

# Oracle® WebLogic Portal

UCM VCR Adapter Guide

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# Introduction

This chapter includes the following sections:

- [“What Is the UCM VCR Adapter?”](#) on page 1-1
- [“Adapter Architecture”](#) on page 1-2

## What Is the UCM VCR Adapter?

The UCM VCR Adapter provides access through the WebLogic Portal Content Management Virtual Content Repository (VCR) to content stored in the Oracle UCM system. Oracle UCM is a suite of enterprise content management products that include Oracle Content Server and Oracle Site Studio. The adapter allows WebLogic Portal to access UCM-based content for use in portal applications. For example, you could access content stored in UCM with WLP features like Content Presenter and content selectors.

**Note:** Although the VCR supports read/write operations, the Version 1.0 of the UCM VCR Adapter is read-only.

This document explains how to install and configure the adapter. In addition, the guide describes best practices for modeling content in the UCM content repository and in Site Studio. These best practices help ensure the best exposure of that content through the VCR. Finally, this guide offers several examples that demonstrate techniques for modeling content in UCM to allow the most reliable mapping of content through the adapter.

**Note:** Only Content Server is required to use the adapter. The adapter works whether or not Site Studio is installed on the server. Site Studio is not required; however, extra features are available when Site Studio is installed.

## Audience

This document is intended for portal developers, portal administrators, UCM administrators, and UCM content architects.

## Related Documents

For more information, see the following documents:

- *Oracle Fusion Middleware Content Management Guide for Oracle WebLogic Portal*
- *Oracle Fusion Middleware Content Management SPI Guide for Oracle WebLogic Portal*

You can find information on UCM, including Content Server and Site Studio here:

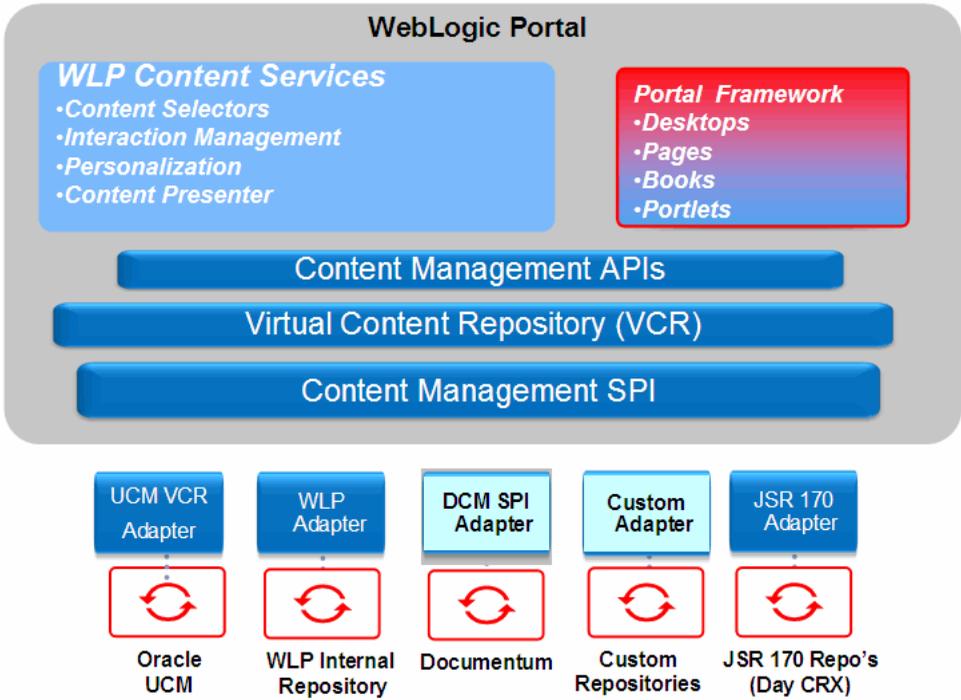
[http://download-west.oracle.com/docs/cd/E10316\\_01/ouc.htm](http://download-west.oracle.com/docs/cd/E10316_01/ouc.htm).

## Adapter Architecture

The UCM VCR Adapter serves as a bridge between the WebLogic Portal Content Management VCR and a UCM repository. The relationships between the various elements are illustrated in [Figure 1-1](#).

**Note:** Version 1.0 of the UCM VCR Adapter supports Read Only access to the UCM repository. Additionally, only content in a UCM repository that is in specified as State = Released will be accessible through the adapter. Content that is in any other workflow state, or is scheduled for future release, will not be accessible through the VCR.

Figure 1-1 Architecture of the UCM VCR Adapter





# Installation and Configuration

This chapter includes the following topics:

- [“Installing the UCM VCR Adapter” on page 2-1](#)
- [“Configuring the Adapter” on page 2-13](#)
- [“Configuring Security” on page 2-19](#)
- [“Verifying the Installation” on page 2-21](#)

## Installing the UCM VCR Adapter

The installation process includes these tasks:

- [“Ensure the UCM Components are Installed” on page 2-1](#)
- [“Install the Patch” on page 2-2](#)
- [“Add a Reference to the UCM VCR Adapter Shared Library” on page 2-9](#)
- [“Modify Cache Settings” on page 2-11](#)

## Ensure the UCM Components are Installed

You must have the following UCM components installed to use the UCM VCR Adapter. For details on installing these components, refer to the UCM installation documentation.

## Server Required Components

1. Oracle Content Server 10gR3 (10.1.3.3.3) with Oracle Text Search (OracleTextSearch), Full Text Search (DATABASE.FULLTEXT), or Metadata-only Search (DATABASE.METADATA) configured.
2. CS10gR35UpdateBundle
3. Folders\_g (Included in CS10gR35UpdateBundle)

## Server Optional Components

4. Site Studio 10gR4 (10.1.4.0.0) component
5. SiteStudioSPI – Only-10gR4 component  
**Note:** This component is available on Oracle E-Delivery as one of the components included in part number V16530-01 Oracle Universal Content Management Web Content Management 10gR3 (10.1.3.3.7) for Windows, Linux and Unix.
6. Custom Link Form (ss\_docname\_link\_form.htm) must be checked in. You can obtain this Site Studio Link Form on the Oracle Technology Network, here:  
<http://www.oracle.com/technology/products/content-management/ucm/samples/index.html>.

## Optional Client Components

- Site Studio Designer (required for creating and changing region definitions)

## Install the Patch

The UCM VCR Adapter is distributed as a public WebLogic Portal patch. You have two options for installing the patch. You can use the Smart Update application (part of your existing WLP installation) or you can perform a command-line installation of the patch file.

### Installing with the Smart Update GUI Application

Smart Update provides a user interface that lets you install and manage WLP patches. Just start Smart Update, locate the public patch for the UCM VCR Adapter, and install it.

For detailed instructions on running and using Smart Update, see “[Oracle Smart Update Installing Patches and Maintenance Packs](#)” in *Oracle Smart Update Installing Patches and Maintenance Packs*.

## Installing with the Command Line Utility

You can also install the patch using the Smart Update command line utility. For detailed information on using this utility, see [“Using the Command-Line Interface”](#) in *Oracle Smart Update Installing Patches and Maintenance Packs*.

Here is an example Smart Update command-line installation. In this example, the Patch ID is `AAAA`. When following these instructions, you must replace `AAAA` with the correct ID of the patch.

