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What do you **want** your **website** to **do** ?

Ektron CMS400.NET Virtual Staging Server Manual

Version 7.5, Revision 1

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Setting up a Virtual Staging Server

NOTE This section explains how to move individual content items and assets between staging and production servers. If you want to move an entire Web site, use **Ektron CMS400.NET**'s Site Replication feature. It is documented in the **Ektron CMS400.NET** Site Replication Manual.

This section explains how to set up a virtual staging and production server configuration. As you can see below, it consists of two physical servers, with the production server outside **Ektron CMS400.NET**'s Load Balancing feature moves the content and assets from staging to production.
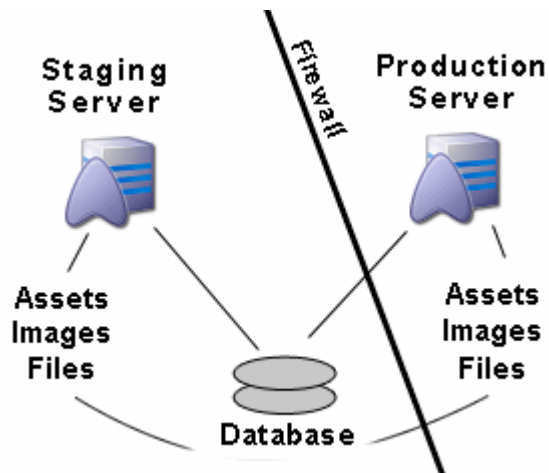
After you set this up, content contributors create, test, and modify content on the staging server. Preview Mode lets everyone view and modify proposed changes on the staging server. No editing is done on the Production server, which is typically located outside the firewall.

Ektron CMS400.NET lets you control the approval process. Once content is approved, the Load Balancing software moves it to the production server, where it is immediately available to site visitors.

Load Balancing pushes a copy of every content item and asset to the production server. However, content on production only becomes visible to site visitors after it is approved.

The advantages of using a Virtual Staging configuration are

- simplicity of maintaining content
- ability to preview before content is published
- instant publishing to production
- approvals to community data
- staging and production servers share one database
- as library items and assets are updated on the staging server, Load Balancing automatically pushes the changes to the production server

  At the same time, the following information collected on the production server is updated on the staging server:

  – new Blog and Discussion Forum comments
  – Poll/survey results
  – site analytic information
  – assets
  – content rating data

Setting up a Virtual Staging Configuration

Miscellaneous Considerations

- **Login Control** - For **Ektron CMS400.NET** users, editors and approvers, place a login control only on pages that reside on the staging server. This prevents the creation or editing of content on the production server.

  Only membership users should be allowed to log in to the production server.

- **Content Analytics** – disable this feature in the *staging* server's web.config file. (See "Enabling the Content Analytics Feature" in the **Ektron CMS400.NET** Administrator Manual "Enabling the Content Analytics Feature" on page 869.) If you do not, your usage statistics may be skewed.

- Configure **Web Alerts** on the production server only. When member users receive Web alerts, the link should point to the production server. See "Setting Up the Message Queue and Asynchronous Processor" in the **Ektron CMS400.NET** Administrator Manual "Setting Up the Message Queue and Asynchronous Processor" on page 66 .

- If you haven't already done so, set up **workflow permissions** for folders on the staging server. See "Setting Approval Chains" and "Setting Permissions" in the **Ektron CMS400.NET** Administrator Manual "Setting Approval Chains" on page 731 and "Setting Permissions" on page 721.

Set Up Instructions

Prerequisite:Ektron CMS400.NET Version 7.5 is installed on both servers

1. Install a minimal site on the staging server. During installation, create a database.

2. Install a minimal site on the production server. Do not create a database on the production server.

3. Set up database security that will allow the two servers to read and write to each other.

4. Open the web.config file for both sites.

   - in the staging server's web.config file, copy the section beginning and ending with `<connectionStrings>`

```
<connectionStrings>
    <!--FOR SQLSERVER-->
<add name="Ektron.DbConnection" providerName="System.Data.SqlClient"
connectionString="server=WS10080;database=virtual_test;Integrated Security=False;user=abc;pwd=xyz;" />
</connectionStrings>
```

   - in the production server's web.config file, replace the `<connectionStrings>` tag with the information copied from the staging server

   As a result, both sites reference the same database.

