
Rhythmyx

Implementing WebDAV

6.5.2

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CHAPTER 1

Introduction

WebDAV is an extension to HTTP that lets users work with files on a remote Web Server. When content contributors use Rhythmyx with WebDAV they can create, modify, and save Rhythmyx Content Items while working in third-party applications, such as DreamWeaver and PhotoShop. Using Rhythmyx with WebDAV streamlines content creation in third-party applications because users do not have to log in to Rhythmyx in addition to opening the third-party application to create and modify content. To perform other Rhythmyx actions, such as making a Workflow Transition or viewing the Audit Trail, users must still log in to Rhythmyx.

To use Rhythmyx with WebDAV, you configure Rhythmyx Folders to associate Rhythmyx Content Types with file MIME types. Then you associate the Rhythmyx Folders with a virtual Web site, which is specified by a WebDAV URL, and point third-party applications at the same URL. The Rhythmyx Folder (and any sub-Folders) appear in the explorer dialog of the third-party applications. When a user saves a file created in a third-party application in one of these WebDAV-enabled Folders, WebDAV uploads it into Rhythmyx as the Content Type associated with its MIME type.

In addition to configuring Rhythmyx to use WebDAV, you must determine if your third-party applications require special configuration. Some applications, such as Internet Explorer, are already WebDAV-enabled, and you can use them as they are to access Rhythmyx content. Other applications, such as Adobe Photoshop and Macromedia DreamWeaver, need to be installed with a WebDAV option or may require extra configuration to use WebDAV. Check your application's documentation for information about configuring WebDAV.

Architecture of WebDAV Components in Rhythmyx

A WebDAV Servlet communicates with the Rhythmyx Server in the following manner:

The Rhythmyx WebDAV servlet communicates with the WebDAV client (WebDAV-enabled third-party application). It authenticates and passes requests from the client to the Rhythmyx servlet located in the Rhythmyx application server. The Rhythmyx servlet sends responses to the WebDAV servlet, which sends the responses to the WebDAV client.

You can create multiple WebDAV folder configurations in Rhythmyx's WebDAV servlet. Each folder may be available to different Communities.

The following graphic illustrates the architecture of the WebDAV components in Rhythmyx

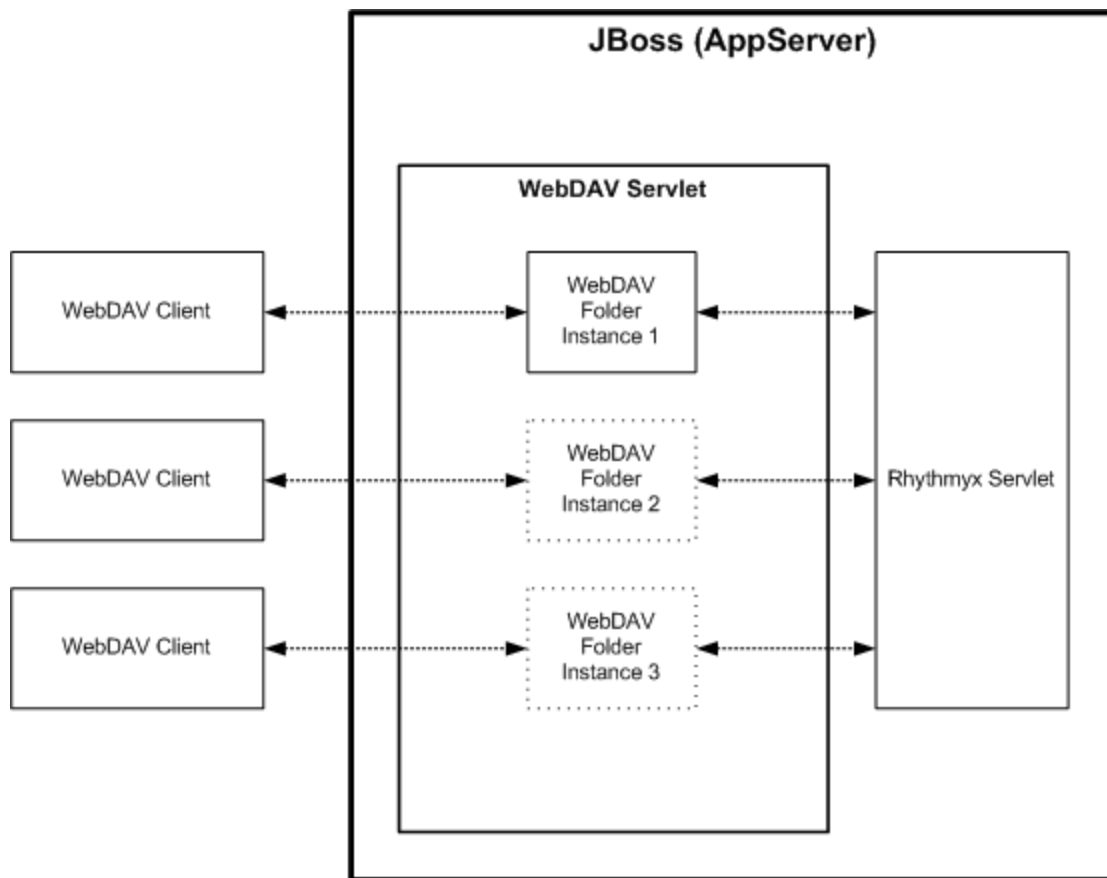


Figure 1: WebDAV Architecture in Rhythmyx

Each WebDAV folder instance supports a combination of a Rhythmyx Folder (and any sub-Folders of the specified Folder) with a set of Content Types. You will need several WebDAV folder instances if you want to access multiple root-level Folders.

Prerequisites and Recommendations

- Each Content Type that you associate with a WebDAV-enabled folder must include fields for storing the following:
 - user with lock on Content Item;
 - size of uploaded file;
 - MIME type of uploaded file;
 - content of uploaded file.

These fields are mapped to WebDAV values in each folder configuration file.

See the topic *Editing a Folder Configuration File* (see page 12) for information about how these fields are formatted.

- Content Types may validate fields that WebDAV does not upload. To avoid errors, remove validation from the Content Types that you associate with WebDAV folders if they process fields that are not uploaded (or set in other ways, for example, by a pre-exit). The WebDAV validator returns a warning if it finds <FieldRules> (elements that store validation) for fields that are not uploaded.

Supported WebDAV Clients and Application Servers

Rhythmyx WebDAV supports the following WebDAV clients:

- Microsoft's Word 2002, Excel 2002, PowerPoint 2002, FrontPage 2002, and Project 2003. These products use Windows Explorer Web folders to access WebDAV in Rhythmyx.
- Adobe Acrobat Reader 6.0 uses Windows Explorer Web folders to access WebDAV in Rhythmyx.
- Macromedia Dreamweaver MX 2004 communicates with WebDAV in Rhythmyx directly; it does not require Windows Explorer Web folders.
- Adobe Photoshop 7.0.1 communicates with WebDAV in Rhythmyx directly; it does not require Windows Explorer Web folders.
- Windows Explorer on Windows XP and Windows 2000.
- MacOS WebDAV client that is shipped with the OS.

CHAPTER 2

Implementing WebDAV

This chapter describes how to implement WebDAV in Rhythmyx, and includes a simple example of WebDAV implementation. The final section provides troubleshooting hints for your implementation.

In general, we refer to the Folders configured for WebDAV in Rhythmyx as WebDAV-enabled Folders and the folders configured for WebDAV in third-party applications as WebDAV folders.