1. If it is running, stop WebLogic Server.
2. Download the patch file, `AAAA.jar`. In place of `AAAA`, use the correct ID of the patch you are installing.
3. Ensure that the `patch-catalog.xml` and `prod-info.xml` files located in `<BEA_HOME>/utils/bsu/cache_dir` are updated based on one of the following two options.
  - If you have a brand new WLP 10gR3 install and you have not previously downloaded or installed any other patches, then you can copy the `patch-catalog.xml` and `prod-info.xml` files included in the patch file set you downloaded and replace the existing files of the same names that were created as part of the WLP 10gR3 GA installation process.
  - If you have installed patch updates to your original WLP 10gR3 installation (by having used Smart Update in the past), then run the Smart Update GUI to get the latest `patch-catalog.xml` and `prod-info.xml` files. Then, either use Smart Update to directly install the patch or exit the Smart Update GUI and use these Smart Update command line instructions to install the patch manually. (Note that the GUI automatically downloads the patch catalog to the `bsu/cache_dir` of the selected installation.)
4. Put the downloaded `AAAA.jar` patch file into the Smart Update cache directory:  
`<BEA_HOME>\utils\bsu\cache_dir`, where `AAAA` is the ID of the patch you are installing.
5. In a command window, go to the directory containing the Smart Update executables:  
`<BEA_HOME>\utils\bsu`.
6. Enter the following command, where `AAAA` is the ID of the patch you are installing:  

```
bsu -prod_dir=<BEA_HOME>\wlportal_10.3 -patchlist=AAAA -verbose  
-install
```
7. Restart WebLogic Server.

## Select Profile Trigger Field on the UCM Server

The UCM VCR Adapter requires a Profile Trigger Field to have been configured on the UCM Server. This is done in the Configuration Manager applet, on the Profiles tab. For example, you could select the Type (dDocType) field as the trigger field.

## Update Existing Domains

**Note:** Follow the steps in this section only if you are installing the adapter into an existing WLP domain. If you create a new domain *after* performing the patch installation (as described in “[Install the Patch](#)” on page 2-2), you can skip the steps in this section. Any new domain created after the patch is installed will automatically receive the patch artifacts.

**Note:** You must use separate tablespaces in your database for UCM and WLP, because both have a table called USER. For more information, see [http://download.oracle.com/docs/cd/E13155\\_01/wlp/docs103/db/oracle.html#wp1063226](http://download.oracle.com/docs/cd/E13155_01/wlp/docs103/db/oracle.html#wp1063226).

The basic steps for updating an existing domain are using the WebLogic Server Console to remove several J2EE Shared Libraries and to install new ones. You must perform these steps for each WLP domain in which you want to use the UCM VCR Adapter.

---

**Tip:** For more detailed information on deployment, see “[Deploying Applications and Modules with weblogic.deployer](#)” in *Deploying Applications to WebLogic Server*.

---

## Delete Existing Libraries

1. Start WebLogic Server for the WLP domain you wish to update. It is recommended that you start the server from the command line using:  

```
<BEA_HOME>/user_projects/domains/<my_domain>/bin/startWebLogic.cmd/.sh
```
2. Open the WebLogic Server Administration Console in a browser with the URL:  

```
http://<hostname>:<port>/console.
```

 For example,  

```
http://localhost:7001/console.
```
3. In the Domain Structure part of the console, click **Deployments**.

---

**Tip:** To increase the number of rows that are displayed in the table, click **Customize the table** and set the **Number of rows displayed per page** value to a larger number, like 100.

---

4. In the Summary of Deployments panel, locate and select the following libraries.

**Note:** The Status of these libraries was automatically set to **Failed** by the patch installer.

```
content-management-app-lib(10.3.0,10.3.0)
content-management-app-lib(10.3.0,10.3.0.1)
content-management-web-lib(10.3.0,10.3.0)
content-management-web-lib(10.3.0,10.3.0.1)
```

5. Click **Delete**.

**Note:** If you see an error message, it is possible to safely ignore it. To verify that the libraries were deleted, click **Deployments** again to refresh the screen. The libraries should be gone. If any of the libraries are still in the list, try deleting them again.

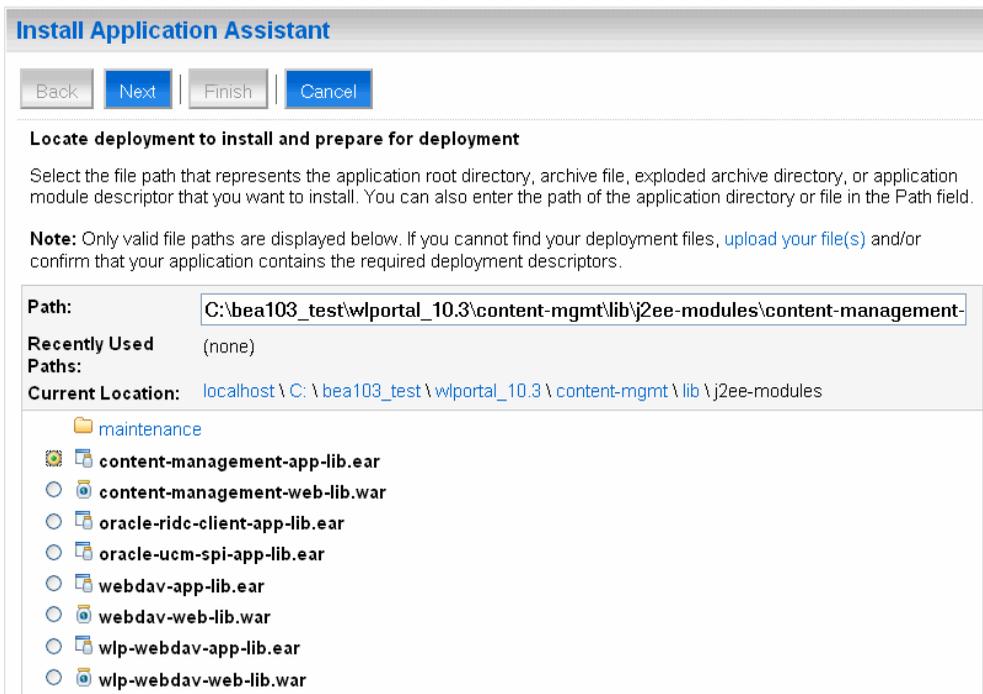
## Install New Libraries

1. If it is not running, start WebLogic Server for the WLP domain you wish to update. It is recommended that you start the server from the command line using:  

```
<BEA_HOME>/user_projects/domains/<my_domain>/bin/startWebLogic.cmd/.sh
```
2. If it is not already open, open the WebLogic Server Administration Console in a browser with the URL: `http://<hostname>:<port>/console`. For example:  
`http://localhost:7001/console`
3. In the Domain Structure part of the console, click **Deployments**.
4. Click **Install**.
5. In the Install Application Assistant wizard, navigate to this directory:  

```
<BEA_HOME>\wlportal_10.3\content-mgmt\lib\j2ee-modules
```
6. Select **content-management-app-lib.ear**, as shown in [Figure 2-1](#).

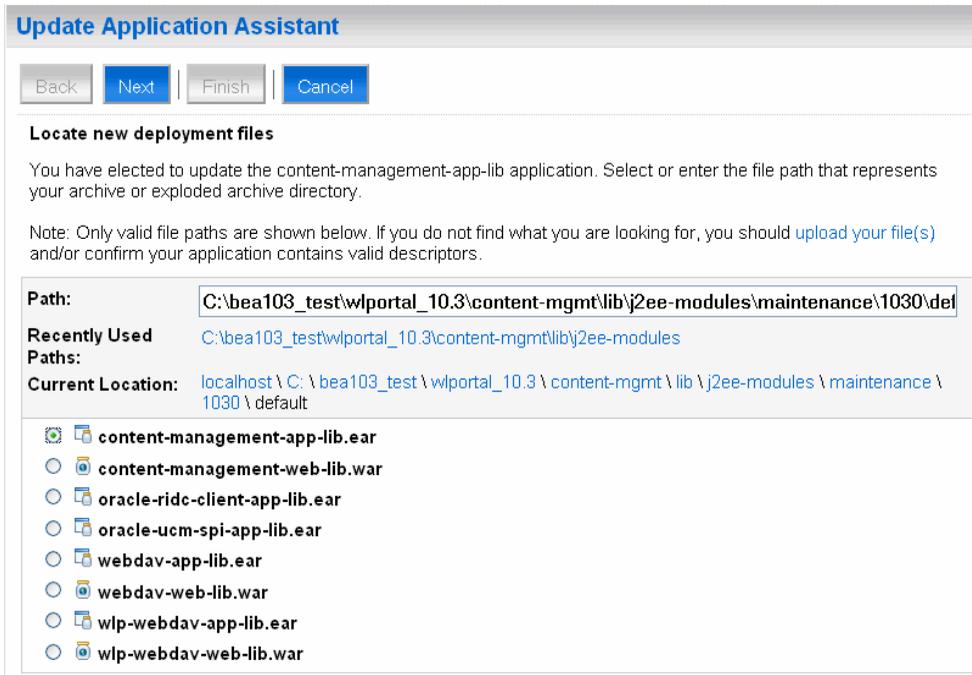
Figure 2-1 Install Application Assistant



7. Click **Next**.
8. Be sure **Install this deployment as a library** is selected, and click **Next**.
9. In the Optional Settings panel, click **Next**.
10. In the Review Your Choices panel, click **Finish**.
11. (Optional) In the Settings for content-management-app-lib panel, change the **Deployment Order** to **1**, and click **Save**.
12. In the Domain Structure part of the console, click **Deployments**.  
**Note:** Now that the library has been installed, you need to update it, as explained in the following steps.
13. In the Deployments table, select the library **content-management-app-lib**. Note that the Update button becomes active.

