleted from the destination server.

7. Click the Sync now button ( ).

8. A dialog tracks the sync's progress, and notifies you when it is completed.
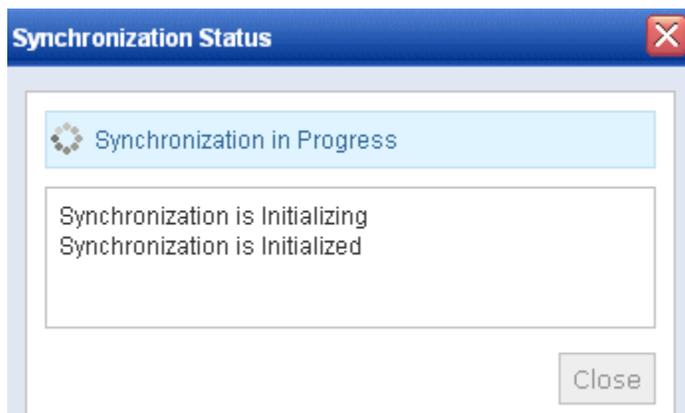
Optional Steps before Running a Sync

You may want to adjust the web.config and db.config settings before running a Sync. The following topics explain eSync features that you control via the .config files.

- "Content and Folder Sync Options" on page 94
- "Using eSync with Web Alerts" on page 114
- "Using eSync with eCommerce" on page 115
- "Force Initial Sync" on page 83
- "Backing up the Destination Server During an eSync" on page 85
- "Previewing a Sync" on page 80

Previewing a Sync

After creating a profile based on a *database* sync (as explained in "Setting up eSync Profiles" on page 66), you can preview the content that the sync will copy before launching it. Use this list to verify that the sync's results will match your expectations before beginning to sync.

To preview a sync profile, go to the View All Synchronization Configurations screen, find the profile, and click the preview button (![preview button icon]) (circled below).

The preview screen lists information about local (upload) and remote (download) changes that will occur the next time you sync that profile.

Synchronization Preview

Local Changes[Table:Content]:

ID	Language	Title	Status	FolderId	EditorLastName	EditorFirstName	Edit Date
1042	1033	bob1	A	366	Administrator	Application	7/22/2009 10:43:03 AM

Remote Changes[Table:Content]:
No Items to preview

Running a Sync

IMPORTANT! The names of the site and all folders *must* match on both servers. This is because paths to images, xslt files, etc. refer to a site and its folders. If the servers' site and folder names do not match, the links break.

WARNING! You cannot run two eSyncs simultaneously.

Prerequisites

- "eSync Requirements" on page 44
- You created an eSync configuration and profile. See "Setting Up eSync" on page 4.
- You are not signed on to a production server that is outside the firewall. This is because you cannot sync *from* a production server outside the firewall to other servers - you can only sync *to* this production server.

As mentioned in "Setting up eSync Profiles" on page 66, you can set up eSync to run on a schedule. However, you can also sync at any time. Follow these steps to sync a profile immediately.

1. Go to the **Settings > Configuration > Synchronization** screen.

2. If a profile is ready for you to sync, a sync button appears in the right column, as circled below.

3. Click the sync button ( ).

4. A screen monitors the sync's progress.

5. The screen indicates when the sync is complete.

NOTE   You can close the window and reopen it at any time by clicking the sync button ( ). If you do, the sync's current status appears.

WARNING!   If you performed a database sync and the site being synched uses URL aliasing, you must go to its URL Aliasing Configuration screen and click the Refresh button ( ) to update its aliasing information.

Force Initial Sync

Use the Force Initial Sync button (circled in red below) to reinitialize a server that was previously initialized.

View All Synchronization Configurations

4cms400developer76523 Server Name: Alpesh Integrated Security: True				
Sync Profile	Schedule	Last Full Sync	Last Run Result	
Default DB profile1		3/4/2009 6:50 PM	success	

Here's a scenario in which you would want to use Force Initial Sync.

1. You initialized a test server from your current **Ektron CMS400.NET** server.

2. You experimented on the test server by adding new content, deleting content, etc.

3. You no longer want the test server's database. Instead, you want to reinitialize the test server from the **Ektron CMS400.NET** server.

To accomplish step 3, use the Force Initial Sync button. The button only appears when all prerequisites are present. *See Also:* "Force Initial Sync Prerequisites" on page 83

TECHNICAL NOTE
The Force Initial Sync procedure ignores the following checks that are normally made prior to synching:
* the destination database is smaller than the source database
* the site has not been previously staged

Force Initial Sync Prerequisites

In order to use the Force Initial Sync feature, these conditions must exist.

- The server's web.config file's `ek_ForceReInit` property is set to `true`.

If the `ForceReInit` property is set to `false`, and you click the Force Initial Sync button, you are informed that you need to change the property to `true` if you want to force an initial sync.

- The site to which you are signed on is not part of a multi-site configuration.

- The server has only one sync server relationship.

- The server is the *destination* in the sync server relationship. In other words, the server is on the download side of the relationship.

The following image illustrates the last two conditions.

Conditions for Force Initial Sync button

Force Initial Sync

This server has only one sync server relationship, and is the destination in the sync server relationship.

So, the Force Initial Sync button will appear here.

This server has more than one sync server relationship.

So, the Force Initial Sync button cannot appear here.

This server has only one sync server relationship, but is not the destination in the sync server relationship.

So, the Force Initial Sync button cannot appear here.

Backing up the Destination Server During an eSync

You can create a backup of the destination server's database. If you do and problems occur during the sync, the database is automatically restored to its state prior to beginning the backup.

You can specify the backup to occur on the initial sync only, or every time you sync.

Setting up the Destination Database Backup

To set up the database backup, follow these steps.

1. Open
   `C:\Program Files\Ektron\EktronWindowsServcie30\dbsync.config`.

2. Find the following line (near the top).

```
<DatabaseRuntime name="EktronDbSync" logPath="C:\Program
Files\Ektron\EktronWindowsService30\Database\">
```

3. Add the following properties to that tag

- `device` - Following `device`, enter the path to the backup file. Ektron recommends using `C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup\`.

- `backupOption` - possible values

  - 1 - backup on initial sync only

  - 2 - backup every time you run a sync

4. The line should now look something like this:

```
<DatabaseRuntime name="EktronDbSync" device="C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\Backup\" backupOption="1" logPath="C:\Program
Files\Ektron\EktronWindowsService30\Database\">
```