Implementing a New WebDAV Configuration

Rhythmyx includes a default WebDAV Web application. You must customize the files in the default application to implement your system's WebDAV setup.

This topic lists the procedure for implementing WebDAV in Rhythmyx. For specific details about performing each step, see *Simple Example Implementation of WebDAV* (on page 13).

NOTES:

The default implementation of Rhythmyx's WebDAV specifies Folders installed with FastForward. If you have installed FastForward, you can access the default Corporate Investment Web Folders with users in the Roles CI_Members or CI_Admin_Members. You can access the default Enterprise Investment Web Folders with users in the Roles EI_Members or EI_Admin_Members.

For information about installing and using FastForward, see the FastForward documentation.

To implement WebDAV in Rhythmyx:

- 1 Create the folders that you want to associate with WebDAV under the Sites and Folders nodes in the Content Explorer navigation pane. In the Create Folder dialog **Folder Community** field, choose the value of the Community that you want to have access to that Folder.
 - a) Choose *All Communities* or a specific Community (which must be the same as the Community entered in the folder configuration file).
 - b) Give the Roles that you want to have access to the Folder in Rhythmyx Write or Admin permission to the Folder.
- 2 For each of your WebDAV folders, associate the Roles that should have access to the WebDAV folder with the Community that you want to have access to the WebDAV-enabled Folder. In addition add the Roles to the Workflows assigned to the Content Types that you want to create in the folders. Assign each Role to all States in its Workflows as an assignee.
- 3 Create a WebDAV configuration file:
 - c) Back up the WebDAV config file, <Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-INF\config\user\webdav\rxwebdav-servlet.xml and open the current copy. There are four <bean> nodes that contain the default folder configuration files, *CIFiles*, *CIImages*, *EIFiles* and *EIImages*.
 - d) In one of the default <bean id="name"> nodes, change "name" to a custom name for one of your folder configurations. Then in the sub-element <prop key="RxWebDAVConfig"> change the name of the folder configuration file to a custom folder configuration filename.
 - e) At the bottom of the file, change the name in one of the <prop> elements in the <bean id="urlMapping"> element to the custom name.
 - f) Repeat steps b and c for all of the WebDAV folders you have set up in Content Explorer.
 - g) Delete <bean> elements for folder config files that you are not using, and delete <prop> elements with URLs that you are not using from the <bean id="urlMapping"> element.
- 4 Configure your custom folder configuration files. The default folder configuration files are:

```
<Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-  
INF\config\user\webdav\RxWebdavConfigEIIImages.xml  
<Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-  
INF\config\user\webdav\RxWebdavConfigEIFiles.xml  
<Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-  
INF\config\user\webdav\RxWebdavConfigCIImages.xml  
and  
<Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-  
INF\config\user\webdav\RxWebdavConfigCIFiles.xml
```

For each of your WebDAV folders:

Back up one of these files. Rename the current copy with the folder configuration file name you specified in your WebDAV configuration file. Edit the file to specify the Rhythmyx WebDAV Folder and its Community and Content Types.

For each additional WebDAV folder, make a copy of a folder configuration file, give it the name you specified in the sub-element `<prop key="RxWebDAVConfig">`

in the element `<bean id="customname">` and modify the Rhythmyx Folder, Community and Content Types.

For more information about editing the folder configuration file, see *Editing a Folder Configuration File* (see page 12).

- 5 After you make changes to your WebDAV configuration, restart your Rhythmyx server to apply them.
- 6 To confirm that implementation is correct, for each WebDAV folder configured, in your Web browser:

- Enter
`http://hostname:9992/Rhythmyx/rxwebdav/[URLPattern]?sys_command=getConfig`. Rhythmyx will prompt you to log in. Log in with a user whose Role has access to the WebDAV folder.
 If WebDAV is configured correctly, the browser displays the contents of the folder configuration file.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <!--
  The WebDAV configuration information

  "root" - the virtual root path of the Rhythmyx for all resource
           specified in the request. It must start from "Site" or "Folder"
           For example, root="//Site/mysite", root="//Folder/myfolder".
           It must be an existing folder.

  "communityid" - the name of the community, which is used to communicate
                  with Rhythmyx Server.

  "communityname" - the name of the community, this is only a reference
                    to the communityid, but is not used by the WebDAV.

  "locale" - the locale that is used for the created items

  "deleteas" - an optional attribute, indicating the behavior of the
                DELETE operation (in DELETE, COPY and MOVE method).
                The possible values are:

                "purge": indicate the DELETE operation will purge the
                           target items and/or folders. The purged items
                           will not be able to recovered afterwards.

                "remove": indicate the DELETE operation will remove the
                           folder relationships with the target items. The
                           removed items can be recovered afterwards. This
                           is the default behavior if this attribute is not
                           specified.
```

Figure 2: Get Configuration screen

- Enter
`http://hostname:9992/Rhythmyx/rxwebdav/[URLPattern]?sys_command=validateConfig`.
 If the folder configuration's references to Rhythmyx elements are correct, the screen displays the message "WebDAV configuration successfully validated".

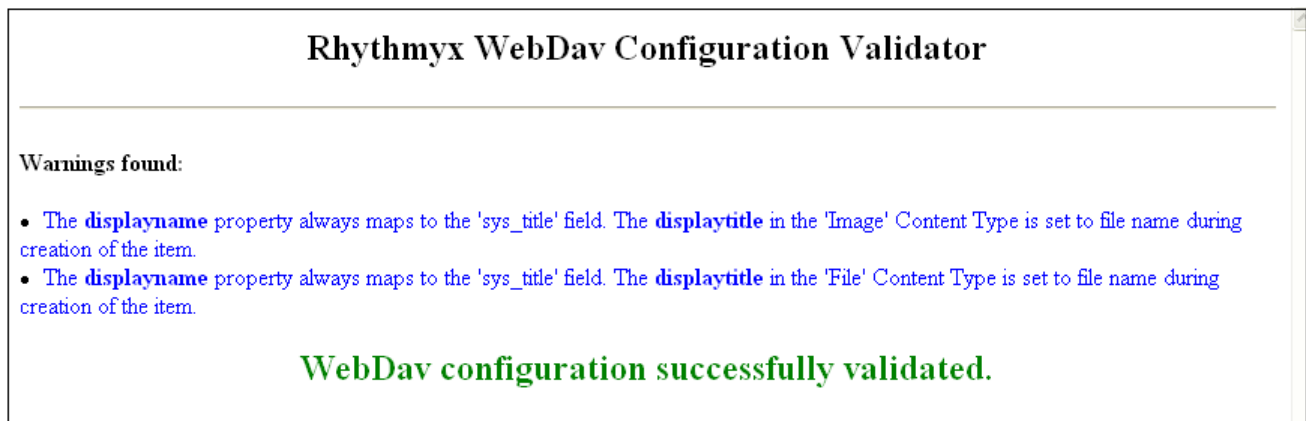


Figure 3: Validation screen

The warnings displayed on the screen above appear if WebDAV is uploading a file into a Content Type with a required `displaytitle` field to avoid confusion over which field WebDAV displays as the item's title. If `displaytitle` is required, Rhythmyx WebDAV does the following when it uploads a file into Rhythmyx:

- It sets the Rhythmyx Content Item's `displaytitle` field to the file name.
- It sets the Rhythmyx Content Item's `sys_title` field to the file name.

During processing after upload, WebDAV:

- Does not use the Rhythmyx Content Item's `displaytitle` field.
- Maps the Rhythmyx Content Item's `sys_title` field to WebDAV's `displayname` property. When the value in one changes, the other sets itself to the new value.

Therefore, changing the Content Item's `displaytitle` field does not change the `displayname` that WebDAV shows to users. Explain this to your users who work with Rhythmyx WebDAV.

Note: In the folder configuration file, the URL pattern is the value of the `root` parameter in the `<PSXWebdavConfigDef>` element.

For example, in one of the sample folder configuration files, the `<PSXWebdavConfigDef>` element appears as:

```
<PSXWebdavConfigDef root="//Sites/EnterpriseInvestments/Files"
communityname="Enterprise Investments" communityid="1002" locale="en-us"
deleteas="remove" publicValidTokens="y" QEValidTokens="i">
```

To use the `getConfig` command using this URL pattern, you would enter:

```
http://hostname:9980/rxwebdav/Sites/EnterpriseInvestments/Files?sys_command
=getConfig.
```

- 7** Open the folders in Windows Explorer or Internet Explorer, and if you plan to access the folders through a third-party application, configure the application as specified in its documentation.

WebDAV is now configured in your Rhythmyx system. You may now create Rhythmyx Content Items in Windows Explorer and your other third-party applications.

Editing a Folder Configuration File

In Rhythmyx's WebDAV, a folder configuration file specifies the Rhythmyx Folder and Community the WebDAV configuration makes available, and the Content Types that users can manage in the folder through WebDAV. The folder configuration file DTD is RxWebDAVconfig.dtd, and the default folder configuration files in Rhythmyx are RxWebDAVConfigEIIImages.xml, RxWebDAVConfigEIFiles.xml, RxWebDAVConfigCIImages.xml and RxWebDavConfigCIFiles.xml. They are located in:

```
<Rhythmyx root>\AppServer\server\rx\deploy\rxapp.ear\rxapp.war\WEB-INF\config\user\webdav\.
```

A WebDAV configuration file consists of the following nodes:

PSXWebdavConfigDef - specifies the Rhythmyx WebDAV Folder and its Community. This node includes the following attributes:

root - specifies the Rhythmyx Folder. The value of this attribute must begin with either “//Sites/” (if the Folder you want to make available is a Site Folder) or “//Folders/” (if the Folder you want to make available is a child of the Folders node).

communityname - specifies the name of the Community you want to make available. NOTE: The Community property of the root folder can be either *All Communities* or the Community you specify here.

communityid - specifies the ID of the Community (Rhythmyx assigns the ID when you save the Community. To find the ID, view the Community in the Properties view or the Object Sorter in the Rhythmyx Workbench. The ID is the third number in the 3-part ID value.).

locale – Locale for Content Items created in this Folder.

deleteas – How the delete function for items and Folders behaves. Possible values are *remove* and *purge*. Note that if a Content Item is in either Public or Quick Edit State, Rhythmyx does not perform any action on that item. If the Content Item is in any other state, Rhythmyx executes the action normally.

- *remove* – Default. If a WebDAV-enabled Folder is deleted in Rhythmyx or a third-party application, permanently delete the Folder in Rhythmyx and remove the Content Items from the Folder, but save them in Rhythmyx.
- *Purge* – If a WebDAV-enabled Folder is deleted in Rhythmyx or a third-party application, permanently delete the Folder and the Content Items in Rhythmyx.

publicValidTokens - specifies a list of flags for Public States in the Workflow. Used with the attribute QEValidTokens to implement automatic checkout of Content Items in the WebDAV Folder. Default value is *y*.

QEValidTokens - specifies a list of flags for Quick Edit States in the Workflow. Used with the publicValidTokens attribute to implement automatic checkout of Content Items in the WebDAV Folder. Default value is *i*.

PSXWebdavContentType – One or more of these nodes may be present. Each node specifies a Content Type that users can maintain in the Folder.

id - specifies the ID of the Content Type. To find the ID, view the Content Type in the Properties view or the Object Sorter of the Workbench. The ID is the third number in the 3-part ID value.

name - specifies the name of the Content Type.

contentfield - specifies the Content Type field that stores the data file for the Content Type.

ownerfield - specifies the Content Type field that stores the lock owner data from WebDAV.

default - specifies whether the Content Type is the default Content Type for the servlet. The default Content Type is the Content Type that processes any MIME Types not specified for another Content Type in the configuration. Only one Content Type in the configuration can be specified as the default Content Type. Values are *true* or *false*.

MIMETypes - specifies the MIME types of files that will be processed by the Content Type. Each MIME type is specified in a separate Mime Type child node.

PropertyMap - stores the mappings of WebDAV properties to the Rhythmyx fields. The name attribute of the PSXPropertyFieldNameMapping element specifies the WebDAV property. The FieldName child of the PSXPropertyFieldNameMapping specifies the Rhythmyx Content Type field that stores the data for the specified WebDAV property.

PSXPropertyFieldNameMapping name="displayname" - Required for FastForward Content Types. Specifies the display title of the Content Item. WebDAV passes the filename as the display title.

PSXPropertyFieldNameMapping name="getcontenttype" - Required. Specifies the MIME type of the content.

PSXPropertyFieldNameMapping name="getcontentlength" – Required. Specifies the length, in bytes, of the content.

ExcludeFolderProperties – specifies which Rhythmyx custom properties of the parent WebDAV Folder should not be inherited by sub-folders created in WebDAV. Note that the Folder Name and Description are automatically not inherited (you must specify a new Folder Name and Description is always blank).

PropertyName – sys_pubFileName is listed because it specifies the name of the folder to publish to. This name would most likely differ in the sub-folder.

NOTE: Fields specified to store data for a WebDAV configuration must be from a System, Shared, or Local definition. You cannot use child fields to store WebDAV data.

Simple Example Implementation of WebDAV

To illustrate a typical implementation using WebDAV, let us configure two WebDAV-enabled Rhythmyx Folders for two departments in a company.

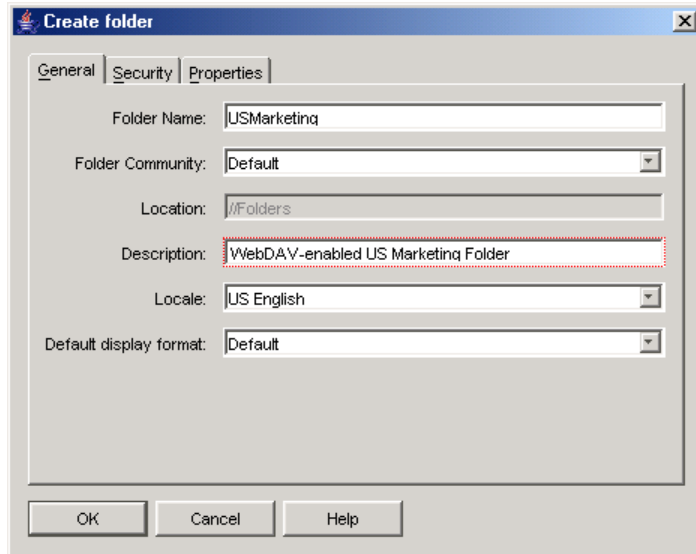
We will configure:

- a WebDAV-enabled USMarketing Folder for the Default Community. The folder is accessible to the Marketing_Author and Marketing_Artist Roles as well as the Default Role.

- a WebDAV-enabled Editorial Folder for the Editorial Community. The folder is accessible only to Editor and Administrator Roles.

To set up our sample WebDAV configuration:

- 1 First, as an Administrator, we create the folders in Content Explorer that we want to WebDAV-enable. We create the USMarketing Folder and assign it to the Default Community.



We give the Role `Admin` Read, Write, and Admin permission, and we give the Roles `Marketing_Author`, `Marketing_Artist`, and `Default` Read and Write permissions:

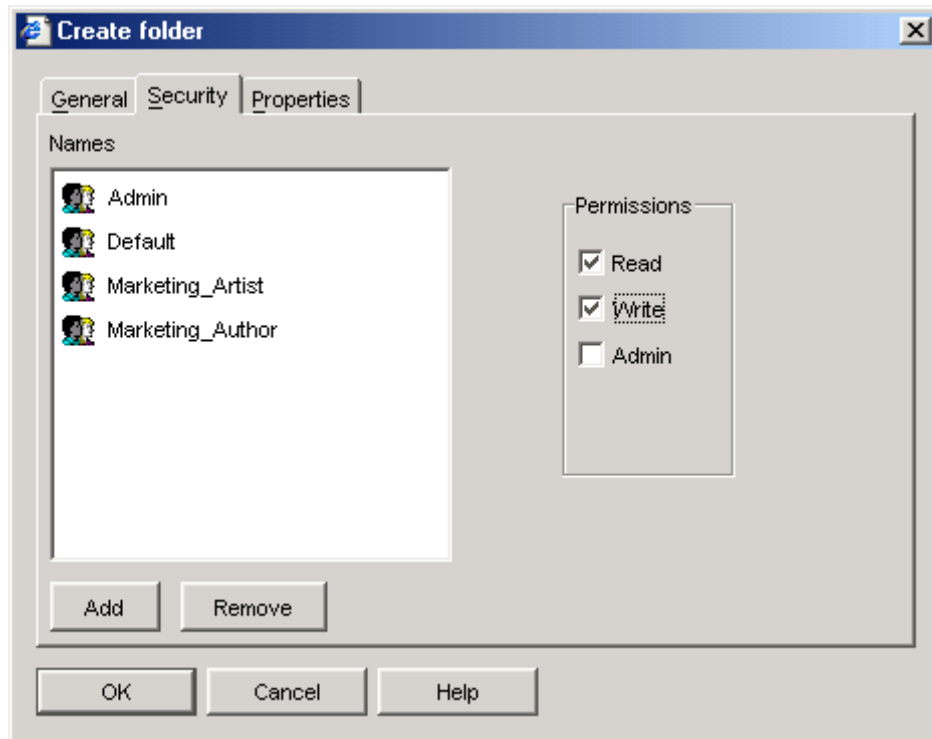


Figure 4: Create Folder Dialog, Security Tab

Then we create the Editorial folder. We assign it to the Editorial Community and give the `Admin` Role Read, Write, and Admin permission and the `Editor` Role Read and Write permission.

Our completed folder structure appears as:

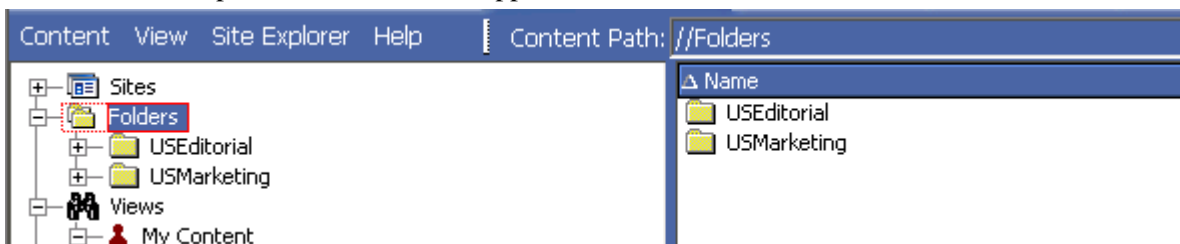


Figure 5: WebDAV-enabled Folders in Rhythmyx

2 We modify the WebDAV configuration file to define our two folders:

- We change the first `<bean id="name">` node to `<bean id="USMarketing">`;
- In the sub-element `<prop key="RxWebDAVConfig">` we change the name of the folder configuration file to `RxWebdavConfigMarketing.xml`.
- We change the second `<bean id="name">` node to `<bean id="Editorial">`;

- In the sub-element `<prop key="RxWebDAVConfig">` we change the name of the folder configuration file to `RxWebdavConfigEditorial.xml`.