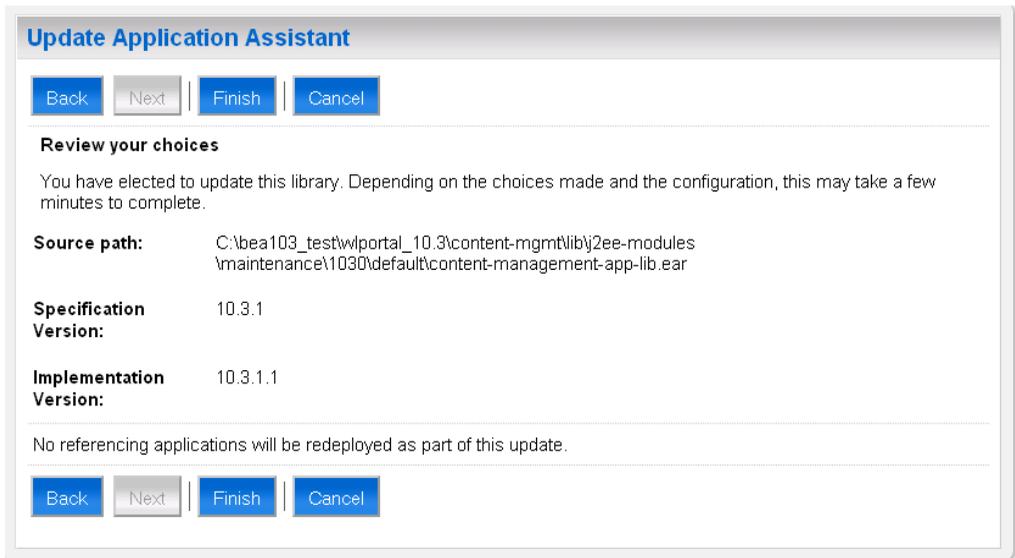
14. Click **Update**.
15. In the Update Application Assistant wizard, click **Change Path**.
16. Navigate to  
`<BEA_HOME>\wlportal_10.3\content-mgmt\lib\j2ee-modules\maintenance\1030\default.`
17. Select **content-management-app-lib.ear**, as shown in [Figure 2-2](#).

**Figure 2-2 Update Application Assistant**



18. Click **Next**.
19. Review your choices. You should see that the **Specification Version** is X and the **Implementation Version** is X.1, as shown in [Figure 2-3](#).

**Figure 2-3 Review Your Choices**



20. Click **Finish**.

**Note:** If you see an error message, ignore it.

21. In the Domain Structure part of the console, click **Deployments**.

22. In the table, you should see both the installed and updated library files, as shown in [Figure 2-4](#). Note that the version numbers may be slightly different depending on the actual patch version.

**Figure 2-4 Verifying the Libraries are Installed**

<input type="checkbox"/>	beehive-netui-resources-1.0(1.0,1.0)	Active		Library	1
<input type="checkbox"/>	beehive-netui-resources-1.0-1.10.0(1.0,1.0.2.2)	Active		Library	1
<input checked="" type="checkbox"/>	content-management-app-lib(10.3.1,10.3.1)	Active		Library	1
<input checked="" type="checkbox"/>	content-management-app-lib(10.3.1,10.3.1.1)	Active		Library	1
<input type="checkbox"/>	jsf(1.2,1.2.3.2)	Active		Library	1
<input type="checkbox"/>	jsf-myfaces(1.1,1.1.1)	Active		Library	1

You have successfully installed the first library.

23. Now you need to install three more libraries. Follow the same steps you followed to install the first library (steps 3 through 22) to install each of the following libraries:

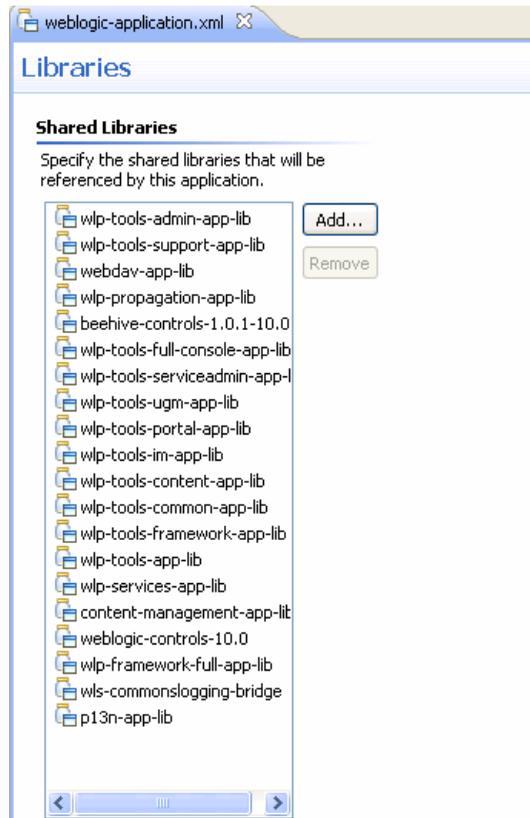
- `content-management-web-lib.ear`
- `oracle-ridc-client-app-lib.ear`
- `oracle-ucm-spi-app-lib.ear`

## Add a Reference to the UCM VCR Adapter Shared Library

Use Workshop for WebLogic to add a library reference from your enterprise application to the UCM VCR Adapter library.

1. Start Workshop for WebLogic.
2. In the Package Explorer, navigate to the `<EAR_PROJECT>/EarContent/META-INF` folder.
3. Right-click the file `weblogic-application.xml` and select **Open With > WebLogic Deployment Descriptor Editor**.
4. In the editor, select the Libraries tab.
5. Click the **Add** button, as shown in [Figure 2-5](#).

Figure 2-5 The Libraries Tab



6. In the Select WebLogic Shared Library dialog, click the **Manage Shared Libraries** link near the bottom of the dialog.
7. In the Preferences dialog, click **Add**.
8. In the Add WebLogic Shared Library dialog, click Browse, and open the following library:  

```
<BEA_HOME>/wlportal_10.3/content-mgmt/lib/j2ee-modules/  
oracle-ucm-spi-app-lib.ear
```
9. In the Add WebLogic Shared Library dialog, click **OK**.
10. Verify that the library was added to the list of Shared Libraries and click **OK**.

11. In the Select WebLogic Shared Library dialog, select the **oracle-ucm-spi-app-lib** library, and click **OK**. The library appears in the Shared Libraries list of `weblogic-application.xml`.
  12. Save the file `weblogic-application.xml`.
- You have successfully added the UCM VCR Adapter library to your portal project.

## Modify Cache Settings

You can configure or adjust UCM repository caches in two ways: in the EAR project file `META-INF/p13n-cache-config.xml` or in the Portal Administration Console (under **Configuration & Monitoring > Service Administration**). Cache settings made in the Portal Administration Console take precedence over the file-based settings. You can also flush the caches from the Portal Administration Console.

**Note:** If you already have a `p13n-cache-config.xml` file configured for another repository, simply add the UCM repository cache settings into that file.