5. Set up library load balancing. See "Set Up Two Ektron CMS400.NET Web Sites" on page 4"Set Up Two Ektron CMS400.NET Web Sites" on page 114. This will ensure that, as items are added or changed in the library on the staging server, they are also added to the production server's library and vice versa.

6. Set up load balancing for your assets. See "Load Balancing Assets" on page 12"Load Balancing Assets" on page 123. This will ensure that, as assets are added or changed in **Ektron CMS400.NET** on the staging server, they are also updated on the production server and vice versa.

Set Up Two Ektron CMS400.NET Web Sites

The following diagram illustrates how to set up IIS consoles for load balancing two Ektron CMS400.NET Web servers.
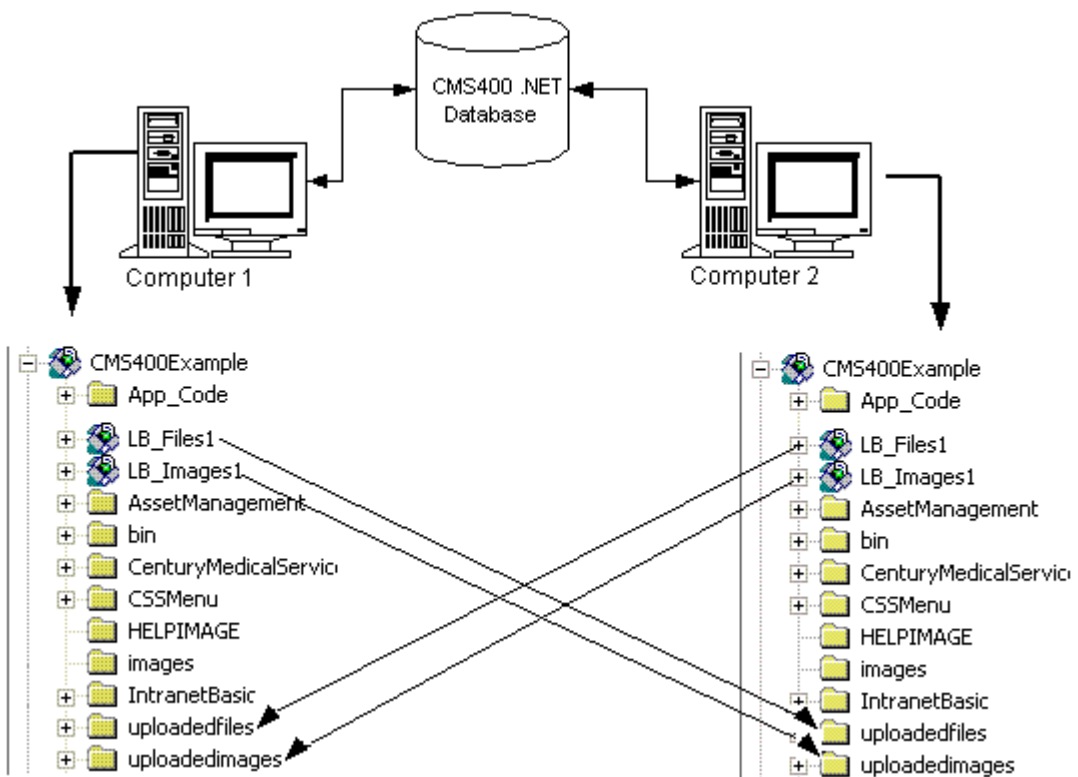
Both servers point to the same database, and two virtual directories are set up in each Web server's IIS console. To set this up, follow these steps.

1. Install the .exe file for Ektron CMS400.NET on each Web server.

2. Select one database as the master. Each Web site points to this database for content, users, and load balance paths.

3. By default, the `<connectionStrings>` element of the web.config file contains connection information to the sample database. Replace the sample values with your server, database name, and login information

Set Up Virtual Directories for Two Web Sites

Through Internet Information Services (IIS) on both Web servers, create virtual directories for all image or file folders used with your load balancing model. For our example, create the following virtual directories on both Web servers.

Virtual Directory	Points to
LB_Images1	UploadedImages folder installed on the second Ektron CMS400.NET Web server.
LB_Files1	UploadedFiles folder installed on the second Ektron CMS400.NET Web server.