5. Save the file.
6. Restart the Ektron Windows Service.
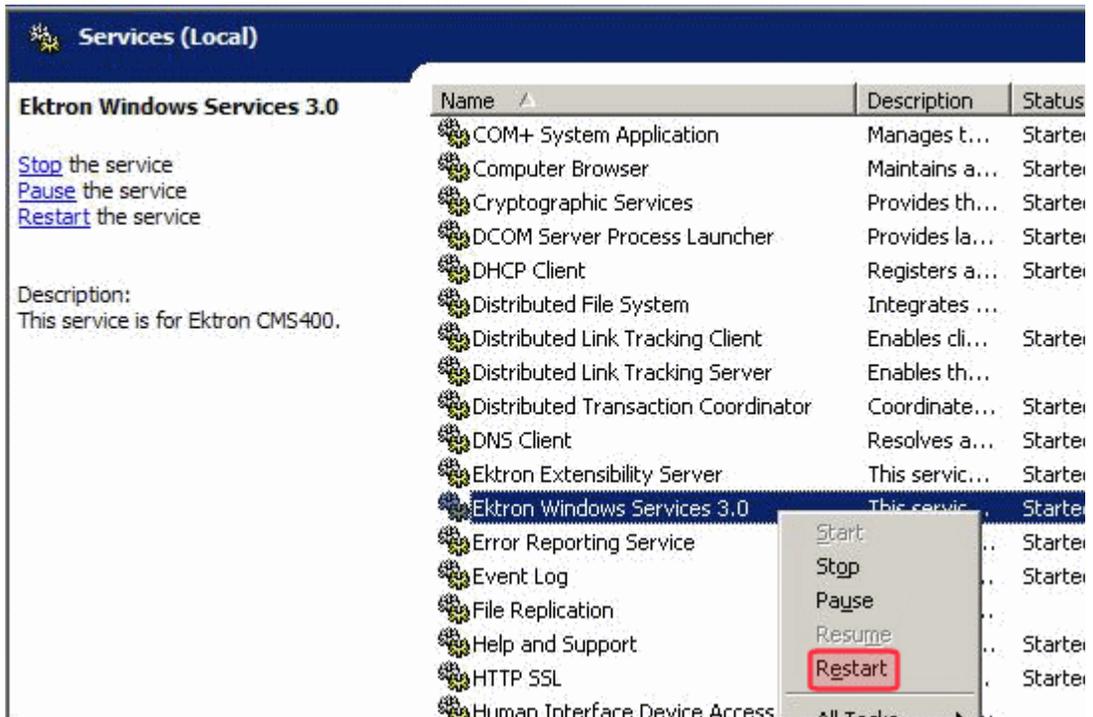
Once this is set up, a backup file is created either after the initial sync (if `backupOption="1"`) or after every sync (if `backupOption="2"`).

Here is the file's format:
```
[dbname][yyyy][mm][dd][hh][mm][ss][mmm].[product].bak
```

For example: `cms400min20090216075946765.esync.bak`.

   - See logs of previous sync activity *See Also:* "Sync Logs" on page 86

Sync Logs

eSync provides the following logs of previous sync activity.

- the most recent sync for any *profile* - see "Viewing a Log of a Profile's Most Recent Sync" on page 87

- the most recent sync for any *sync server relationship* - see "Viewing a Log of a Sync Server Relationship's Most Recent Sync" on page 88

- *all syncs* for a sync server relationship - see

Viewing a Log of a Profile's Most Recent Sync

You can view a log of any profile's most recent sync by clicking the log icon (🗒) next to that profile (circled below).

The Last Sync Status icon appears only for profiles that have been previously synched.

The sync log (shown below) has the same appearance as the log that appears upon completion of a sync.
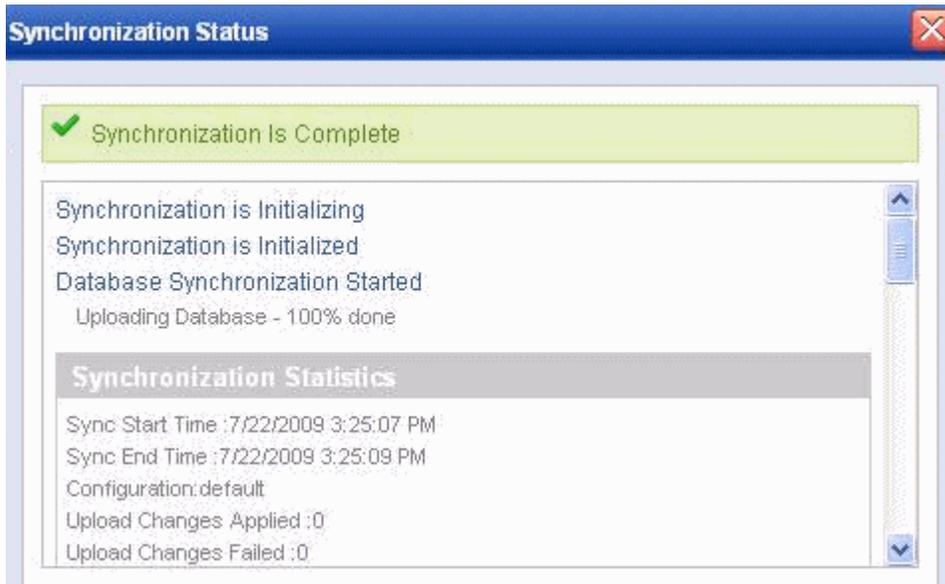
Viewing a Log of a Sync Server Relationship's Most Recent Sync

You can view a log of a Sync Server Relationship's most recent sync by clicking the log icon (▤) (circled below) in the header section of the screen.

The sync log (shown above) has the same appearance as the log that appears upon completion of a sync.

Viewing a Log of all Syncs for a Sync Server Relationship

The View All Synchronization Configurations screen provides a toolbar button (🔳) (circled below) that displays a chronological log of all syncs on your server, with the most recent one at the top.

View All Synchronization Configurations

➕ 🔳 ⓘ

🗄 **cms400min**
　　Server Name: ws10386
　　Integrated Security: True

➕ 📄

Sync Profile	Schedule	Last Full Sync	Last Run Result	
BiDirection		7/22/2009 10:38 AM	success	🔄 📄 🔍 📄
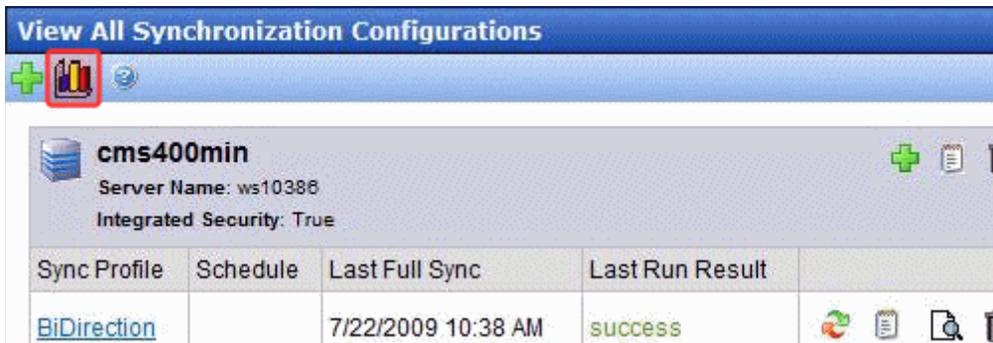
Synchronization Logs

←

Log Id	Type	Direction	Start Time	End Time	User Id	Applied	Skipped	Total	Status
7	FullSync	Download	7/22/2009 10:55:11 AM	7/22/2009 10:55:15 AM	1	47	0	47	✔
6	FullSync	Download	7/22/2009 10:52:27 AM	7/22/2009 10:52:28 AM	1	45	20	65	⚠
5	FullSync	Download	7/22/2009 10:48:57 AM	7/22/2009 10:48:57 AM	1	0	0	0	✔
4	FullSync	Download	7/22/2009 10:45:29 AM	7/22/2009 10:45:31 AM	1	65	0	65	✔
3	FullSync	Download	7/22/2009 10:38:15 AM	7/22/2009 10:38:43 AM	1	0	0	0	✔
2	FullSync	Upload	7/21/2009 10:14:23 PM	7/21/2009 10:14:29 PM	1	0	0	0	✔
1	FullStage	Upload	7/21/2009 9:52:54 PM	7/21/2009 9:52:54 PM	0	0	0	0	✔

You can click the icon in the **Status** column to view details about the sync.