[Table 2-1](#) and [Table 2-2](#) describes the available cache settings in `p13n-cache-config.xml`. [Table 2-1](#) describes the VCR caches, which are caches used by the VCR component. These caches are repository specific and can exist for any repository. [Table 2-2](#) describes the SPI caches, which are specific to the UCM SPI Adapter component.

The pattern for the cache entry names is `<elementName>.<repositoryName>`, where `<repositoryName>` is the name of the UCM repository as specified in the `META-INF/content-config.xml` file. For example, `nodeCache.StellentRepository`.

Note that `<time-to-live>` values are specified in milliseconds.

**Table 2-1 VCR-Level Cache Entry Descriptions**

Cache Entry Name	Description
<code>nodeCache.&lt;repositoryName&gt;</code>	Caches node id to node instance for this repository. Defaults: enabled = true; time-to-live = 60000, max-entries = 50.
<code>nodePathCache.&lt;repositoryName&gt;</code>	Caches node path to node id for this repository. Defaults: enabled = true; time-to-live = 60000, max-entries = 50.
<code>typeCache.&lt;repositoryName&gt;</code>	Caches type id to type instance for this repository Defaults: enabled = true; time-to-live = 300000, max-entries = 200.
<code>typeNameCache.&lt;repositoryName&gt;</code>	Caches type name to type id for this repository. Defaults: enabled = true; time-to-live = 300000, max-entries = 200.

**Table 2-1 (Cont.) VCR-Level Cache Entry Descriptions**

Cache Entry Name	Description
binaryCache.<repositoryName>	Defaults: enabled = true; time-to-live = 60000, max-entries = 25. <b>Note:</b> The maximum binary entry size is specified as the repository property binaryCacheMaxEntrySize which has a default value of 102400 bytes (100 kb).
searchCache.<repositoryName>	Caches search results for this repository. Defaults: enabled = true; time-to-live = 300000, max-entries = 200.
nativeAuthCache.<repositoryName>	Authorization cache for this repository when using native security. Defaults: enabled = true; time-to-live = 5000, max-entries = 5000.

**Table 2-2 SPI-Level Cache Entry Descriptions**

Cache Entry Name	Description
repo.ucm.typeNameCache.<repositoryName>	Caches UCM server type metadata by type name. Defaults: enabled = true; time-to-live = 1800000 (30 minutes), max-entries = 5000
repo.ucm.nodePathToUidCache.<repositoryName>	Caches UCM server node ids by node path. Defaults: enabled = true; time-to-live = 1800000 (30 minutes), max-entries = 5000
repo.ucm.nodeUidCache.<repositoryName>	Caches UCM server node metadata by node id. Defaults: enabled = true; time-to-live = 1800000 (30 minutes), max-entries = 5000
repo.ucm.securityInfoCache.<repositoryName>	Caches UCM server node security information. Defaults: enabled = true; time-to-live = 1800000 (30 minutes), max-entries = 5000
repo.ucm.typeNamesCache.<repositoryName>	Caches the list of UCM type names. Defaults: enabled=true, time-to-live=1800000 (30 minutes), max-entries=5000
repo.ucm.indexedFieldsCache.<repositoryName>	Caches information about which UCM fields are indexed. Defaults: enabled=true, time-to-live=1800000 (30 minutes), max-entries=5000

# Configuring the Adapter

After the adapter is added to your WLP project, you are ready to configure it. Configuring means specifying how the adapter will talk to the UCM content repository. For example, the adapter has to know where the UCM server is running, its port number, an admin account name, and so on.

There are two configuration scenarios to consider. If you primarily work with the IDE in a development environment, you can configure the adapter by editing a configuration file. If you are a portal administrator who uses the WLP Administration Console, you can use the Administration Console to configure the adapter.

## Configuring the Adapter in a Development Environment

This section explains how to configure the adapter using a configuration file. Developers working primarily in the IDE commonly use this method.

**Note:** Because of the way in which WLP uses deployment plans, adapter configurations made in the WLP Administration Console take precedence over configurations made in the `content-config.xml` file.

1. Open the `content-config.xml` file. This file is located in the `META-INF` directory of your Portal EAR Project.
2. Edit the required elements in the file using [Table 2-3](#) and [Listing 2-1](#) as a guide.
3. Save the configuration file.
4. Redeploy the portal application.

[Table 2-3](#) describes the required elements in `content-config.xml` that you must configure to successfully use the adapter.

**Table 2-3 Configuration File Elements**

<b>Element</b>	<b>Description</b>
class-name	The class name of the adapter, which is com.oracle.content.spi.ucm.RepositoryImpl.
username	<p>If you use the global config user security option (see <a href="#">“WLP-Secured Global Config User”</a> on page 2-20 or <a href="#">“Natively-Secured Global Config User”</a> on page 2-20), this element specifies the UCM Server username that is used to retrieve data from UCM, regardless of the WLP user. In other words, all WLP users in an enterprise application will see the data for this UCM repository instance.</p> <p><b>Note:</b> If you configure the identity propagation option, do not specify this element (see <a href="#">“Identity Propagation with Native Security”</a> on page 2-20).</p>
ContentServerHostname	The hostname or IP address of the server on which the UCM repository is running.
ContentServerPort	The Intradoc port number on which the UCM repository is listening. This corresponds to the IntradocServerPort setting in the Content Server configuration file, which defaults to port 4444.
ContentServerAdminUser	The user name of a valid administrative user of the UCM repository. This user must have the admin role.
ContentServerServiceType	Protocol used to connect with the UCM Server. Valid options are INTRADOC or INTRADOC_SSL. INTRADOC is the default.
ContentServerSSLKeyStoreFile	Absolute path to the client SSL keystore file. Only used when ContentServerServiceType is INTRADOC_SSL.
ContentServerSSLKeyStorePassword	SSL keystore password. Only used when ContentServerServiceType is INTRADOC_SSL.
ContentServerSSLKeyStoreAlias	SSL keystore alias name. Only used when ContentServerServiceType is INTRADOC_SSL.
ContentServerSSLKeyStoreAliasPassword	SSL keystore alias password. Only used when ContentServerServiceType is INTRADOC_SSL.

**Table 2-3 (Cont.) Configuration File Elements**

Element	Description
CacheInvalidationInterval	Polling interval in minutes for the UCM Adapter CacheInvalidator IntervalJob (must be equal to or greater than 2 minutes). This cache automatically invalidates cached content in WLP as content is changed on the UCM server.
folder_badge_objectClasses	Specifies a list of UCM ObjectClasses that are displayed as folders in the WLP Administration Console. For the UCM VCR adapter, set this value to IDC:Folder.
TypeRetrievalShapeUser	Specifies a UCM user account that is used to retrieve all types (ObjectClasses) from UCM. UCM profiles can take into account the UCM user when determining which fields are on a profile. WLP uses this setting to ensure that the UCM type retrieval is identical regardless of the WLP user. This user account does not need any special roles on the UCM server.
useNativeSecurity	<p>When this element is enabled, the native UCM security will be used to secure content. When disabled, the VCR federated security (entitlements) will be used to secure content in addition to the native UCM security. Default is false (disabled). For more information, see <a href="#">“Configuring Security” on page 2-19</a>.</p> <p><b>Note:</b> For best performance, use native security (useNativeSecurity = true).</p>
ContentServerConnectionPoolSize	Default: 20
ContentServerConnectionTimeout	Unit of measure is milliseconds. Default: 60000 (one minute)

[Listing 2-1](#) shows a sample configuration file with the required elements highlighted in bold type.