These identical, virtual directories must exist in the IIS console for each Web server in your load balancing model.

Why Must Virtual Directory Names Be Identical?

Virtual directory names must be identical because load balance paths are stored in one database. IIS resolves the path to the virtual directory stored on the server being used.

For example, a load balance path is called `LB_Images1`. Ektron CMS400.NET talks to IIS and resolves the path for the virtual directory `LB_Images1`, which is `\\{Computer1}\UploadedImages`.

If the Web site is accessed from another Web server, the load balance path `LB_Images1` points to the physical directory `\\{Computer2}\UploadedImages`.

| **IMPORTANT!**	For load balancing to work correctly, the virtual directories on each Web server must be identical.

Creating a Virtual Directory

This section explains how to create a virtual directory in IIS. Follow this procedure for all servers being load balanced.

1. Open Windows Explorer and navigate to your Web site's `uploadedimages` and `uploadedfiles` folders.

2. Select each folder, right click the mouse, and select **Properties**.

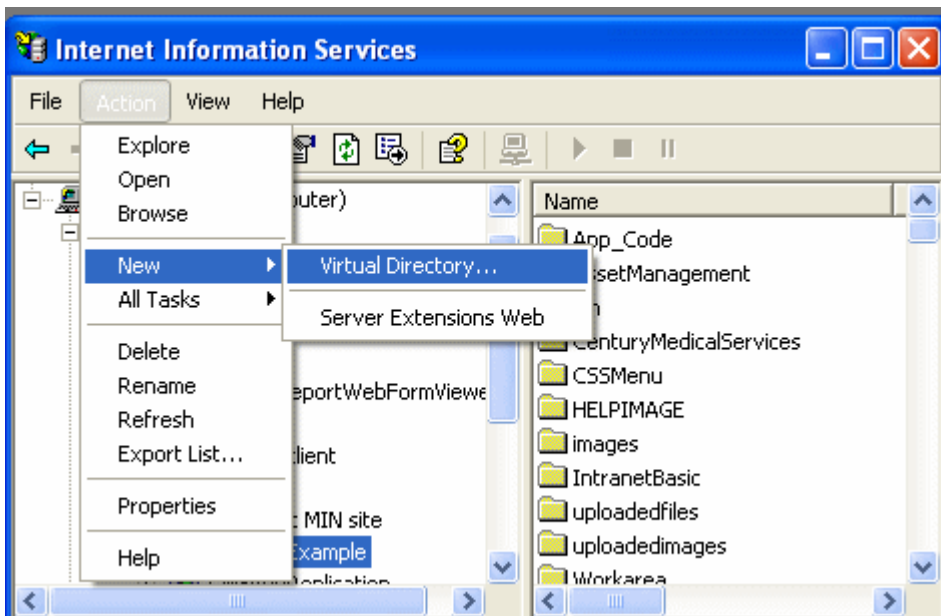3. Click the **Sharing** tab, select **Share this folder**, and press **OK**.
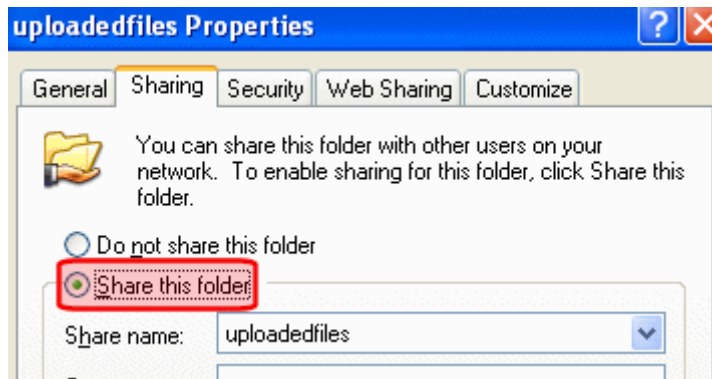
4. Access your IIS management console.
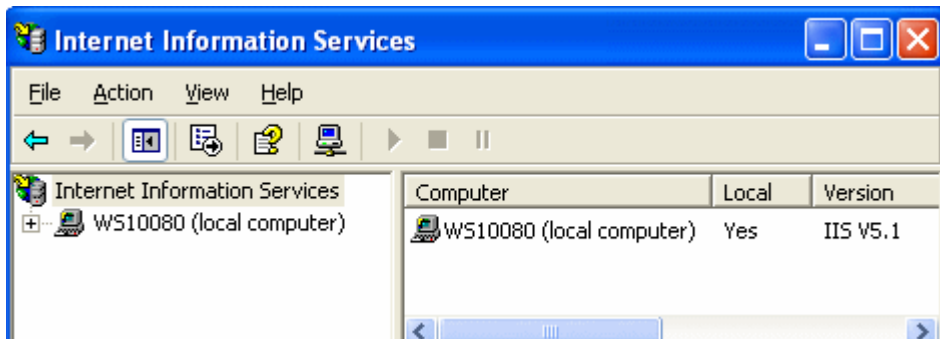
5. In the folder tree on the left side of the console, navigate to the Ektron CMS400.NET Site root folder. In this example, it is **CMS400Demo**.
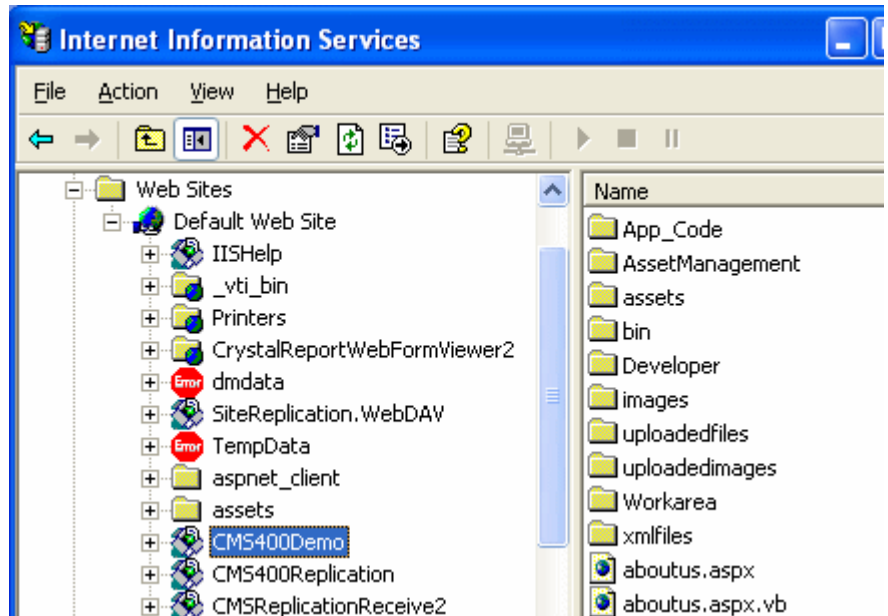
6. In the toolbar at the top of the screen, go to
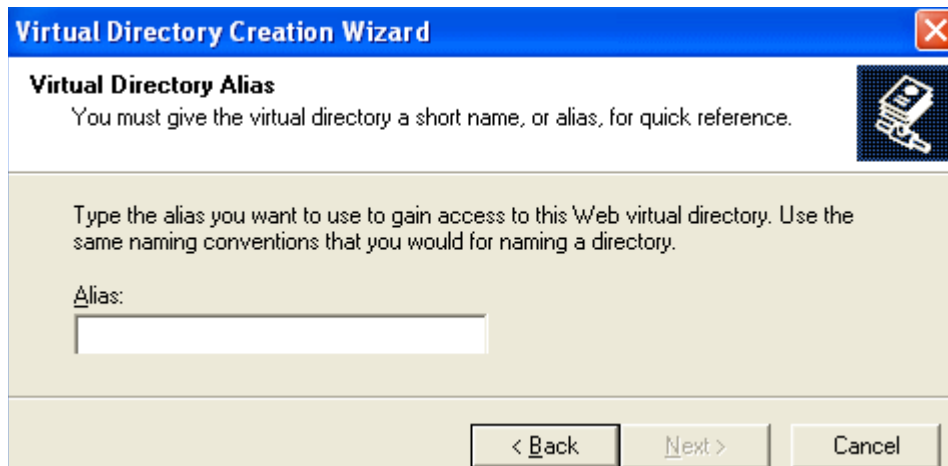   **Action > New > Virtual Directory.**