If the column contains a green check mark, the sync was successful.

If the column contains a warning (⚠), the sync failed for some items. If you click the icon, a new screen appears listing causes for

the failure, as shown below. Ektron support staff can use this log to troubleshoot the problem.

Synchronization Logs

←

Type:	FullSync
Position:	Received
Start Time:	7/22/2009 10:52:27 AM
End Time:	7/22/2009 10:52:28 AM
Statistics:	Applied:45 Skipped:20 Total:65
Skipped Resons:	

TableName	Stage	ErrorMessage	RemoteChange	Loc
content	ApplyingInserts	The INSERT statement conflicted with the FOREIGN KEY constraint "content_FK00". The conflict occurred in database "CMS400Developer", table "dbo.content_folder_tbl", column 'folder_id'. The statement has been terminated.	content_id:2147483650 content_language:1033	
content_meta_tbl	ApplyingInserts	The INSERT statement conflicted with the FOREIGN KEY constraint "content_meta_tbl_FK00". The conflict occurred in database "CMS400Developer", table "dbo.content". The statement has been terminated.	meta_type_id:11 content_id:2147483650 content_language:1033	
content_meta_tbl	ApplyingInserts	The INSERT statement conflicted with the FOREIGN KEY constraint "content_meta_tbl_FK00". The conflict occurred in database "CMS400Developer", table "dbo.content". The statement has been terminated.	meta_type_id:12 content_id:2147483650 content_language:1033	
content_meta_tbl	ApplyingInserts	The INSERT statement conflicted with the FOREIGN KEY constraint "content_meta_tbl_FK00". The conflict occurred in database "CMS400Developer", table "dbo.content". The statement has been terminated.	meta_type_id:13 content_id:2147483650 content_language:1033	
content_meta_tbl	ApplyingInserts	The INSERT statement conflicted with the FOREIGN KEY constraint "content_meta_tbl_FK00". The conflict occurred in database "CMS400Developer", table "dbo content". The statement has been	meta_type_id:14 content_id:2147483650 content_language:1033	

Reviewing Resolved Collisions

To verify the accuracy of the data being synchronized, eSync checks for and resolves the following *matching* items

- user names

- folder names
- metadata definitions
- messages

For example, on the staging server, a user creates a folder directly under the root folder called Marketing, and a user on the production server does the same.

This problem only occurs if the matching items were both entered since the last synchronization.

Although matching items have different ID numbers, users cannot tell them apart. So, eSync appends the ID number to the more recently-created one to distinguish it from the other. For example, Marketing becomes Marketing11329.

The Review Resolved Collisions Button

To help track these changes, the View All Synchronization Configurations screen has a button (🖼️) that appears only after such a collision is resolved.

.
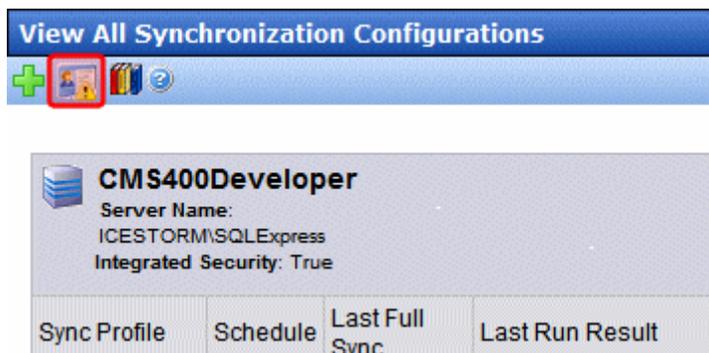
The server on which the button appears is explained below.

eSync Direction	Collision Resolution Information Appears on this Server
download	local
upload	remote

When you click this button, the Review Synchronization Collisions screen appears, showing the original and changed items.

The Review Synchronization Collisions Screen

This screen shows how collisions between matching items were resolved. *See Also:* "Reviewing Resolved Collisions" on page 90

Each type of resolved collision appears on its own tab.

After noting these changes, you can click the box to the left of each change, then click the **Mark Reviewed** button to remove it from the screen. Alternatively, you can click the box in the header row to select all.

The **Users** tab has an additional button, **Mark Reviewed and Email**. Use it to remove the user from the screen and send an email to him/her (using the address from the Add/Edit User screen's **E-Mail Address** field). The email text is below.

```
lbl sync collision email subject = Your username has been changed

lbl sync collision email body = For security purposes, your username
has been changed. Your new username is {0}.  You will need to use
this new username the next time you login.  Thank you.
```

NOTE You can change the text in the resource file. To learn about editing it, see "Procedure for Translating Workarea Strings" on page 929.

Synching Custom Database Tables

You can use eSync to synchronize a custom SQL database table. To do so, follow these steps.

1. Add a new, empty table to the target SQL database.

   The table *must* have a primary key and *cannot* use identity columns.

   Here is an example of a valid table.

```
Create table foo3(Id int not null primary key clustered, Id2 int not null, company nvarchar(50)
null)
```

   Here are two examples of invalid tables. The identity columns are highlighted in red.

```
create table foo1(Id int not null identity(1,1) primary key clustered,company nvarchar(50)
null)
```

```
create table foo2(Id int not null primary key clustered,Id2 bigint not null identity(1,1)
,comapny nvarchar(50) null
```

2. On the server that hosts the source database, navigate to `C:\Program Files\Ektron\EktronWindowsService30`.

3. Open the DbSync.config file.

4. Find the section that begins `<Release version="7.6.6`.

5. Within the 7.6.`<Groups>` tag, you see these names:

```
<add name="default" scope="ektron"
<add name="folder" scope="ektron"
<add name="content" scope="ektron"
<add name="folderrecursive" scope="ektron"
```

```
<add name="workflow" scope="workflow"
<add name="custom" scope="custom" schema=""/>
```

6. Enter your custom table schema within the last line's `schema=""` tag.

7. Save DbSync.config.

8. Sign on the source server.

9. Follow steps 1 through 7 on that server.

10. Restart the Ektron Windows Service on both servers.

11. Run a DB sync from local to remote (local win).

Content and Folder Sync Options

Members of the Administrators group or those assigned to the Synchronization Admin role can sync individual content items and **Ektron CMS400.NET** folders using context menu options, as shown below.

See Also:

- ”Prerequisites for Content/Folder Sync” on page 95
- ”Enabling the Content and Folder Level Sync” on page 96
- ”Using Content and Folder Level Sync” on page 97
- ”Synching a Content Item” on page 97
- ”Synching a Folder” on page 99

Prerequisites for Content/Folder Sync

See Also: ”eSync Requirements” on page 44

- You are a member of the Administrators group or assigned to the Synchronization Admin role
- Content/folder sync is enabled in web.config. See ”Enabling the Content and Folder Level Sync” on page 96.
- The server has a sync configuration whose initial sync has been run
- *Existing folders*: folder information has not been updated since the last database sync using the selected profile.

  If any folder property is changed (for example, a new metadata value is assigned), a database sync must be run before you can synchronize content in that folder and the folder itself.

  Furthermore, any child folder (and its content) that inherits that property from the parent folder can only be synchronized after the next database sync.