#### **Listing 2-1 Sample Configuration for the UCM VCR Adapter**

```
<!-- UCM test repository -->
<content-store>
  <name>UCMRepository</name>
    <class-name>com.oracle.content.spi.ucm.RepositoryImpl
  </class-name>
```

```

<username>wlpApp</username>
  <repository-property>
    <description>Hostname on which the UCM Content Server
      is running
    </description>
    <name>ContentServerHostname</name>
    <value>10.221.19.72</value>
  </repository-property>
  <repository-property>
    <description>Port on which the UCM Content Server is running (on
      host named above)
    </description>
    <name>ContentServerPort</name>
    <value>4444</value>
  </repository-property>
  <repository-property>
    <description>Content Server uname in Admin role, for
      security checks
    </description>
    <name>ContentServerAdminUser</name>
    <value>sysadmin</value>
  </repository-property>
  <repository-property>
    <description>List of folder ObjectClasses</description>
    <name>folder_badge_objectClasses</name>
    <value>IDC:Folder</value>
  </repository-property>
  <repository-property>
    <description>Single user for all type related interactions
    </description>
    <name>TypeRetrievalShapeUser</name>
    <value>typeShapeUser</value>
  </repository-property>
  <repository-property>
    <name>useNativeSecurity</name>
    <value>true</value>
  </repository-property>
</repository-property>

```

```

    <description>Protocol used to connect with the UCM Server.
    Valid options are INTRADOC or INTRADOC_SSL.  INTRADOC is the
    default.
    </description>
    <name>ContentServerServiceType</name>
    <value>INTRADOC</value>
</repository-property>
<repository-property>
    <description>Polling interval for the
    CacheInvalidator IntervalJob
    (must be equal to or greater than 2 min)
    </description>
    <name>CacheInvalidationInterval</name>
    <value>2</value>
</repository-property>
<repository-property>
    <description>Location on the filesystem of the
    client SSL keystore
    file. Only used when ContentServerServiceType
    is INTRADOC_SSL
    </description>
    <name>ContentServerSSLKeystoreFile</name>
    <value>c:/client_keystore</value>
</repository-property>
<repository-property>
    <description>SSL keystore password. Only used when
    ContentServerServiceType is INTRADOC_SSL
    </description>
    <name>ContentServerSSLKeystorePassword</name>
    <value>idcidc</value>
</repository-property>
<repository-property>
    <description>SSL keystore alias name. Only used when
    ContentServerServiceType is INTRADOC_SSL
    </description>
    <name>ContentServerSSLKeystoreAlias</name>
    <value>SecureClient</value>
</repository-property>

```

```

    <repository-property>
      <description>SSL keystore alias password. Only used when
      ContentServerServiceType is INTRADOC_SSL
    </description>
    <name>ContentServerSSLKeystoreAliasPassword</name>
    <value>idcidc</value>
  </repository-property>
  <read-only>true</read-only>
<binary-cache-max-entry-size>102400</binary-cache-max-entry-size>
  <!-- metadata search -->
  <search-is-enabled>true</search-is-enabled>
  <!-- full text search -->
  <fulltext-search-is-enabled>true</fulltext-search-is-enabled>
  <search-indexing-is-enabled>false</search-indexing-is-enabled>
</content-store>

```

## Configuring the Adapter in the Administration Console

Users who typically work on staged or production portals use the WebLogic Portal Administration Console to configure content repositories. This section summarizes the basic configuration steps for this scenario. For more detailed instructions, see "Configuring Additional Repositories" in the [Oracle Fusion Middleware Content Management Guide for Oracle WebLogic Portal](#).

Once the UCM repository is deployed and running it must be connected to WebLogic Portal so that it appears as part of its Virtual Content Repository. To add the UCM repository:

1. Open the WebLogic Portal Administration Console.
2. Select the Content tab to enter the Content Management page.
3. Select the **Repositories** link to view the repositories. This link is above the tree view on the left.
4. Click **Virtual Content Repository** at the top of the repository tree.
5. In the editor pane to the right, click the **Add Repository Connection** button.
6. Complete the Add Repository Connection dialog with the following information:

Field	Description
Name	A name you choose for the adapter.
Connection Class	The class name of the adapter, which is <code>com.oracle.content.spi.ucm.RepositoryImpl</code> .
Datasource JNDI name	Not required.
Username	If using the global config user option (all users of the application use the same credentials to connect to UCM), this field specifies the user name of a valid user of the UCM repository. For more information on security, see <a href="#">“Configuring Security” on page 2-19</a>
Password	Not necessary for the UCM VCR Adapter.
Enable Library Services	Set this field to false.

7. Click **Create**. The new repository appears in the repository tree on the left hand side.

**Note:** If you receive an error after clicking **Create**, click the **Refresh Tree** button. The words “can’t connect” appear next to the new repository name in the Administration Console. To correct the problem, select the new repository and use the Add Property dialog to add the required properties indicated by the error message:  
ContentServerHostname, ContentServerPort, ContentServerAdminUser.

8. Using the Administration Console, configure the same repository properties listed and described previously in [Table 2-3](#).

## Configuring Security

There are three ways to configure security for the UCM VCR Adapter, as explained in this section.

- [“WLP-Secured Global Config User” on page 2-20](#)
- [“Natively-Secured Global Config User” on page 2-20](#)
- [“Identity Propagation with Native Security” on page 2-20](#)

**Note:** The VCR adapter user identity assertion to the UCM content server will not work properly if the UCM Content Server users that are being referenced by WLP exist in an

ActiveDirectory and the UCM Content Server has been configured to use a non-LDAP based ActiveDirectory. This configuration is not supported.

A local or global user identity store will work, as will an external LDAP-based store (either ActiveDirectory or other LDAP).

**Note:** For best performance, use native security (`useNativeSecurity = true`).

## WLP-Secured Global Config User

All users in the application use the same credentials to connect to the UCM instance. The data is secured through WebLogic Portal. WLP Content Entitlements will apply. Configure this type of security with these settings in the `META-INF/content-config.xml` file in the EAR Project, as described in the following table.

Field	Value
Username	The user name of a valid user of the UCM repository.
useNativeSecurity	false

## Natively-Secured Global Config User

All users in the application use the same credentials to connect to the UCM instance. Data is secured through UCM. WLP Content Entitlements will not apply. Configure this type of security with these settings in the `META-INF/content-config.xml` file in the EAR Project:

Field	Value
Username	The user name of a valid user of the UCM repository.
useNativeSecurity	true

## Identity Propagation with Native Security

WebLogic Portal and UCM use the same security store, such as a shared LDAP store. Each WLP user sees in the application what they are permitted to see on the UCM side. Entitlements (WLP content security) are disabled.

<b>Field</b>	<b>Value</b>
Username	Do not set a value for this field.
useNativeSecurity	true

## Verifying the Installation

To verify the installation, open the WLP Administration Console, go to the Content Management section, and attempt to browse to the UCM repository and view its contents or types.



# Using the Adapter

This chapter includes these sections:

- [“Content Design Considerations” on page 3-1](#)
- [“UCM Content Modeling Examples” on page 3-16](#)

## Content Design Considerations

The UCM VCR Adapter provides the conduit through which the WLP Virtual Content Repository (VCR) accesses content in UCM. To function properly, the adapter expects content structures that can be mapped to the structures used in the VCR. For example, UCM uses profiles to manage how metadata is structured and displayed. However, the VCR does not use profiles; therefore, the adapter is required to provide reliable mappings between the two systems.

This section discusses the considerations for modeling content in the UCM to facilitate exposure in the VCR.

**Note:** If the UCM server is restarted, or if a UCM parameter is changed that might affect search, then the WebLogic Portal server must be restarted.

## Content Modeling and Mapping Overview

Content modeled in UCM is modeled using some combination of the following constructs:

- Document – A basic content item construct that includes a full set of metadata fields. Every document contains the same set of fields.

- Content profile – Content profiles allow UCM administrators to express which metadata fields are associated with a given document. Content profiles created by a system administrator can refine the metadata options available to users during check in and searching, as well as what metadata is displayed on a content information page. See also [“Creating Profile-Based Content Types with the UCM Administration Console” on page 3-17](#)
- Site Studio region definitions – An add-on container construct created in Site Studio that allows definition of types (region definitions) composed of properties (content elements), in addition to the standard document fields. For example, a region definition could include a combination of text and graphic elements. See also [“Creating Region-Based Content Types with Oracle Site Studio” on page 3-24](#)

How these constructs map to WLP VCR content types and nodes are described in the following sections.