7.   The Virtual Directory Creation Wizard is displayed.

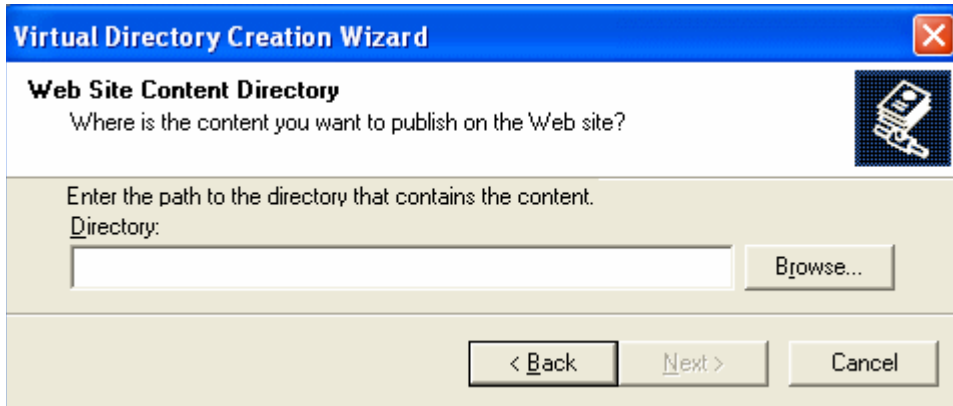8.   Click **Next** to proceed.

9.   The Virtual Directory Alias screen is displayed.

10. Enter an alias for the virtual directory. For example,
     LB_Images1. You will use this name to reference the virtual
     directory in Ektron CMS400.NET.

11. Click **Next**.

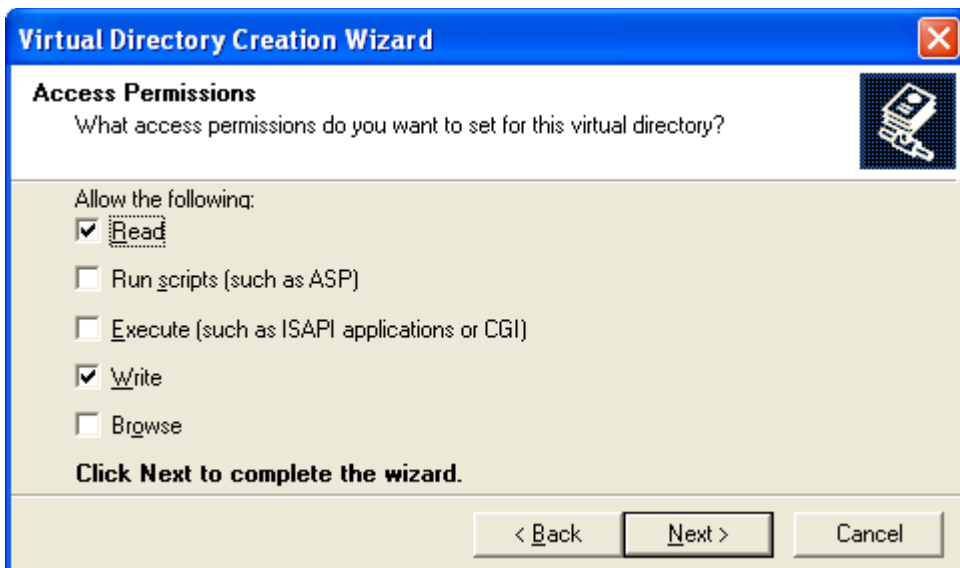12. The Web Site Content Directory screen is displayed.

Virtual Directory Creation Wizard

Web Site Content Directory
Where is the content you want to publish on the Web site?

Enter the path to the directory that contains the content.
Directory:

[   ] [Browse...]

[< Back] [Next >] [Cancel]

13. Enter the path to the directory to be used for the virtual directory.

NOTE The path must follow the UNC syntax, that is \\{ComputerName}\{FilePath}. For example, `\\Ws10080\uploadedfiles`.

14. Click **Next** to continue.

15. Enter a user and his password that will be used to access the virtual folders. To see a list of possible users, click the **Browse** then **Advanced** buttons.