- N*ew folders*: a database sync must be run before you can synchronize content in the new folder and the folder itself
- C*ontent*: No new *tags* or *taxonomy categories* have been added since the last time the selected profile was synched. If either event has occurred, a database sync must be run before you can synchronize that content. You must also run a database sync for all other profiles that use those tags or taxonomy.

The following graphic illustrates adding new tags and a taxonomy category to content.
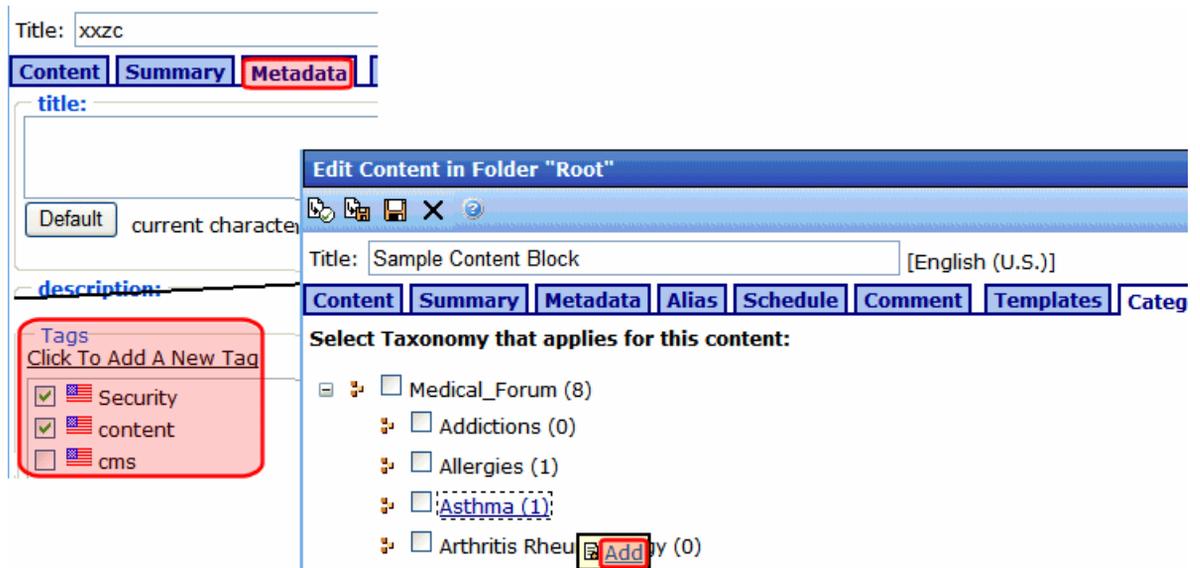
- For a folder sync, the content is not a blog or forum post. For a content sync, the content is not a forum post.

Enabling the Content and Folder Level Sync

To set up the content and folder Synchronize options, follow these steps.

1. Log on to the server on which content editors will sync content and folders.
2. Open Windows Explorer > your site root folder > the web.config file.
3. Go to the following area.

```
<eSyncSettings>

<!-- enables or disables eSync feature -->

<add key="eSyncEnabled" value="false"/>

</eSyncSettings>
```

4. Set the value of eSyncEnabled to true.
5. Save web.config.

Using Content and Folder Level Sync

You would typically use eSync in the following manner.

1. Create, update, and get content approved on a staging server.
2. Synchronize content blocks or an **Ektron CMS400.NET** folder with the production server.

The eSync feature is available if you see **Synchronize** menu options (shown below) on Approved content or a folder.

Synching a Content Item

Content sync copies a selected content item to another computer. The sync also copies library resources within that content, such as images and quicklinks.

Only Approved content can be synchronized. *See Also:* "Prerequisites for Content/Folder Sync" on page 95

To sync a content item, follow these steps.

1. Navigate to the content. You can
   - go to the Web page that displays it
   - sign into the **Ektron CMS400.NET** Workarea and
     - navigate to its folder, or
     - use the Search to find it (see below)
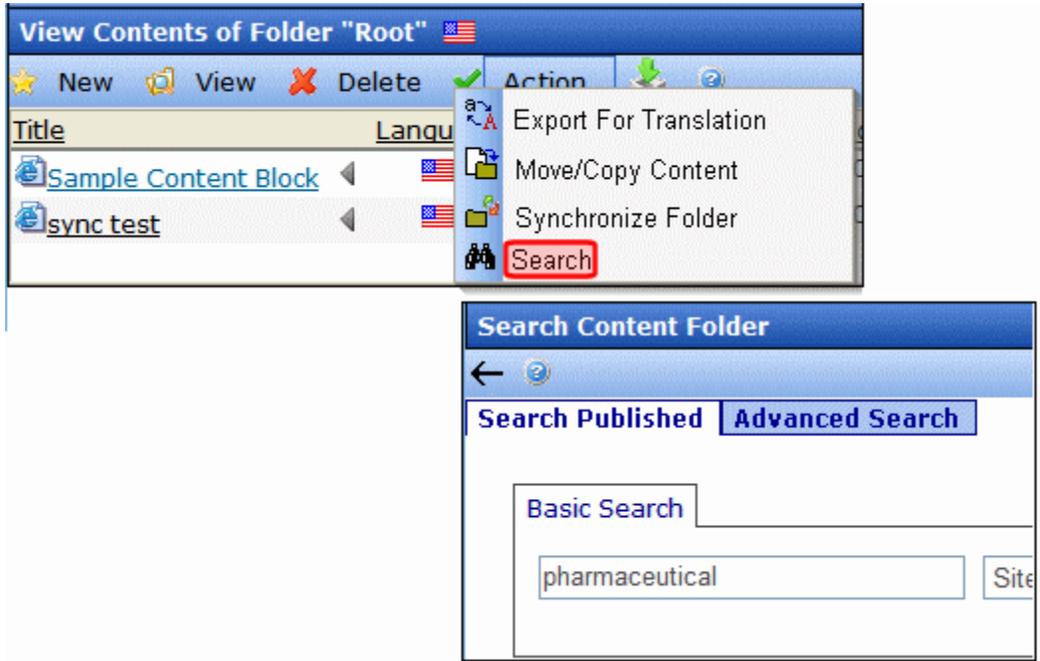
2. Click the arrow to the right of the content to see its dropdown menu.
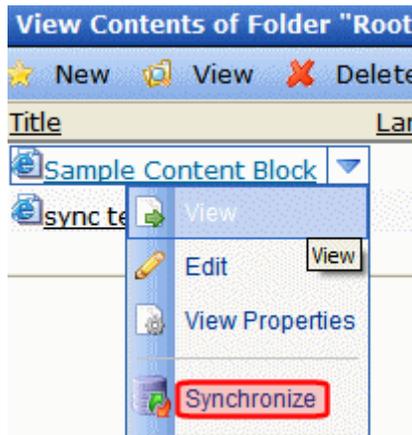
View Content "sync test"

Properties | **Content** | **Summary** | **Metadat**

3. Click **Synchronize**.

4. All relationships with at least one Database profile whose direction is **Upload** or **Bidirectional** appear. Select the appropriate one. *See Also:* "Setting up eSync Profiles" on page 66