```
<!-- US -->
  <bean id="USMarketing"
    class="com.percussion.utils.spring.PSWebDavServletController">
    <property name="initParameters">
      <props>
        <prop key="debug">true</prop>
        <prop
key="RxWebDAVConfig">RxWebDAVConfigMarketing.xml</prop>
      </props>
    </property>
  </bean>
  <bean id="USEditorial"
    class="com.percussion.utils.spring.PSWebDavServletController">
    <property name="initParameters">
      <props>
        <prop key="debug">true</prop>
        <prop
key="RxWebDAVConfig">RxWebDAVConfigEditorial.xml</prop>
      </props>
    </property>
  </bean>
```

At the bottom of the file change the name in two of the `<prop>` elements in the `<bean id="urlMapping">` element to custom URL paths and the custom names.

```
<!-- add mappings here -->
<bean id="urlMapping"
  class="com.percussion.utils.spring.PSUrlHandlerMapping">
  <property name="mappings">
    <props>
      <prop key="Folders/USMarketing/**">USMarketing</prop>
      <prop key="Folders/USEditorial/**">USEditorial</prop>
    </props>
  </property>
</bean>
```

We delete the beans and properties that we are not using to prevent WebDAV from failing.

- 3** Next, we copy existing folder configuration files to create `RxWebdavConfigMarketing.xml` and `RxWebdavConfigEditorial.xml`. Then we open each folder configuration file and specify the Rhythmyx Folder and Community.

In `RxWebdavConfigMarketing.xml`, we make the following changes:

- we change root to `//Folders/USMarketing`;
- to make the Folder `USMarketing` available to members of the Default Community, we change the value of `communityname` to `Default` and the value of `communityid` to `Default's Community ID`.
- we leave the default Content Type of File and modify the Image Content Type node to define the PDFfile Content Type;

- in the PDFfile definition:
 - we specify contentfield as pdfupload, the name of the PDFFile Content Type field that stores WebDAV content;
 - we leave ownerfield as webdavowner, since the name of the PDFFile Content Type field that stores the WebDAV user who has a lock on the item is also webdavowner;
 - we set default to false, because the File Content Type is already the default.
- we change <Mimetype> to the appropriate value for PDFfile, application/pdf;
- in <PropertyMap>, we map the WebDAV field getcontenttype to the Rhythmyx Content Type field pdfupload_type. These are the fields in each application that store the MIME type. We also map the WebDAV field getcontentlength to the Rhythmyx Content Type field pdfupload_size. These are the fields in each application that store the Content Length.

```
<PSXWebdavConfigDef root="//Folders/USMarketing" communityname="Default"
communityid="10" locale="en-us" deleteas="remove" publicValidTokens="y"
QEValidTokens="i">>
```

```
<!--
  Defines one or more supported content type for WebDAV

  "id" - the id of the content type in Rhythmyx

  "name" - the name of the content type in Rhythmyx, this is only
used as a
      reference to the id above.