## How Documents are Mapped to VCR Content Types

Documents not associated with a content profile map to a content type named IDC:GlobalProfile in the VCR that includes all of the metadata fields. All of the metadata fields you see in UCM will appear in the VCR type called IDC:GlobalProfile.

To ensure that content profiles are correctly mapped to VCR content types, keep in mind the following mapping behavior:

- Each metadata field in a content profile will correspond to a VCR property definition.
- A single binary property definition named `idcPrimaryFile` will always relate to the checked-in document. This binary property definition will be the primary property definition for the content type.
- Other metadata fields of type Text, Long Text, Memo, Integer, Decimal, and Date will map to VCR property data types of String, Long, Double, and Calendar.
- Text metadata fields using an option list based on the YesNoView or TrueFalseView views will be exposed in WLP as a property of type Boolean.

## How Content Profiles are Mapped to VCR Content Types

Each content profile in UCM is exposed in the VCR as a content type. The profile's associated fields (defined by rules) are exposed on the VCR type.

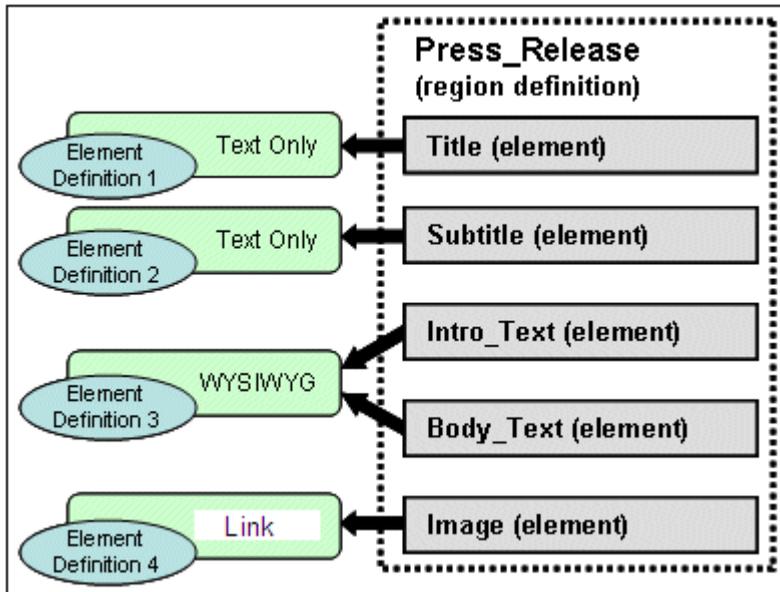
## How the Combination of Site Studio Region Definitions and Profiles are Mapped to VCR Content Types

Oracle Site Studio is a web development program that offers structured content features. In Site Studio, groups of individual content elements are arranged in region definitions. Each region definition in UCM is exposed in the VCR as a content type. If the region definition is associated with a profile, then the VCR content type will contain property definitions from both the region definition as well as from the profile.

If the region definition is not associated with a profile, then the VCR content type will contain property definitions from both the region definition as well as the standard document metadata fields (the fields from IDC:GlobalProfile).

Figure 3-1, illustrates a region definition called "Press\_Release," which consists of the elements Title, Subtitle, Intro\_Text, Body\_Text, and Image.

Figure 3-1 Elements Assembled into a Region



To ensure that content regions are correctly mapped to VCR content types, keep in mind the following mapping behavior:

- Element definitions map to VCR property definitions. Note that unlike metadata property definitions associated with profiles, property definitions that are defined as part of a region are only searchable by doing a full text search.
- Element definitions map to string, link, or nested data types.
  - Links will be represented when a content custom element form called `SS_DOCNAME_LINK_FORM` is used that restricts the population of the link field to something the content server understands as a link.
  - Nested data types will be represented when a Site Studio static list is used. A static list is inherently one level deep and may only contain element definitions of type string (plain text or wysiwyg) and link. Static lists are inherently multi-valued.
  - The static list will be represented as an abstract content type by the VCR. The static list itself acts as a definition for an additional content type comprised of the element definitions in the static list.
  - Both plain text and wysiwyg element types are exposed as String values in the VCR.
- Region definitions, by default, receive all of the property definitions exposed by the global profile type. The content type for the region will extend the `IDC:GlobalProfile` content type.
- Region definitions may also be associated with a content profile. In this case the set of element definitions from the region, along with the set of metadata fields from the profile, will be represented as a single type by the VCR. The content type for the region will extend the profile content type.

## Best Practices for Modeling Content

The VCR uses *content types* to describe content metadata. Content types are used to define the metadata that you can associate with content. When content contributors add content to a WLP VCR, they can associate the content with a content type. In the same way, when UCM content is surfaced in the VCR, the UCM VCR Adapter must provide some degree of mapping to ensure that the content types are structured correctly. This section describes best practices for modeling data in a WLP Repository or other repository to facilitate migration to the UCM Adapter, and to understand the mapping behavior of the UCM Adapter.

[Table 3-1](#) describes the UCM modeling considerations for VCR content types. For more information on VCR content types, see the [Oracle Fusion Middleware Content Management Guide for Oracle WebLogic Portal](#).

**Table 3-1 Content Type Modeling Considerations**

<b>VCR Content Types</b>	<b>UCM Modeling Consideration</b>	<b>Recommendation</b>
Multiple Binaries	You can have only one binary property per content type.	Use at most one binary per content type. Or use a region-based set of elements that use the custom link type to associate multiple binaries documents with a content type.
Multi-valued Property Definitions	When using profiles, there is limited support for multi-valued properties; only string data types are supported. The data in the UCM is persisted as a single comma-separated value.	Use only multi-valued string property definitions, and avoid using comma values for these properties.
Type Inheritance	Site Studio static list types are exposed as abstract nested types, as are the set of document binary renditions (in a property named <code>idcRenditions</code> ).	Understand how region definitions map to content types using type inheritance.
Relationship between Profile Trigger Value and ObjectClass	Each profile in UCM must have a unique trigger value. It is not supported to have multiple profiles with the same trigger value.	Ensure each profile in UCM has a unique trigger value.
Nested Types	Nested types are not supported outside of the single-level nesting support described by the "static list" feature of region definitions.	Understand how region definition static lists and document renditions are exposed as nested types.
Property Definition Names	When using profiles, the maximum length of a metadata field is 29 characters in the UCM, with no embedded spaces.	Limit property definition names to at most 29 characters with no embedded spaces.

**Table 3-1 (Cont.) Content Type Modeling Considerations**

<b>VCR Content Types</b>	<b>UCM Modeling Consideration</b>	<b>Recommendation</b>
Primary Property Definition	In UCM there is no notion of a "primary" property definition. The UCM VCR Adapter will represent the single binary property of a profile-based document as a primary property definition named <code>idcPrimaryFile</code> . Regions will not expose a primary property definition.	Understand how primary properties are represented by the UCM VCR Adapter.
Type Metadata	<p>Content types in UCM do not include the following metadata properties: <code>createdBy</code>, <code>modifiedBy</code>, <code>createdDate</code>, <code>modifiedDate</code>.</p> <p>There is no way to determine who created/modified a type and when it was last created/modified.</p> <p>By contrast, Documents and Folders do support these properties; it is possible to determine who created/modified a doc/folder and when this was done.</p>	Avoid use of these fields on the <code>ObjectClass</code> object in application development.
Property Definitions	The UCM recommends a maximum of 500 custom property definitions for use across all types.	Do not exceed the maximum number of total property definitions in the UCM system.

[Table 3-2](#) describes the UCM modeling considerations for VCR content nodes. In the VCR, the repository is usually represented as a hierarchical collection of *nodes*. Nodes primarily include folders and content items.