Please select a relationship to use for this synchronization

CMS400Developer
Server Name: (local)\SQLExpress
Integrated Security: True

⬆ Default DB profile1

⬍ db2
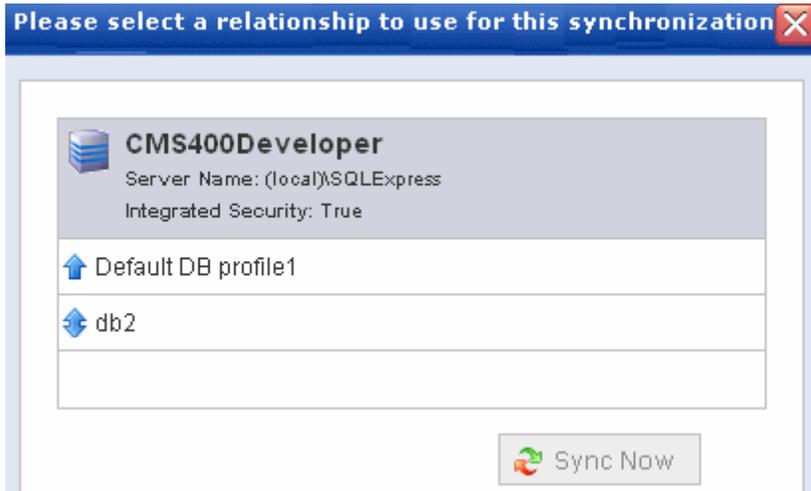
🔁 Sync Now

5. Click **Sync Now**.

6. The content is synchronized with the selected database.

Synching a Folder

The folder sync updates all content in a folder with another computer. It does not affect content in folders underneath the selected folder. *See Also:* "Prerequisites for Content/Folder Sync" on page 95

To sync a folder, follow these steps.

1. Navigate to the folder.

2. Click **Action > Synchronize Folder**.

3. A screen asks you to select a sync relationship.
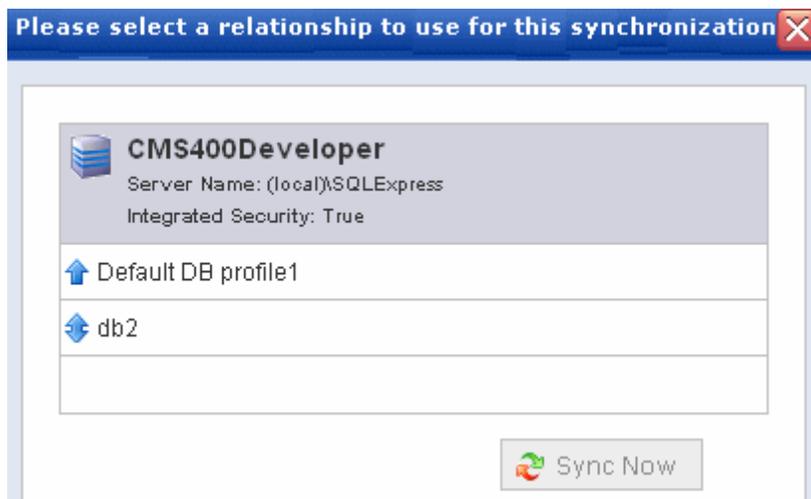
4. Click the **Start Sync** button.

5. All content in the folder is synched with the selected database.

eSync in a Load Balanced Environment

Ektron CMS400.NET supports a load-balanced environment, in which several servers share your Web site's processing load. This feature is explained in .

If your site uses load balancing, you can set up eSync such that, after one server in a load balance cluster is synchronized, the other servers will be automatically synchronized. Note that if a separate database server is outside the load balance cluster (as shown below), eSync only synchronizes documents and files used by the

search among the clustered servers. It does not touch the database.

A typical load balanced cluster is below.
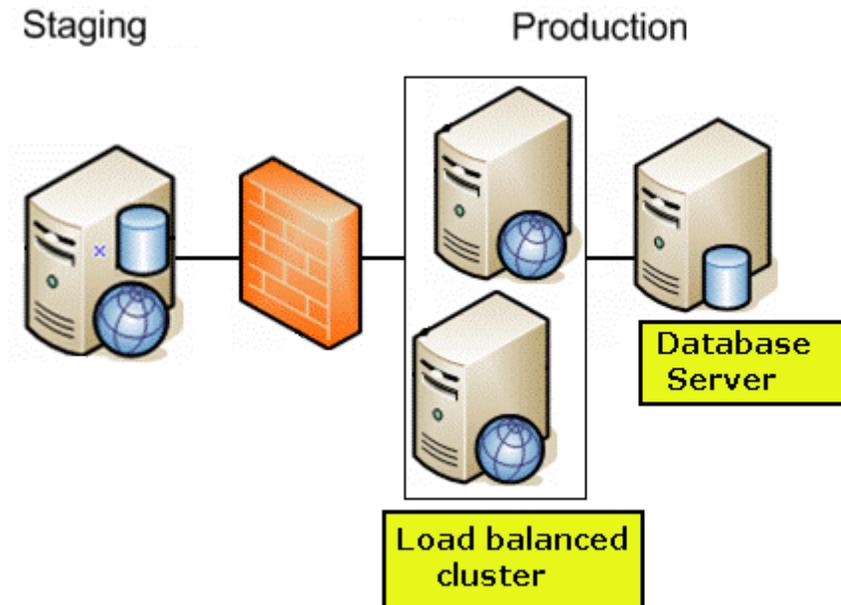
Prerequisites

- The connection string on all servers in the cluster match
- You *must* initiate eSync relationships, and the actual synchronization, from a staging server
- If your staging servers are clustered, you must remove one from the cluster before you can sync

Follow these steps to set up this capability.

-

Install a Min Site on Every Server in the Cluster

1. Upgrade each server to the same 7.6 version of **Ektron CMS400.NET**. If **Ektron CMS400.NET** is already installed to one server, you can install a minimum site on the other servers.

   To do this, run the **Ektron CMS400.NET** base installation file (CMS400Base7x.exe). For more information, see the **Ektron CMS400.NET** Setup manual.