  "contentfield" - the field name for the content

  "ownerfield" - the field name for the lock owner that is
submitted by WebDAV clients

  "default" - "true" or "false". There must be only one element
with the value "true".
      If it is "false", must define one or more mime
types (hence must define the "Mimetypes" element);
      If it is "true", the "Mimetypes" element is
ignored.
-->

<PSXWebdavContentType id="307" name="PDFFile"
contentfield="pdfupload" ownerfield="webdavowner" default="false">

  <!-- Defines the mime type(s) that be accepted by the current
Rhythmyx content type.-->

  <MimeTypes>
    <MimeType>application/pdf</MimeType>
  </MimeTypes>

<!--
```

Defines the mapper between WebDAV properties and its corresponding field name of the current Rhythmyx content type

Required mappings:

"getcontenttype" - maps to a Rhythmyx Content Editor field for the mime-type.

"getcontentlength" - maps to a Rhythmyx Content Editor field for the content length.

Rhythmyx WebDAV automatically maps the following:

"displayname" - always maps to Rhythmyx sys_title field

"creationdate" - maps to Rhythmyx sys_contentcreatedate field

"getlastmodified" - maps to Rhythmyx sys_contentlastmodifieddate field

"getcontentlanguage" - always maps to Rhythmyx sys_lang field

-->

```
<PropertyMap>
  <PSXPropertyFieldNameMapping name="displayname">
    <FieldName>displaytitle</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontenttype">
    <FieldName>pdfupload_type</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontentlength">
    <FieldName>pdfupload_size</FieldName>
  </PSXPropertyFieldNameMapping>
</PropertyMap>
</PSXWebdavContentType>

<PSXWebdavContentType id="309" name="File" contentfield="item"
ownerfield="webdavowner" default="true">
```

```
  <PropertyMap>
    <PSXPropertyFieldNameMapping name="displayname">
      <FieldName>displaytitle</FieldName>
    </PSXPropertyFieldNameMapping>
    <PSXPropertyFieldNameMapping name="getcontenttype">
      <FieldName>item_type</FieldName>
    </PSXPropertyFieldNameMapping>
    <PSXPropertyFieldNameMapping name="getcontentlength">
      <FieldName>item_size</FieldName>
    </PSXPropertyFieldNameMapping>
  </PropertyMap>
</PSXWebdavContentType>
```

<!--

A list of excluded folder properties when creating a folder in WebDAV.

A created folder will inherit all properties of its parent folder except

the list of excluded properties and the folder name.

```
-->
<ExcludeFolderProperties>
  <PropertyName>sys_pubFileName</PropertyName>
</ExcludeFolderProperties>
```

```
</PSXWebdavConfigDef>
```

In RxWebdavConfigEditorial.xml, we change root to //Folders/USEditorial, and we make the Folder Editorial available to members of the Editorial Community. We make the Image Content Type the default, and add a node for the Logo Content Type. The changes we make to the <PSXWebdavContentType> node for Logo are similar to those we made for the PDFFile Content Type, above.

```
<PSXWebdavConfigDef root="//Folders/USEditorial"
communityname="Editorial" communityid="1005" locale="en-us"
deleteas="remove"
publicValidTokens="y" QEValidTokens="i">
```

```
<!--
```

```
  Defines one or more supported content type for WebDAV
```

```
    "id" - the id of the content type in Rhythmyx
```

```
    "name" - the name of the content type in Rhythmyx, this is only
used as a
```

```
    reference to the id above.
```

```
    "contentfield" - the field name for the content
```

```
    "ownerfield" - the field name for the lock owner that is
submitted by WebDAV clients
```

```
    "default" - "true" or "false". There must be only one element
with the value "true".
```

```
      If it is "false", must define one or more mime
types (hence must define the "Mimetypes" element);
```

```
      If it is "true", the "Mimetypes" element is
ignored.
```

```
-->
```

```
  <PSXWebdavContentType id="307" name="Image" contentfield="img1"
ownerfield="webdavowner" default="true">
```

```
<!--
```

```
  Defines the mapper between WebDAV properties and its
corresponding field name of the current Rhythmyx content type
```

Required mappings:

"getcontenttype" - maps to a Rhythmyx Content Editor field for the mime-type.

"getcontentlength" - maps to a Rhythmyx Content Editor field for the content length.

Rhythmyx WebDAV automatically maps the following:

"displayname" - always maps to Rhythmyx sys_title field

"creationdate" - maps to Rhythmyx sys_contentcreatedate field

"getlastmodified" - maps to Rhythmyx sys_contentlastmodifieddate field

"getcontentlanguage" - always maps to Rhythmyx sys_lang field

-->

```
<PropertyMap>
  <PSXPropertyFieldNameMapping name="displayname">
    <FieldName>displaytitle</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontenttype">
    <FieldName>imgl_type</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontentlength">
    <FieldName>imgl_size</FieldName>
  </PSXPropertyFieldNameMapping>
</PropertyMap>
</PSXWebdavContentType>

<PSXWebdavContentType id="12" name="Logo" contentfield="Logobody"
ownerfield="webdavowner" default="false">
```

<!-- Defines the mime type(s) that be accepted by the current Rhythmyx content type.-->

```
<MimeType>
  <MimeType>image/gif</MimeType>
</MimeType>
```

```
<PropertyMap>
  <PSXPropertyFieldNameMapping name="displayname">
    <FieldName>displaytitle</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontenttype">
    <FieldName>logobody_type</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontentlength">
    <FieldName>logobody_size</FieldName>
```



```

    </PSXPropertyFieldNameMapping>
  </PropertyMap>
</PSXWebdavContentType>

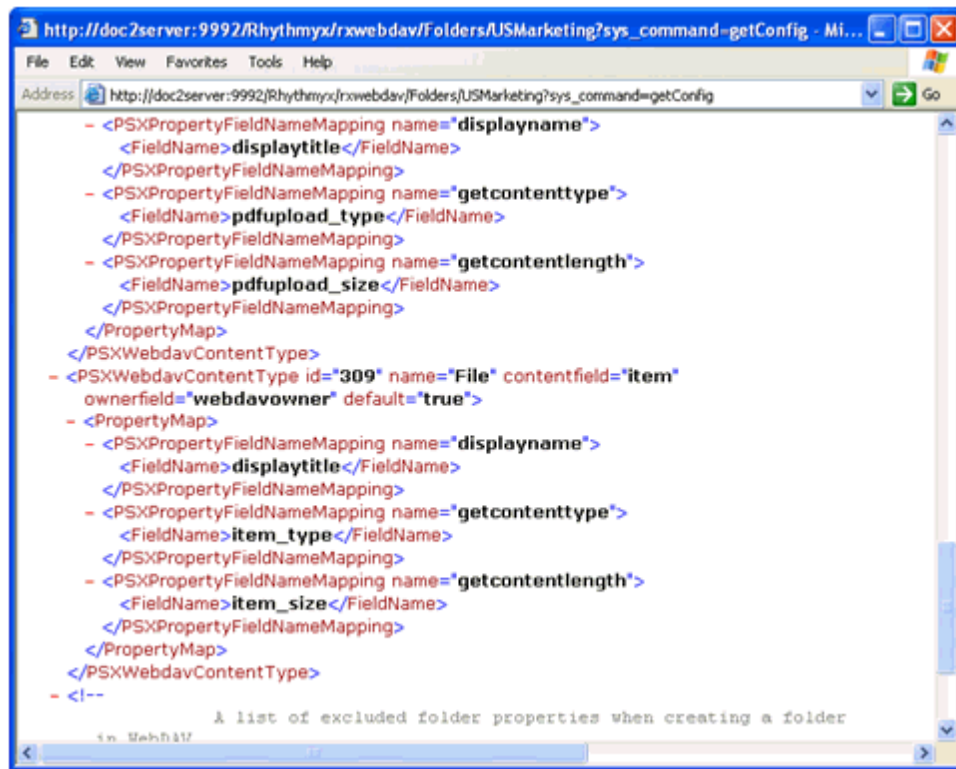
<!--
  A list of excluded folder properties when creating a folder in
  WebDAV.
  A created folder will inherit all properties of its parent folder
  except
  the list of excluded properties and the folder name.
-->
<ExcludeFolderProperties>
  <PropertyName>sys_pubFileName</PropertyName>
</ExcludeFolderProperties>
</PSXWebdavConfigDef>

```

After configuration is complete, we restart the Rhythmyx Server. In our Web browser, we enter:

```
http://hostname:9992/Rhythmyx/rxwebdav/Folders/USMarketing?sys_command=getConfig
```

The browser may prompt you to enter a username and password. Enter a username/password associated with the same Community as the WebDAV folder. If the WebDAV servlet has deployed correctly the browser displays the contents of the WebDAV configuration file.



We repeat using

```
http://hostname:9992/Rhythmyx/rxwebdav/Folders/USEditorial?sys_command=getConfig
```

- Then, we enter:
`http://hostname:9992/Rhythmyx/rxwebdav/Folders/USMarketing?sys_command=validateConfig`
If the WebDAV servlet is configured correctly, the screen displays a confirmation message.

We repeat using

`http://hostname:9992/Rhythmyx/rxwebdav/Folders/USEditorial?sys_command=validateConfig`.

Note that for this command, you must log in as a user in the Editorial Community.

- 4 Now, we can create Network Places in Windows Explorer that make these Rhythmyx folders available through Windows Explorer. In the Add Network Place Wizard, we enter the locations for our WebDAV folders in the format `http://localhost:<Rhythmyx Server port>/Rhythmyx/rxwebdav/<URL pattern>`. The URL pattern is specified in the `root` parameter of the `<PSXWebDAVConfigDef>` element of the folder configuration file.

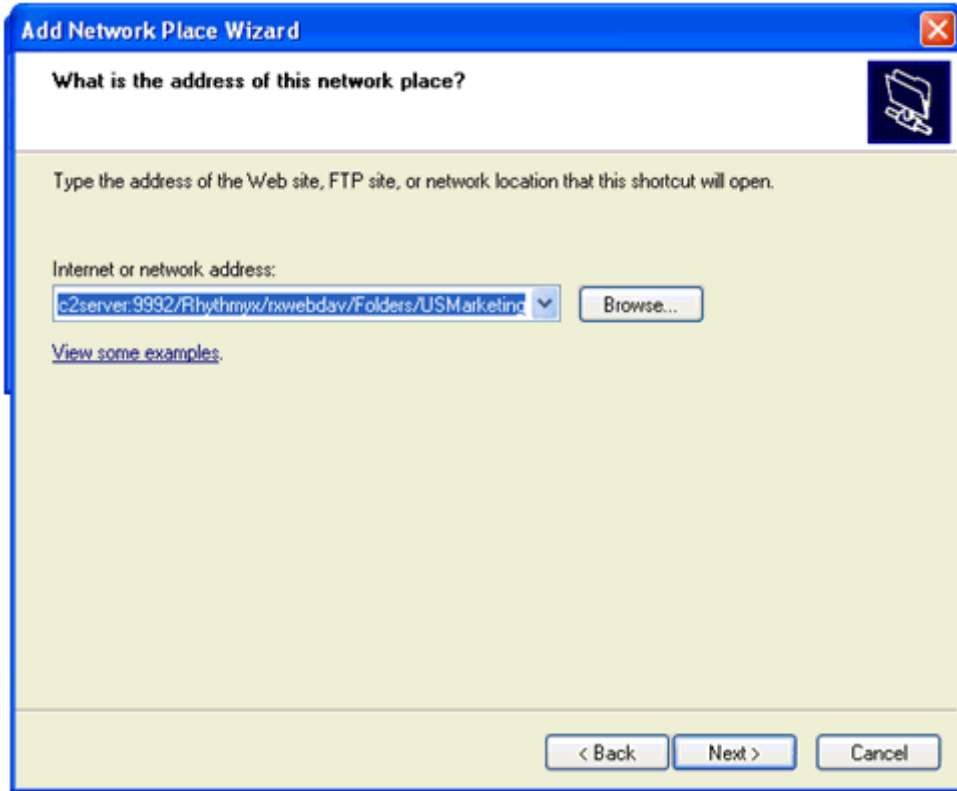


Figure 6: Add Network Place Wizard

Windows Explorer will ask us to log in when it connects to the WebDAV URL. The username must be associated with the same Community as the WebDAV folder.

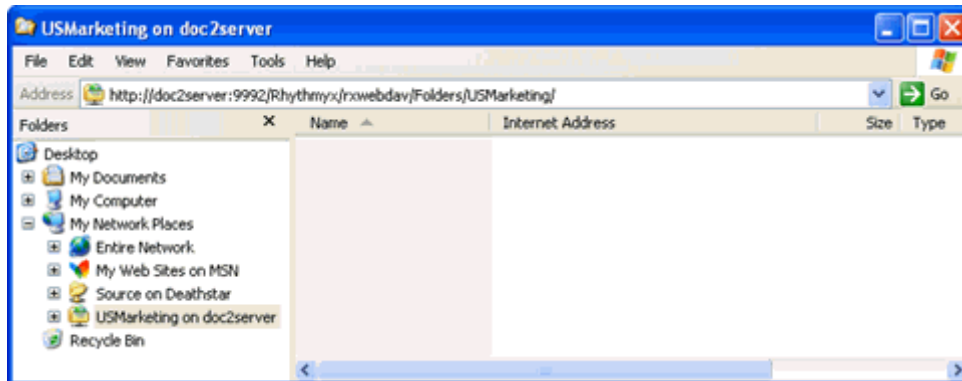


Figure 7: Network Places

- 5 We perform any steps that are required to connect a third-party application to the WebDAV enabled folders.

Troubleshooting WebDAV

If your WebDAV implementation is not working, use the following HTTP commands to check your configuration:

- `getconfig`: retrieves the configuration file;
- `help`: lists help for other commands;
- `validateconfig`: checks the validity of the configuration and returns a message indicating whether the configuration passed or failed the validation. If it fails the validation, the returned message includes a list of errors and warnings.

Issue these commands as values of the `sys_command` parameter:

```
http://localhost:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Files?sys_command=getconfig
http://localhost:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Files?sys_command=help
http://localhost:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Files?sys_command=validateconfig
```

CHAPTER 3

Working with WebDAV

This chapter outlines specific techniques for working with WebDAV, including

- How to access WebDAV-enabled Folders in Windows Explorer and Internet Explorer
- How to work with Rhythmyx Content in WebDAV-enabled Folders
- How WebDAV works with Rhythmyx Workflow

Opening Web Folders in Windows Explorer

In Windows, you can access the WebDAV server from Web Folders.

You can create Web Folders that correspond to your WebDAV-enabled Rhythmyx Folders in Windows 2000 and later versions. No special configuration is required to access WebDAV folders through Windows Explorer.

To set up a Web Folder through Windows Explorer:

- 1 In the Windows Explorer navigation pane, click on the My Network Places node, then double-click the Add Network Place icon.

Depending on your version of Windows, you may have to follow a different set of instructions to access the Add Network Place wizard. See your Windows Help for the correct instructions.

- 2 Windows Explorer displays the Add Network Place wizard.

- 3 Enter the URL of the Rhythmyx WebDAV server. Use the format:

`http://hostname:9992/Rhythmyx/rxwebdav/<URL pattern>`.

- 4

The URLs for the default Rhythmyx WebDAV files are:

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Files`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Images`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/CorporateInvestments/Files`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/CorporateInvestments/Images`.

NOTE: The URL pattern is specified in the *root* parameter of the `<PSXWebDAVConfigDef>` element of the folder configuration file.

- 5 When you click [**Next**], Windows Explorer displays the Enter Network Password dialog. Enter a Rhythmyx username that has access to the same Community as the WebDAV folder and its password.
- 6 When you click [**Next**], Windows Explorer displays the Completing the Add Network Place dialog. Click [**Finish**].
- 7 Windows Explorer adds the Folder as a Network Place. Now it appears when you click the My Network Places node. You can add files to this location, and open, modify, and save files in the location. All of your changes will appear in the Folder of the same name in Rhythmyx, and all of the changes that you make to the Folder in Rhythmyx will appear in this Folder.

When you attempt to access a file in this location, Windows Explorer may display the Enter Network Password dialog. Enter a Rhythmyx username/password that has access to the same Community as the folder to complete the action.

If your version of Windows Explorer does not allow you to add a Network Place, open your WebDAV Folders in Internet Explorer instead.

Opening Web Folders in Internet Explorer

In Windows, you can access WebDAV folders from Internet Explorer.

You can create Web Folders that correspond to your WebDAV-enabled Rhythmyx Folders in Internet Explorer Version 5.0 and above; however, the Web Folders feature must be installed in Internet Explorer. If the Web Folders feature is not installed in your Internet Explorer installation, go to support.microsoft.com (<http://support.microsoft.com>) or refer to Internet Explorer's help for installation instructions.

To set up a Web Folder through Internet Explorer:

- 1 In the menu bar, choose *File > Open*.

Internet Explorer displays the Open dialog.

- 2 Enter the URL of the WebDAV folder you want to access from Internet Explorer. Use the format:

`http://<WebDAV host>:<WebDAV port>/Rhythmyx/rxwebdav/<URL pattern>`. The URLs for the default Web folders configured in Rhythmyx are:

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Files`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/EnterpriseInvestments/Images`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/CorporateInvestments/Files`

`http://hostname:9992/Rhythmyx/rxwebdav/Sites/CorporateInvestments/Images`

NOTE: The servlet URL pattern is specified in the Root parameter of the folder configuration file.

- 3 Check Open as Web Folder.

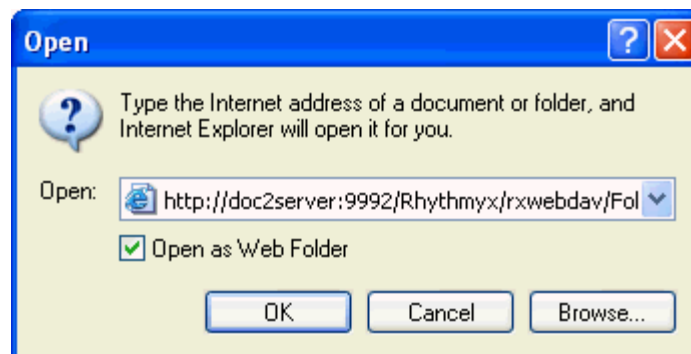


Figure 8: Opening a WebDAV Folder in Internet Explorer

- 4 Click [OK].

- 5 If Internet Explorer prompts you for a username and password, enter a Rhythmyx username that has access to the same Community as the folder and its password.
- 6 Internet Explorer adds the Folder. You can add files to this location, and open, modify, and save files in the location. All of your changes will appear in the Folder of the same name in Rhythmyx, and all of the changes that you make to the Folder in Rhythmyx will appear in this Folder.

When you attempt to access a file in this location, Internet Explorer may display the Enter Network Password dialog. Enter the Rhythmyx username that has access to the same Community as the folder and its password.

Opening Web Folders in Mac OS X

In a Mac OS X, you can access the WebDAV server from Web Folders.

You can use the Connect to Server command to access a WebDAV server.

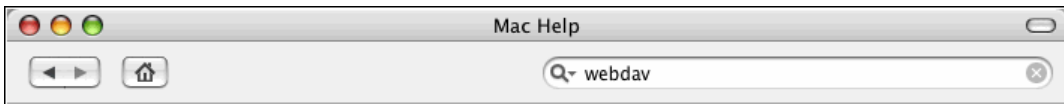
To set up a Web Folder through a Mac OS:

- 1 In the Finder, select *Go > Connect to Server*.

Enter the address of the server in the Server Address field.

The server address should be in a form similar to this: `http://servername.com/path`

- 2 Click the Connect button.



If you change your network settings (by opening Network preferences or by choosing a new location from the Apple menu) while you are connected to the WebDAV server, you should disconnect from the server, then reconnect to it.

To disconnect, select the server and choose Eject from the File menu.

Working with Rhythmyx Content in Web Folders

Some third-party applications require you to set up WebDAV-enabled folders to communicate with a WebDAV server; others require more specialized configuration. Consult your application's documentation to determine whether it supports WebDAV and for instructions about configuring WebDAV support.

Once you have configured WebDAV in Rhythmyx, you can:

- add new Content Items to Rhythmyx directly from your third party applications by saving them to the WebDAV Folder (you will be prompted for your rxwebdav login);
- add new Content Items to Rhythmyx by dragging them into Web Folders in Windows Explorer;
- access existing Content Items directly from your third-party application or Windows Explorer.

In all cases, you will be prompted for your rxwebdav login when you initially access the WebDAV folder. New Files are added to Rhythmyx in the Content Type specified for their MIME Type, or to the default Content Type if you have not specified a MIME Type.

In Rhythmyx, if you copy or create a Content Item in a WebDAV-enabled Folder, the Content Item will appear in the Folder from third-party applications only if the Folder's configuration file handles the MIME type associated with the Content Item.

WebDAV and Rhythmyx Workflow

Content Items in WebDAV folders are subject to standard Rhythmyx Workflow restrictions. Two issues in particular affect WebDAV.

First, when a user attempts to open a file in a WebDAV-enabled directory, Rhythmyx attempts to check out the associated Content Item to that user. If the Content Item is not in a Public State, the checkout occurs normally. If the Content Item is in a Public State, the WebDAV client issues a second request to Transition the Content Item to Quick Edit, then checkout the Content Item. The following processing occurs:

1. The WebDAV client requests the Content Item.
2. Rhythmyx returns a message that the Content Item is not available. The message includes the Content Item metadata, part of which is the value of the CONTENTVALID Flag.
3. The WebDAV client compares the value of CONTENTVALID flag to the values in the publicValidTokens parameter in the WebDAV servlet configuration.
4. If any of these values match, WebDAV assumes the Content Item is in a Public state and issues another request to Transition the Content Item to the first State in the Workflow where CONTENTVALID matches the value of the QEValidTokens in the WebDAV configuration.
5. Once this Transition is completed successfully, Rhythmyx checks the Content Item out to the user. Rhythmyx also records a Transition comment indicating that the Transition was performed by WebDAV.

Note that the default values of these attributes:

publicValidToken=y

QEValidToken=i

These values match the standard CONTENTVALID values used for Public (y) and Quick Edit (i) States in Rhythmyx Workflows. If you use different values for these States, you will need to change the values of these attributes in the WebDAV configuration to match.

Next, the State of a Content Item affects the processing of Purge requests from WebDAV. When you attempt to delete a Content Item from a WebDAV folder WebDAV issues a PURGE request. The value of the `deleteas` attribute of the WebDAV configuration determines the processing of this request. If the value of the `deleteas` attribute is *purge*, then Rhythmyx purges the Content Item from the Repository. The Content Item cannot be recovered. If the value of the `deleteas` attribute is *remove*, Rhythmyx only removes the Content Item from the Folder; it still exists in the Repository and can be recovered. In either case, however, if the Content Item is in a Public State, no processing occurs.

Appendices

APPENDIX I

Default Folder Configuration File

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- The WebDAV configuration information

    "root" - the virtual root path of the Rhythmyx for all resource
             specified in the request. It must start from "Site" or
"Folder"
             For example, root="//Site/mysite",
root="//Folder/myfolder".
             It must be an existing folder.

    "communityid" - the name of the community, which is used to
communicate
                 with Rhythmyx Server.

    "communityname" - the name of the community, this is only a
reference
                 to the communityid, but is not used by the
WebDAV.

    "locale" - the locale that is used for the created items

    "deleteas" - an optional attribute, indicating the behavior of the
DELETE operation (in DELETE, COPY and MOVE method).
The possible values are:

    "purge":    indicate the DELETE operation will purge
the
               target items and/or folders. The purged
items
               will not be able to recovered afterwards.

    "remove":   indicate the DELETE operation will remove
the
               folder relationships with the target items.
The
               removed items can be recovered afterwards.
This
               is the default behavior if this attribute
is not
               specified.

    "publicValidTokens" - comma separated list of chars for public
state
                       default "y"

    "QEValidTokens" - comma separated list of chars for quick-edit
state
                    default "i"
-->