16. Check off permissions you want to allow for the virtual folder.

Virtual Directory Creation Wizard

Access Permissions
What access permissions do you want to set for this virtual directory?

Allow the following:
☑ Read

☐ Run scripts (such as ASP)

☐ Execute (such as ISAPI applications or CGI)

☑ Write

☐ Browse

Click Next to complete the wizard.

[< Back] [Next >] [Cancel]

NOTE At a minimum, the IIS user needs Read and Write permissions.

17. Click **Next** to complete the wizard.

18. A confirmation indicates that you have created a virtual directory. Click the **Finish** button.

19. The IIS console is displayed with the virtual directory added to the specified location.

20. Repeat the above steps for each virtual directory you need to create on each Web server running Ektron CMS400.NET.

NOTE Remember, the names of the virtual directories on each server *must* be identical!

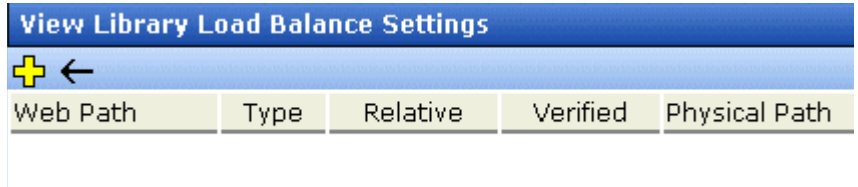## Setting Up Load Balance Paths in Ektron CMS400.NET

In this section, you set up load balance paths in Ektron CMS400.NET that point to the `LB_Images1` and `LB_Files1` virtual directories created earlier.

NOTE For additional information about working with load balance paths in Ektron CMS400.NET, refer to "Load Balancing" in the **Ektron CMS400.NET** Administrator manual.
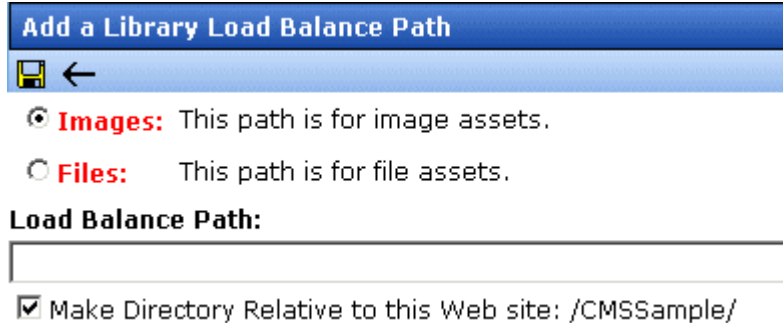
To add a load balance path in Ektron CMS400.NET, follow these steps.

1. Navigate to your site root folder.

2. Open the web.config.file.

3. Set `impersonate` to true.
```
<identity impersonate="true" userName="" password=""/>
```

4. Save web.config.

5. Log in as an administrator to the **Ektron CMS400.NET** Workarea that you worked with in .

6. Go to **Library > View Properties > Load Balance** (📇).

View Library Load Balance Settings

Web Path	Type	Relative	Verified	Physical Path

7. Click the Add button (⊞).

8. The Add a Library Load Balancing Path screen is displayed.

Add a Library Load Balance Path

⊙ **Images:** This path is for image assets.

○ **Files:**　This path is for file assets.

Load Balance Path:

☑ Make Directory Relative to this Web site: /CMSSample/

9. Use the following table to help you complete the screen.

Field	Description
Images/Files	Specify if the load balance path folder is for images or files.
Load Balance Path	Enter the path to the virtual directories on your server. (These were set up in "Creating a Virtual Directory" on page 6.)
Make Relative	If the folder (or virtual folder) resides under your Ektron CMS400.NET site root, check the box to make the path relative to that. Otherwise, remove the check.

10. Click the Save button (🖫) to add the load balance folder to the Ektron CMS400.NET library.

The View Library Load Balance Settings screen appears with the changes. Notice the green check, which indicates that IIS on the local Web server resolved the virtual directory and located its physical folder.

11. To further verify the load balance path is working successfully, go to the View Library Load Balance Setting screen in the Workarea for the other Ektron CMS400.NET Web server.