2. If the current site with which you will sync is precompiled, you must also precompile all min sites.

Update the Assetmanagement.config File

1. Sign on to the first server in your load balanced cluster.

2. In the site root folder, open *site root*\assetmanagement.config.

3. Change the value of LoadBalanced to **1** and save.

4. Do this on every server in the cluster.

Update the Ektron Windows Service Config File

1. Sign on to the first server in your load balanced cluster.

2. Open C:\ProgramFiles\Ektron\EktronWindowsService30\Ektron.ASM.Ektron Services30.exe.Config.

3. Change the value of LoadBalanced to **1** and save.

4. Do this on every server in the cluster.

```
rsion= 1.0 ?>
ration>
<configSections>
        <section name="channelPoolSettings" type="Ektron.FileSync.Framewor
        <section name="loggingConfiguration" type="Ektron.ASM.Logging.Conf
        <section name="EktronDataConfiguration" type="Ektron.ASM.Data.Conf
        <section name="EktronServiceConfiguration" type="Ektron.ASM.Ektron
        <section name="exceptionHandling" type="Ektron.ASM.ExceptionHandli
        <section name="siteDbStrings" type="Ektron.FileSync.Common.DataCon
        <section name="syncSettings" type="Ektron.DbSync.Common.SyncConfig
        <!-- Add ektron.serviceModel section handler -->
        <section name="ektron.serviceModel"
                        type="Ektron.FileSync.Common.Sync.Section, Ektron
        <sectionGroup name="applicationSettings" type="System.Configuratio
                <section name="Ektron.ASM.EktronServices.Properties.Settin
        </sectionGroup>
        <section name="microsoft.web.services3" type="Microsoft.Web.Servic
        <sectionGroup name="userSettings" type="System.Configuration.UserS
                <section name="Ektron.ASM.EktronServices.Properties.Settin
        </sectionGroup>
</configSections>
<appSettings>
        <!-- Sets the time of the day when configuration information is re
        <!-- Config timer as hours:minutes:seconds AM:PM-->
        <add key="updateTime" value="11:59:00 PM"/>
        <add key="HttpServicePort" value="6079"/>
        <add key="PdfGenerator" value="http://pdf.ektron.com/pdfgenerators
        <add key="MetaDataUpdateTime" value="30"/>
        <add key="LoadBalanced" value="0"/>
<add key="LoadBalServerCount" value="2"/>
        <add key="GenerateAutoSummary" value="1"/>
        <add key="BestBetsFolder" value="bestbets"/>
        <add key="UsersFolder" value="users"/>
        <add key="UserGroupsFolder" value="communitygroups"/>
 key="ServerCommunicationKey" value=""/>
        <add key="defaultDbSyncClientBinding" value ="wsHttpBinding_ISyncS
```

5. **Stop** and then **Start** the Ektron Windows Service on every server in the cluster.
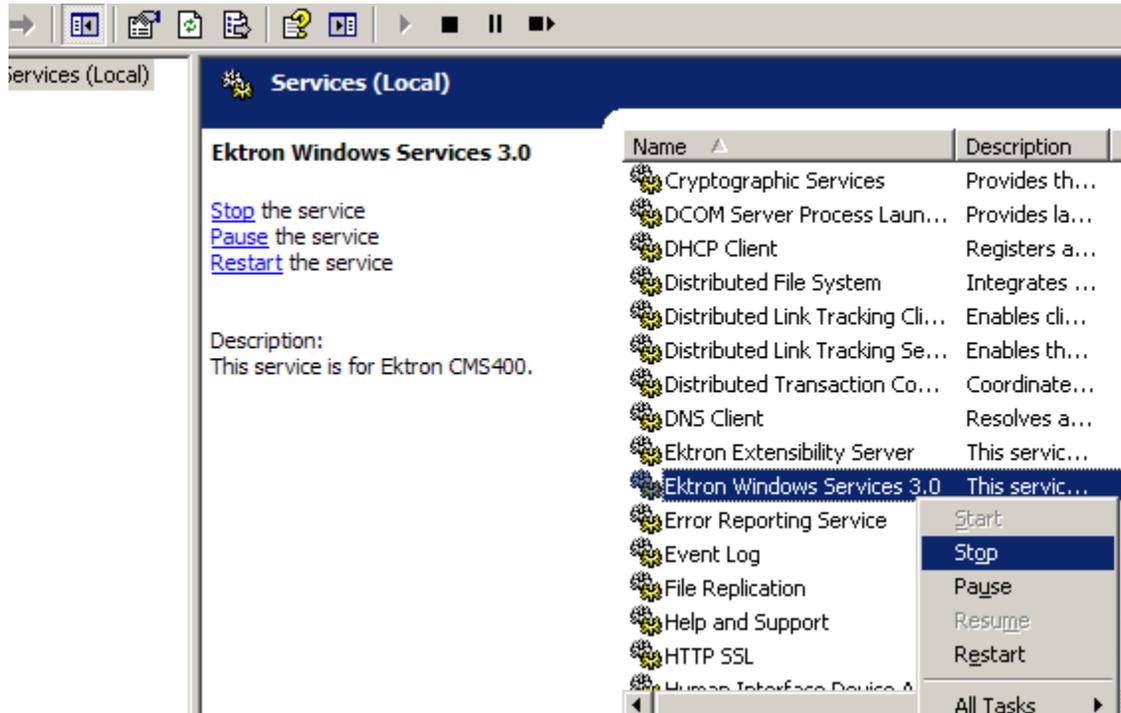
Create eSync Security Certificates for a Load Balanced Cluster

You should be familiar with eSync security certificates before beginning this procedure. If you are not, read the following section: "Managing eSync Security Certificates" on page 54.

Assume the load balance cluster has three servers: `mach1`, `mach2`, and `mach3`.

This procedure has two major parts.

- Generating Security Certificates on `mach1`.
- Applying Security Certificates to `mach2` and `mach3`

Generate Security Certificates on mach1

In the first nine steps, you copy `mach1`'s security certificate files, then paste them into the same folder, and rename them beginning with `mach2` and `mach3`.

1. Sign on to mach1 and generate security certificates. To do this, click the Windows **Start Button> All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

2. The security configurator screen appears.

3. See "Use the following table to complete this screen." on page 57.

4. Click **Generate Certificates** then click **OK**. This action creates security certificates on mach1.

5. On mach1, open the following folder:
   `C:\ProgramFiles\Ektron\CMS400V7x\Utilities\Software\SecurityCon figurator`.

6. Copy the following files.

   •*mach1*_SyncClient.pfx

   •*mach1*_SyncClient.pvk

   •*mach1*_SyncClient.cer

   •*mach1*_SyncServer.pfx

   •*mach1*_SyncServer.pvk

   •*mach1*_SyncServer.cer

7. Paste them into the same folder.

8. Rename each file according to the following pattern: mach2_*file name.* (This assumes the second server in your load balance cluster is mach2.*)*

9. Repeat steps 7 and 8 for every server in your load balance cluster. So the number of certificate files in the folder is 6 x the number of servers.

10. Copy all security certificate files to the following mach1 folder:
    `C:\Program Files\Ektron\EktronWindowsService30`.

11. Stop and start the Ektron Windows Service.

In the second part of this procedure, you

- open the Ektron.ASM.EktronServices30.exe.config file

- copy mach1's certificate's key value

- create new keys, and apply mach1's encoded value to them

So, when you finish, the affected part of the file looks like this:

```
<add key="mach1_SyncClient.cer" encodedValue="MIIB7TCCAVag....
<add key="mach2_SyncClient.cer" encodedValue="MIIB7TCCAVag....
<add key="mach3_SyncClient.cer" encodedValue="MIIB7TCCAVag....
```

NOTE The `encodedvalue` above is abbreviated to fit the page.

12. Open the following file:

```
C:\Program
Files\Ektron\CMS400v7x\Utilities\EWSUpdates\3.0\Ektron.ASM.EktronServices30.exe.config
```

13. Find the `<publickCertKeys>` element.

14. Following that line is the encoded certificate value for `mach1`, which looks something like this.

```
<add key="mach1_SyncClient.cer" encodedValue="MIIB7TCCAVag....
```

NOTE The `encodedvalue` above is abbreviated to fit the page.

15. Copy the entire `<add key>` element, including the value, into the Notepad file.

16. Open a text processing application like Notepad.

17. Into the Notepad file, paste the text you copied in Step 13 three times.

18. Change the second line's `add key` value to `mach2_SyncClient.cer`.

19. Change the third line's `add key` value to `mach3_SyncClient.cer`.

20. Copy the second and third lines of the Notepad file (the lines you just changed).

21. Return to the `Ektron.ASM.EktronServices30.exe.config` file.

22. Locate the `<add key>` element.

23. Place the cursor directly below that line.

24. Paste the text you copied in Step 18.

25. Save the `Ektron.ASM.EktronServices30.exe.config` file.

Apply Security Certificates to mach2 and mach3

1. On the local server, open two Windows Explorer windows: one showing the `mach1`'s file system, and the other showing the `mach2`'s file system.