```

```
<PSXWebdavConfigDef root="//Sites/EnterpriseInvestments/Images"
communityname="Enterprise Investments" communityid="1002" locale="en-us"
deleteas="remove"
publicValidTokens="y" QEValidTokens="i">
```

```
<!--
```

```
Defines one or more supported content type for WebDAV
```

```
"id" - the id of the content type in Rhythmyx
```

```
"name" - the name of the content type in Rhythmyx, this is only
used as a
```

```
reference to the id above.
```

```
"contentfield" - the field name for the content
```

```
"ownerfield" - the field name for the lock owner that is
submitted by WebDAV clients
```

```
"default" - "true" or "false". There must be only one element
with the value "true".
```

```
If it is "false", must define one or more mime
types (hence must define the "Mimetypes" element);
```

```
If it is "true", the "Mimetypes" element is
ignored.
```

```
-->
```

```
<PSXWebdavContentType id="307" name="Image" contentfield="img1"
ownerfield="webdavowner" default="false">
```

```
<!-- Defines the mime type(s) that be accepted by the current
Rhythmyx content type.-->
```

```
<MimeTypes>
```

```
<MimeType>image/gif</MimeType>
```

```
<MimeType>image/bmp</MimeType>
```

```
<MimeType>image/jpeg</MimeType>
```

```
<MimeType>image/png</MimeType>
```

```
</MimeTypes>
```

```
<!--
```

```
Defines the mapper between WebDAV properties and its
corresponding field name of the current Rhythmyx content type
```

```
Required mappings:
```

```
"getcontenttype" - maps to a Rhythmyx Content Editor field
for the mime-type.
```

```
"getcontentlength" - maps to a Rhythmyx Content Editor field
for the content length.
```

```
Rhythmyx WebDAV automatically maps the following:
```

```
"displayname" - always maps to Rhythmyx sys_title field
```



```

        "creationdate" - maps to Rhythmyx sys_contentcreatedate
field

        "getlastmodified" - maps to Rhythmyx
sys_contentlastmodifieddate field

        "getcontentlanguage" - always maps to Rhythmyx sys_lang
field

-->

<PropertyMap>
  <PSXPropertyFieldNameMapping name="displayname">
    <FieldName>displaytitle</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontenttype">
    <FieldName>img1_type</FieldName>
  </PSXPropertyFieldNameMapping>
  <PSXPropertyFieldNameMapping name="getcontentlength">
    <FieldName>img1_size</FieldName>
  </PSXPropertyFieldNameMapping>
</PropertyMap>
</PSXWebdavContentType>

  <PSXWebdavContentType id="309" name="File" contentfield="item"
ownerfield="webdavowner" default="true">

  <PropertyMap>
    <PSXPropertyFieldNameMapping name="displayname">
      <FieldName>displaytitle</FieldName>
    </PSXPropertyFieldNameMapping>
    <PSXPropertyFieldNameMapping name="getcontenttype">
      <FieldName>item_type</FieldName>
    </PSXPropertyFieldNameMapping>
    <PSXPropertyFieldNameMapping name="getcontentlength">
      <FieldName>item_size</FieldName>
    </PSXPropertyFieldNameMapping>
  </PropertyMap>
</PSXWebdavContentType>

<!--
  A list of excluded folder properties when creating a folder in
WebDAV.
  A created folder will inherit all properties of its parent folder
except
  the list of excluded properties and the folder name.
-->
<ExcludeFolderProperties>
  <PropertyName>sys_pubFileName</PropertyName>
</ExcludeFolderProperties>

</PSXWebdavConfigDef>

```


APPENDIX II

WebDAV Methods

Supported WebDAV Methods:

WebDAV Method	Rhythmyx Processing
OPTIONS	Requests the allowed WebDAV methods for the resource identified by the Request-URI.
GET	Retrieves the content of the resource (or item) identified by the Request-URI. If the resource is a folder, then retrieves all properties of its immediate children.
HEAD	Retrieves the header information as in the GET method, but not the content.
PROPFIND	Retrieves properties defined on the resource identified by the Request-URI.
PROPPATCH	Processes instructions specified in the request body to set properties defined on the resource identified by the Request-URI. Removing properties is not supported.
MKCOL	Creates a new collection or folder.
PUT	Creates a new item or updates the content of an existing item. A PUT cannot be performed on a collection (or folder) according to the WebDAV specification.
DELETE	Deletes an item or a folder identified by the Request-URI. Deletes a folder will also recursively delete all its child items and sub-folders if exists.
COPY	Copies items and folders from one location to another. Supporting “0” and “infinity” depth for copying folders.
MOVE	Moves items and folders from. Move for properties is not supported.
LOCK	Checks out the resource identified by the Request-URI.
UNLOCK	Checks in the resource identified by the Request-URI.

APPENDIX III

For Users Upgrading to Rhythmyx 6.0

If you are upgrading to Rhythmyx 6.0 and have Rhythmyx WebDAV configured in your previous version of Rhythmyx 5.x, you must manually reconfigure your WebDAV configuration.

The previous request root had the structure:

```
http://hostname:9980/rxwebdav/[URLPattern]
```

or, if you were not using the default application name:

```
http://hostname:9980/<webdav app name>/[URLPattern]
```

Reconfigure it to use the structure:

```
http://hostname:9992/Rhythmyx/rxwebdav/[URLPattern]
```


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