View Library Load Balance Settings

Web Path	Type	Relative	Verified	Physical Path
/cms400sample/uploadedimages/	images	x	✔	c:\inetpub\wwwroot\cms400sa

Notice that the two Web path names are identical, but the physical paths are different. This proves that IIS resolves each differently.

Load Balancing Assets

Ektron CMS400.NET lets you balance requests to view or work with *assets* among two or more servers. To achieve this, each server has its own copy of every asset.
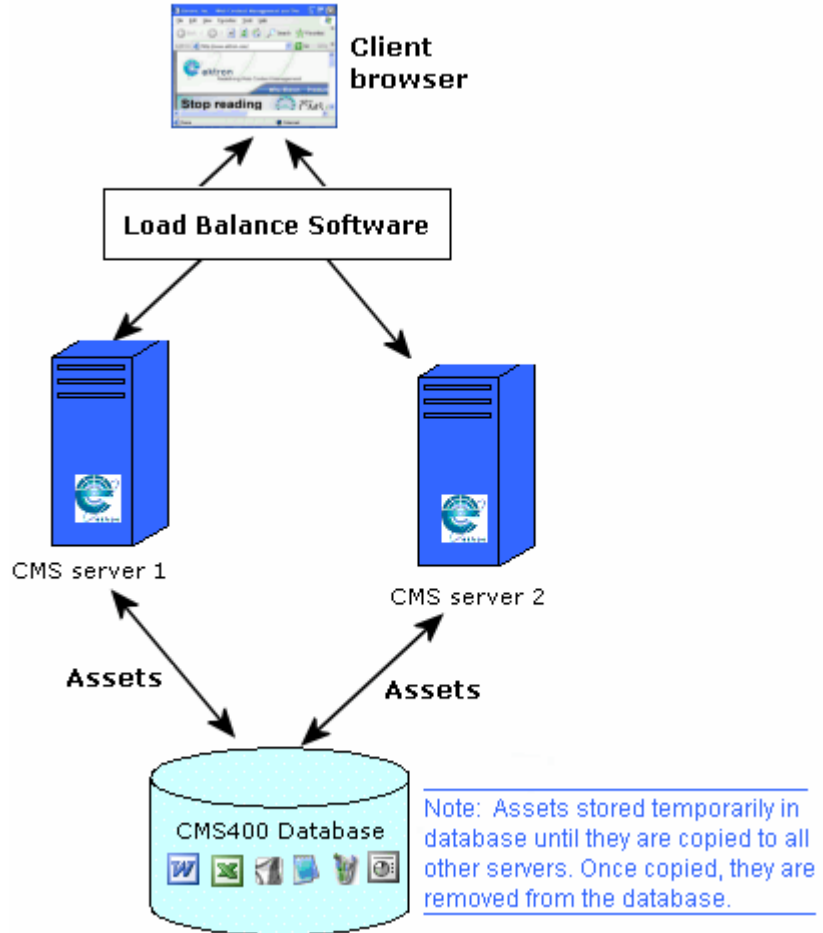
To accomplish this, **Ektron CMS400.NET** initially stores every new asset in the database. An Ektron service constantly checks to see if all database assets also exist on each server's file system. To learn about this service, see "Ektron Windows Service" in the **Ektron CMS400.NET** Administrator Manual.

If an asset does not exist on any server in the cluster, it is copied from the database to the server's file system. Once there, the asset is available for requests to work with it. After an asset is copied to all servers, **Ektron CMS400.NET** removes it from the database.

There is no limit to the number of servers or databases that can be load balanced.

Setting up Asset Load Balancing

To set up load balancing for assets, follow these steps on *both the staging and production server*.

1. Within the site root folder, open the AssetManagement.config file. Change the value of the `LoadBalanced` element to **1**.

2. Open the following file using a word processor such as Notepad

`C:\Program Files\Ektron\EktronWindowsService20\Ektron.ASM.EktronServices20.exe.config`

3. Find the following tag: `<add key="LoadBalanced" value="0" />`. Change the value to 1.

4. Find the following tag `<add key="LoadBalServerCount" value="2"/>`. Make sure the value is set to the number of servers in your load balance cluster. This number must be the same for all servers in the cluster.

After updating these files for each server in the load balance cluster, sign on to Ektron CMS400.NET. This action sets up the load balance software in the database.