2. In the `mach1` window, open `C:\Program Files\Ektron\EktronWindowsService30`.

3. Copy all security certificate files in that folder.

4. In the `mach2` window, open the following folder: `C:\Program Files\Ektron\EktronWindowsService30`.

5. Paste all security certificate files you copied in Step 3 to that folder.

6. Stop and start the Ektron Windows Service.

7. In the `mach2` window, create a folder underneath the root folder. Name it **Ektron Security Certificates**.

<table>
<tr><td>**WARNING!**</td><td>Do not place it under the web root folder, `C:\inetpub\wwwroot`.</td></tr>
</table>

8. Return to the `mach1` window, which is still open to the following folder: `C:\Program Files\Ektron\EktronWindowsService30`.

9. Copy the following files.

<table>
<tr><td>**WARNING!**</td><td>Copy - *do not move* - the files from the `mach1` folder.</td></tr>
</table>

- *mach2*_SyncClient.pfx
- *mach2*_SyncClient.pvk
- *mach2*_SyncClient.cer
- *mach2*_SyncServer.pfx
- *mach2*_SyncServer.pvk
- *mach2*_SyncServer.cer

10. Paste the files into the `mach2` folder you created in Step 6. Make sure there are no other security files in the folder.

Next, you need to register and move the files to the correct folders. The Security Configurator screen does this.

11. On `mach2`, open the security configurator screen using this path: **Windows Start Button > All programs > Ektron > CMS400 v7x > Utilities > Security Configurator**.

12. The security configurator screen appears.

Ektron eSync Security Configurator

Certificate Generator

Generate Certificates

Web Site Description: Icestorm/cms400min

Site Path: C:\Inetpub\Icestorm\cms400min
Web Site ID: 1131918464
Local Server Name: ICESTORM
Database Server: (local)\SQLExpress
Database Name: cms400min
Discard Existing Keys ☐

Apply Remote Server Certificates

Remote Server Certificate Folder: C:\local security certificates

Status   Not started

Help   Apply

13. Click the **Apply Remote Server Certificates** button (circled above).

14. Click the browse button next to that field.

15. Browse to the folder to which you pasted the security certificates in Step 9.

16. Click the **OK** button.

17. The utility copies the security certificates you pasted in Step 9 to the correct folder, and configures them for the remote server.

18. Repeat the above steps for every server in the load balance cluster. Note that the files to be copied will start with the server name you're currently setting up.

Setting Up and Running eSync

You set up and run eSync in a load balanced environment the same way you run it normally. See these sections for details.

NOTE If your first load balanced sync fails, you must run the Search Config Utility on the load balanced server in order for search to work. *See Also:* ”Automatically Recreating a Catalog” on page 396

Using eSync in a Multi-site Environment

If you want to use eSync in a multi-site environment, you *must* do so before the initial synchronization of a configuration. That is, you cannot set up a eSync configuration in a single-site environment and then later change to multi-site. You can set up a new configuration at any time.

See Also:

- ”Limitations on using eSync in a Multi-site Environment” on page 109
- ”Setting up eSync in a Multi-Site Environment” on page 110

Limitations on using eSync in a Multi-site Environment

- In a multi-site environment, you cannot create a staging site from a production site (as described in ”Using eSync to Initialize a New Site” on page 65). You must first create all sites on the staging server, then set up production sites with which they will sync.
- If you want to sync templates between sites in a multi-site configuration, you *must* sign on to the site that has the templates that need to be synched. For example, your configuration consists of a main site and two multi-sites (A & B) on staging and production. If you want to sync site A's templates, you must sign on to site A on the staging server, then use its Workarea screens to sync its templates to site A on the production server.
- When using eSync, each site in a multi-site configuration must be created separately in IIS. In other words, you cannot set up several sites under one IIS site and successfully use eSync.

Setting up eSync in a Multi-Site Environment

To set up eSync in a multi-site environment, follow these steps.

1. Set up all sites on the staging server, following the instructions in the **Ektron CMS400.NET** Administrator Manual section "Multi-Site Support".

2. Install an **Ektron CMS400.NET** min site on each production server that will host a site. To do this, run the **Ektron CMS400.NET** base installation file, version 7.6 or higher. (For more information, see the **Ektron CMS400.NET** Setup manual.)

3. Install security certificates between the staging server and all production servers. This procedure is described in "Managing eSync Security Certificates" on page 54.

4. Sign on to the staging server.

5. In the **Ektron CMS400.NET** Workarea, go to **Settings > Configuration > Synchronization**.

6. The View All Synchronization Configurations screen appears.

7. Click the **Add** button (➕).

8. The Create Synchronization Server Relationship screen appears.

NOTE If you see the following error, **The system cannot find the file specified**, you must set up security certificates. *See Also:* "Managing eSync Security Certificates" on page 54

Because the staging server is multi-site, the screen's staging server area has a **Site** pulldown field (circled below), which lets you select a site.
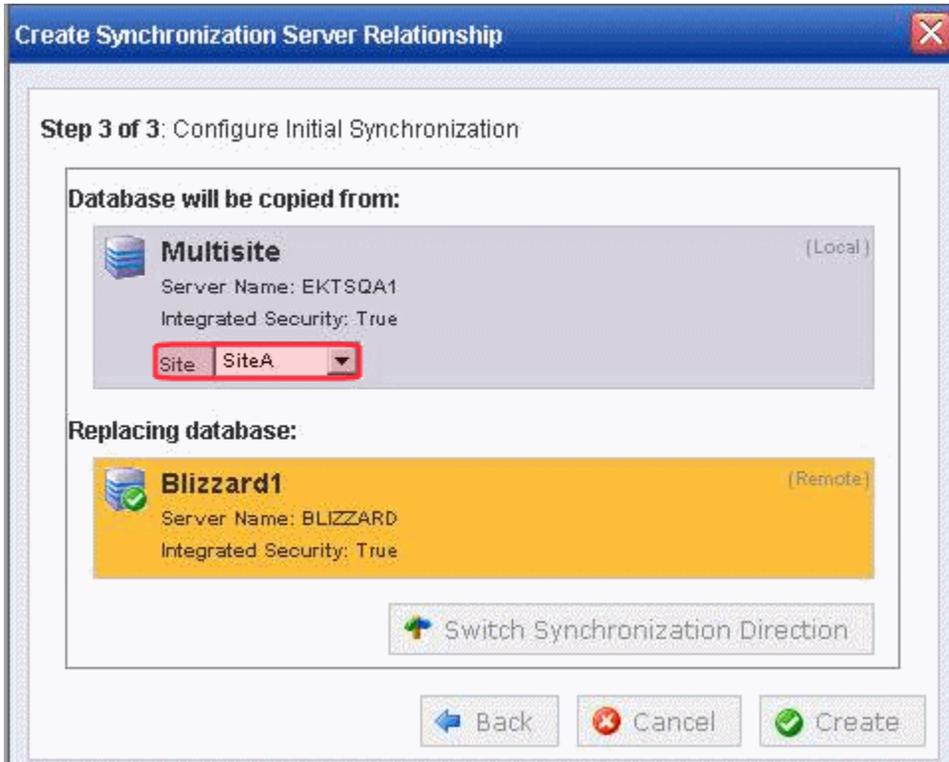
9. Use the following table to complete the screen.