**Table 3-2 Content Node Modeling Considerations**

<b>VCR Content Nodes</b>	<b>UCM Modeling Considerations</b>	<b>Recommendations</b>
Folders	In UCM, there is a single folder type, named IDC:Folder, that can contain child content, but this type cannot contain folder-specific metadata. The metadata stored on folders is intended to work as default values for the content stored in those folders.	Be aware that folder metadata in UCM refers to child document defaults, rather than folder-specific metadata.
Node Hierarchy	Only folders may have child nodes.	Be aware that nodes cannot be created beneath document nodes.
Node Metadata	The modifiedBy and modifiedDate metadata on nodes has a different meaning than what is exposed by the WLP repository. In UCM, this data is derived from the UCM version history. It is possible to update node metadata without performing a check-in operation and, in that case, the modifiedBy and modifiedDate values will not be updated.	Be aware of this difference in how this data is updated.
String Values	The UCM tools support strings up to 2000 characters in length. The WLP repository supports 4000 character string values.	Keep string values under 2000 characters, or update the UCM schema to support a wider value.
Child Node Ordering	Child node ordering is not supported in UCM.	Do not rely on a given order for child nodes. Alternatively, callers could sort responses from the API or issue queries with sort criteria specified to sort results on a per-call basis.

**Table 3-2 (Cont.) Content Node Modeling Considerations**

<b>VCR Content Nodes</b>	<b>UCM Modeling Considerations</b>	<b>Recommendations</b>
Integer Values	Integer values default to a zero (0) instead of a null value. The WLP repository stores unset integer values as null.	Do not depend on the presence of a property value for an integer property to detect if that value has been set.
Shortcuts	Support for UCM shortcuts is limited. In WLP, both the shortcut as well as the shortcut target will appear to be identical. Exceptions can occur when browsing a shortcut node or its parent.	Do not use UCM shortcuts.

Table 3-3 lists several considerations specific to the search integration.

**Table 3-3 Metadata Search Considerations and Recommendations**

<b>Consideration</b>	<b>Recommendation</b>
UCM provides no support for querying on null or non-null values.	Do not construct search parameters using 'null' or 'not null'
Recursively searching by path is supported when searching for documents, but not for folders. This requires a special configuration in UCM (see notes described to the right).	<p>The <code>CollectionSearchRecursiveContent</code> and <code>CollectionMaxBranch</code> UCM server settings control the ability to recursively search documents and are described in the UCM Folders guides.</p> <p>To recursively search for documents, either</p> <p>a) set the search path directly on the Search object (see Javadoc for <code>com.bea.content.expression.Search</code>)</p> <p>or</p> <p>b) add criteria of the form <code>cm_isContent = true &amp;&amp; cm_path like '/ucmRepo/foo/bar/*'</code></p>
The <code>cm_value</code> (search across all properties) criteria is not supported.	Do not use <code>cm_value</code> in search criteria; it will throw an Exception.
The <code>likeignorecase</code> operator is not supported.	The <code>likeignorecase</code> operator behaves as the <code>like</code> operator.

**Table 3-3 Metadata Search Considerations and Recommendations**

<b>Consideration</b>	<b>Recommendation</b>
Multivalued property operators on string properties perform substring matches, which may result in extra query matches. For example, a multi-valued String property with values "ab", "cd", "ef" can be internally represented (depending on the delimiter character) as "ab, cd, ef". Searches for "ab, cd" will find a match even though it is not one of the values. This consideration is true for "containsany" and "containsall".	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria. If necessary, change the UCM field delimiter character for the a multi-valued field in the UCM Configuration Manager administration applet.
When searching using <code>cm_path</code> , only the "=" and 'like' operators are supported.	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria
Folder searches are limited to one criteria (operand and operator) per field. Each criteria is logically ANDed with the others to make a more selective query.	There is no support for OR and NOT in UCM folder search. Any query which does not specifically exclude folders (by adding <code>cm_isContent=true</code> ) will not support OR or NOT operators.
UCM supports searching for folders and documents, but this is done in two separate service calls. Some properties that exist on a document (for example, <code>cm_binarySize</code> ) will not exist on folders, so if the search query criteria does not limit the search to documents only, an <code>InvalidPropertyException</code> will be thrown. Fields can be configured as searchable in the UCM Configuration Manager applet.	Add the content type to your search query if you know the property will be only on a document.  Example: <code>cm_objectClass != IDC:Folder</code> or <code>cm_isContent = true</code>
Not all properties are searchable, and if the search encounters a property that is not searchable, it will throw an <code>InvalidPropertyException</code> .	Understand which properties are searchable for a given content type by examining the UCM Configuration Manager information fields section, or by reviewing the <code>ObjectClass</code> definition.  Example URLs:  <code>http://myContentServer/idc/idcplg?IdcService=VCR_GET_CONTENT_TYPE&amp;vcrContentType=IDC:Folder&amp;IsSoap=1</code>  then look for the <code>isSearchable</code> field setting.

**Table 3-3 Metadata Search Considerations and Recommendations**

Consideration	Recommendation
<p><code>cm_objectClass</code> supports searching on a single content type per query.</p>	<p>When using <code>cm_objectClass</code>, use only a single criteria with <code>==</code></p> <p>Example: <code>cm_objectClass == 'IDC:MyProfile'</code></p>
<p>Not all ObjectClasses are searchable. An attempt to search for a non-searchable ObjectClass will throw an exception. For example, the <code>IDC:FileReference</code> ObjectClass is not searchable.</p>	<p>Be aware that not all ObjectClasses are searchable.</p>
<p><code>cm_objectClass</code> doesn't support <code>or</code> when specifying a content type in query, it must be ANDed with other parameters.</p> <p>Queries specifying <code>cm_objectClass</code> do not support the 'OR' operator.</p> <p>For example, it is not supported to do this:  <code>cm_objectClass = 'IDC:GlobalProfile'    cm_path like '/StellentRepository/*'</code></p>	<p>When using <code>cm_objectClass</code>, issue multiple queries to achieve the same behavior as when using <code>OR</code>.</p>
<p><code>cm_objectClass</code> doesn't support <code>!=</code> except for one case: <code>IDC:Folder</code>.</p>	<p>Don't use <code>!=</code> unless to exclude folders from search.</p> <p>Example: <code>cm_objectClass != IDC:Folder</code> or <code>cm_isHierarchy = true</code></p>
<p><code>cm_isHierarchy</code> and <code>cm_isContent</code> only support the <code>==</code> operator.</p>	<p>Don't use the <code>!=</code> operator.</p> <p>Example: use <code>cm_isHierarchy = true</code> (search only folders), or <code>cm_isContent = true</code> (search only documents)</p>
<p>Only String multi-valued properties can be created or searched.</p>	<p>Don't specify search for multi-valued property types other than String.</p>
<p><code>cm_typePath</code> is not a supported search attribute.</p>	<p>Don't use <code>cm_typePath</code> in search criteria.</p>
<p>The <code>not</code> operator cannot be used for LONG properties.</p>	<p>Try to restructure the query using supported syntax.</p>

**Table 3-3 Metadata Search Considerations and Recommendations**

<b>Consideration</b>	<b>Recommendation</b>
Sorting on non-indexed fields results in an exception. Searching on a non-indexed field throws an exception, with the embedded exception code of, for example, "DRG-10837: section dStatus does not exist".	Understand which fields have been indexed before using them as sort criteria Example: URL: <code>http://myContentServer/idc/idcplg?IdcService=GET_ADVANCED_SEARCH_OPTIONS&amp;IsSoap=1</code> , look for "IsSortable"
Null cannot be used to specify a date in date ranges.	Restructure your query using a date range with two valid dates, or use the <code>before</code> or <code>after</code> construction. Example: See Javadocs for <code>com.bea.content.expression.IMetadataQueryParameter</code>
Wildcard <code>*</code> as repository name in search paths, when specified as a FTS metadata path criteria, will not work for UCM unless the wildcard is at the end of the path specification. For example: a <code>cm_path</code> like this: <code>/MyRepository/Foo/*</code>	Specify path parameter on Search object directly. Example: <code>search.setSearchPath( " /*/MyFolders/mystuff " )</code>
Empty properties are not allowed.	Don't use a criteria such as <code>cm_nodeName != ""</code> .
<code>Not equals</code> operator is not supported for non-String properties	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria.
<code>IMetadataQueryParameter buildEquals(String userPropertyField, String[] criteria)</code> is not supported.	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria.
Multiple search paths on the same UCM repository are not supported.	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria.