WARNING! The first time you sync an **Ektron CMS400.NET** Web site, all of its data is overwritten. Make sure that no important information resides on the production server before beginning the first sync.

Field	Description
Remote Server	Select a production server by choosing the path to the site's physical location on the remote server.

Field	Description
Port Number	Use this field to indicate to the local service the port on which the remote service runs. By default, port 8732 appears. If you want to change the service port, you must • change it in this field • open the `C:\Program Files\Ektron\EktronWindowsService30\Ektron.ASM.Ektro nServices30.exe.config` file, and replace every occurrence of `localhost:8732` with `localhost:` followed by the new port number.
Choose Certificate	If you selected a single server above, its name appears here. Proceed to the next step. If you selected a domain or IP address above, click the dropdown arrow to view all servers whose client security certificates reside on this server. Then, select the server with which you want to set up an eSync relationship.

10. Click the **Connect** button.

    After you connect to the production server, all eligible databases on it appear. The top one has a green check mark, indicating it is selected by default.

11. Click the database with which you want to sync. When you do, a green check mark appears on it, and its background color changes.

12. Click **Next**.

13. A new screen appears, showing both servers and allowing you to change the direction of the initial database copy. Make sure you are copying from staging to production.

14. When you are satisfied, click **Create**. This sets up the server configuration but does not launch the initial sync.

15. The View All Synchronization Configurations screen appears with the new configuration.

    If you are ready to overwrite the production database with the staging one, click **Start Initial Sync**.

16. A confirmation screen appears.

17. A screen monitors the sync's progress.

18. The initial sync creates a default profile, which appears on the View All Synchronization Configurations screen.

19. Set up and launch sync profiles to sync workarea files and templates on the staging server with those on the production server. (This is described in "Setting up eSync Profiles" on page 66 and "Running a Sync" on page 81.) For synchronization direction, choose **Upload**.

Setting up Staging Multi-sites

By default, if you sign on to a staging server then insert library items (images, quicklinks, etc.) into content, the path to those items includes the production server.

For example, your server setup includes two multi-sites: sales.ektron.com and support.ektron.com.

NOTE The multi-site names are defined in the site's folder properties screen's **Production Domain** field, as described in "Step 3: Assign Multi-Site Capabilities in Ektron CMS400.NET" on page 1018.

So, any library links in the sales.ektron.com site's content look like this: http://sales.ektron.com/*template*?id=*id number*.

However, you may wish to change library links so they refer to the staging server. This would help you verify that the linked items exist on the staging server.

To change library links so they refer to your staging server, follow these steps.

1. In the **Ektron CMS400.NET** Workarea, go to **Settings > Configuration > Setup**.

2. Click the Edit button ( ).

3. Check the **This is a Staging Server** check box.

4. Save the screen.

5. Go to **Content > the staging site folder**.

6. Click **View > Folder Properties**.

7. Click the Edit button ( ).

8. Scroll down to the section labeled **Multi-Site Domain Configuration:**.

9. In the **Staging Domain** field, enter the URL of your staging server.

10. Save the screen.

From now on, when a user signs on to the staging server and works with library links, the links include the staging server instead of the production server.

Using eSync with Web Alerts

The Web Alert feature enables **Ektron CMS400.NET** to generate email for a list of registered users whenever new content appears on your site, or existing content is updated. For more information, see "Web Alert Feature" on page 1021.

In an eSync environment, you need to determine which servers send Web Alerts. For example, Web Alerts should probably not be generated when content is published on a *staging* server, but you would want them when content is published on a *production* server.

To determine if a server generates Web alerts, use the following property of each Web site's web.config file.

```
<add key="ek_DisableWebAlerts" ..... />
```

Set the property's value to **true** to suppress Web Alerts on a server.

Set the property's value to **false** to generate Web Alerts to on a server.

Also, the server clock on the download side of the eSync relationship must be exactly the same time as or slightly ahead of the clock on the sending server.

eSync and Integrated Search Folders

In a multi-site environment, Integrated Search folders on the source server are not synched with the destination server. *See Also:* "Using the Integrated Search" on page 434; "Setting Up eSync" on page 4

Using eSync with eCommerce

When using eSync with an eCommerce site, you will want to prevent orders from being processed on your staging server. This is to prevent orders from being processed twice.

For example, a customer on your production site purchases a product. If the staging server and production server are synced before the credit card is processed, the potential exists for the customer's credit card to be charged twice; once from the production server and again from the staging server.

To prevent orders from being processed on your staging server, edit your staging site's web.config file. Next, set the following property to true.

```
<add key="ek_ecom_OrderProcessingDisabled" value="true" />
```

Once the property is set to true, you cannot process or edit orders from the Workarea's View Order screen on the staging server. Also, if you try to create an order from the staging server's Web site, you receive the following message.

"*We're sorry, an error occurred while processing your request. Please try again later...*"

It is important to note that all other eSync functions still work properly. For example, when you create catalog entries on a staging server and perform a sync, the entries will be moved to the production server. This key only affects the processing of orders.

eSync Troubleshooting

Symptom	Cause	Possible Solutions
Synchronization has failed There was no endpoint listening at http://alphatest:8732/ Ektron.Sync.Communication/ SyncCommunicationScheduleServic e.svc that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details.	One server in the configuration cannot resolve the address of the other server. This may be due to security restrictions or because the Ektron Windows service is off.	• Modify the hostname of the other server so that it can be found. • Restart the Windows service • Reconfigure security
The identity check failed for the outgoing message. The expected identity is *xxx* for the *xxx* target endpoint.	Local site can't communicate with service	1. Load the security configuration utility: `C:\Program Files\Ektron\CMS400V7x \utilities\software\se curityconfigurator\sec urityconfigurator.exe`. 2. Select the web site that is failing. 3. Click **OK**. This recopies client certificates to the site and updates web.config to use them.
No viable CMS sites were found on the remote server specified. Please check the remote server and try again.	No **Ektron CMS400.NET** site exists on the remote server.	Install an **Ektron CMS400.NET** min site on the remote server.

What's New in this Release

The following new features are documented in this manual.

- "Using eSync with eCommerce" on page 115
- "Backing up the Destination Server During an eSync" on page 85
- "Force Initial Sync" on page 83
- Sync profiles can now include all site files other than the Workarea folder. A new check box lets you include the bin folder. See "Setting up eSync Profiles" on page 66.
- The Setting up eSync chapter has a new section. See "Scenario 1: Synching Two Sites on the Same Server" on page 4.
- Logs have been added to eSync to provide a record of all syncs. For each sync, you can view the user ID, and the number of applied, skipped, and total changes. See "Sync Logs" on page 86.
- **7.6.6 SP1** - You can change library links so they refer to the staging server, as opposed to the production server. This would help you verify that the linked items exist on the staging server. See "Setting up Staging Multi-sites" on page 113.
- **7.6.6 SP1** - You can preview a database sync prior to launching it. See "Previewing a Sync" on page 80.
- **7.6.6 SP1** - New icons on the View All Synchronization Configurations screen display information about the last sync for the configuration, or a specific profile. See "Sync Logs" on page 86.
- **7.6.6 SP1** - If a sync did not complete successfully, you can now click on that sync on the Sync Log to get a detailed report of the errors. See "Viewing a Log of all Syncs for a Sync Server Relationship" on page 89.