**Table 3-3 Metadata Search Considerations and Recommendations**

Consideration	Recommendation
Folders do not support recursive search.	Be aware of the differences in search behavior and do not write search expressions that depend on unsupported criteria.
Content selectors running against UCM <b>**must**</b> use ObjectClass properties only from that UCM repository. If not, you may see an error message like: <A RepositoryException was thrown: Only the AND operator can be used with the cm_objectClass parameter ... For example, if your repository name is 'StellentRepository', you can't have this as criteria: (toProperty('SI_Repo/IDC:GlobalProfile', 'xMemoField') like '*test*'    toProperty('SI_Repo/IDC:GlobalProfile', 'xMemoField') like '*All*')>	Use only system properties in federated queries.

## Unsupported Features for the UCM VCR Adapter Version 1.0

Table 3-4 lists the content management features that are not supported in version 1.0 of the UCM VCR Adapter.

**Table 3-4 Unsupported Features in UCM VCR Adapter Version 1.0**

Feature	Consideration	Recommendation
Versioning	The adapter does not support versioning. The latest released document version is available through the SPI.	Do not rely on versioning or access to anything other than the latest released item when using the adapter.
Type Management	The adapter does not include type write capabilities.	None.

**Table 3-4 (Cont.) Unsupported Features in UCM VCR Adapter Version 1.0**

Feature	Consideration	Recommendation
Node Management	The adapter does not include node write capabilities.	None.
Search	<p>You cannot specify multiple object class criteria in a search expression, such as an expression like:</p> <pre>(cm_objectClass == foo &amp;&amp; prop1 == value)    (cm_objectClass == bar &amp;&amp; prop2 == value2)</pre> <p>The adapter cannot execute this type of search.</p>	It is possible, however, to return multiple nodes representing different content types in a single result set when searching in other ways, such as a prop=value expression.

## Unsupported UCM Features

Table 3-4 lists UCM features that are not supported by the adapter. These features will not be exposed in the VCR.

**Table 3-5 Considerations for Exposing UCM Content**

Feature	Considerations
Renditions	Only the Web-Layout rendition is supported in Version 1.0 of the UCM VCR Adapter. No other rendition types are supported.
Folios	UCM Folio meta-document will not be exposed by the VCR.
HCSF Files	HCSF files (Hypertext Content Server Forms) will not be exposed by the VCR.
Dynamic Converter	Dynamic converter will not be exposed by the VCR.

## Unsupported Web Content Management (WCM) Features

Table 3-6 lists WCM (Site Studio) features that are not supported by the adapter. These features will not be exposed in the VCR.

**Table 3-6 Considerations for Exposing WCM Content**

<b>Feature</b>	<b>Consideration</b>	<b>Recommendation</b>
Embedded Images in WSYWIG Element Definitions	Embedded images are not supported in a WSYWIG Element Definition that is part of a Region based Content Type. Any content that is created of this type will not be rendered by the UCM VCR adapter. The adapter will return a partial string URI to the image.	Constrain the Use of a WSYWIG Element definition to HTML text only and use a separate element definition with Link(s) to reference images.
Element Definitions of type Image, Dynamic Lists are not supported.	The UCM VCR Adapter upon reading a region-based content type definition that contains one of these element definitions will not know how to interpret the WCM content. What the adapter may return in some cases is a string interpretation of the content.	Do not use these types of Element Definitions as part of a UCM VCR region-based content type definition.
Element Definitions of type Custom have limited support. Custom element values will be represented as strings through the UCM VCR Adapter. The custom form called <code>SS_DOCNAME_LINK_FORM</code> is supported by the UCM VCR Adapter as an add-on to support Element definitions that contain link element types.	The UCM VCR adapter upon reading a region-based content type definition that contains custom element definitions will only know how to represent the WCM content as a string value.	Only use custom element forms for string and link values.

## Property Field Mappings

This section explains how the VCR system property fields map to UCM content fields when searches are performed. During a search operation that is performed using the WLP search API, the standard VCR system properties listed in [Table 3-7](#) are automatically converted to

corresponding UCM content fields by the UCM/VCR Adapter. For example, searches performed through Content Presenter or content selectors perform these conversions automatically.

**Note:** If you are performing a search, the best practice is to use the system properties as they appear in the WebLogic Portal user interface, such as in the user interface for Content Presenter or content selectors. For example, if you need the binary size, use `VaultFileSize` (the internal name) rather than `cm_binarySize`. This practice ensures that even if the system field mapping changes over time, the search behavior remains the same.

[Table 3-7](#) shows how these mappings are made internally by the UCM/VCR Adapter. Note that UCM has two names for every field. One is an internal name, which you can see in UCM when adding a field to a rule, and the other is the field name that appears in the user interface. In [Table 3-7](#), the internal name (for example, `dDocName`) is listed first, and the UI name (for example, Content ID) is listed below it in parentheses, where applicable.

**Caution:** The mappings in [Table 3-7](#) are UCM/VCR Adapter-specific and are subject to change.

**Table 3-7 Property Field Mappings**

<b>WLP VCR System Property</b>	<b>UCM Content Field (When the Object is Document)</b>	<b>UCM Property (When the Object is Folder)</b>
<code>cm_nodeName</code>	<code>dOriginalName</code> (document native filename)	<code>dCollectionName</code> (Virtual Folder Name)
<code>cm_uid</code>	<code>dDocName</code> (Content ID)	<code>IDC:Folder/{dCollectionID}</code>
<code>cm_path</code>	No direct translation. Handled internally based on Folder and document name.	No direct translation. Handled internally.
<code>cm_createdBy</code>	<code>dDocAuthor</code> (Author)	<code>dDocAuthor</code> (Author)
<code>cm_createdDate</code>	<code>dInDate</code> (Release Date)	<code>dCreateDate</code>
<code>cm_modifiedBy</code>	<code>dDocAuthor</code> (Author)	<code>dDocAuthor</code> (Author)

**Table 3-7 Property Field Mappings**

<b>WLP VCR System Property</b>	<b>UCM Content Field (When the Object is Document)</b>	<b>UCM Property (When the Object is Folder)</b>
cm_modifiedDate	dInDate (Release Date)	dLastModifiedDate
cm_objectClass	No direct translation. Handled internally based on the profile (if any) and/or SiteStudio Region Definition (if any).	No direct translation. Folders are mapped to IDC:Folder ObjectClass
cm_contentType	dFormat (from document native file)	N/A
cm_binaryName	dOriginalName (document native filename)	N/A
cm_binarySize	VaultFileSize (document native file size)	N/A
cm_isHierarchy	True if the object is a folder; false if object is a document	
cm_isContent	True if the object is a document; false if object is a folder.	

## UCM Content Modeling Examples

This section presents several basic examples that demonstrate techniques for modeling content in UCM. These techniques are known produce content models that work well with the UCM VCR adapter.

The examples include:

- [“Creating Profile-Based Content Types with the UCM Administration Console” on page 3-17](#)
- [“Creating Region-Based Content Types with Oracle Site Studio” on page 3-24](#)
- [“Creating a New Contributor Data File Based On a Region Definition” on page 3-44](#)

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**Tip:** If you want to try running the examples, be sure the UCM VCR Adapter is installed, as explained in [“Installing the UCM VCR Adapter” on page 2-1](#). Both the Oracle WebLogic Portal server and Oracle Content Server must be running.

---

## Creating Profile-Based Content Types with the UCM Administration Console

This example illustrates how to create a content type and associate a profile with it. The procedure involves creating a content type, adding metadata fields to the type, creating a rule, and creating a profile. The content type created using this technique will be surfaced as a VCR Content Type in WebLogic Portal. See also [“Best Practices for Modeling Content” on page 3-4](#).

**Note:** If you do iterative development where you have already started your WLP server and then you change or add to your UCM content definitions, you will either need to restart your WLP server or flush the P13N caches of the definition changes to take effect. For information on flushing the caches, see [“Modify Cache Settings” on page 2-11](#).

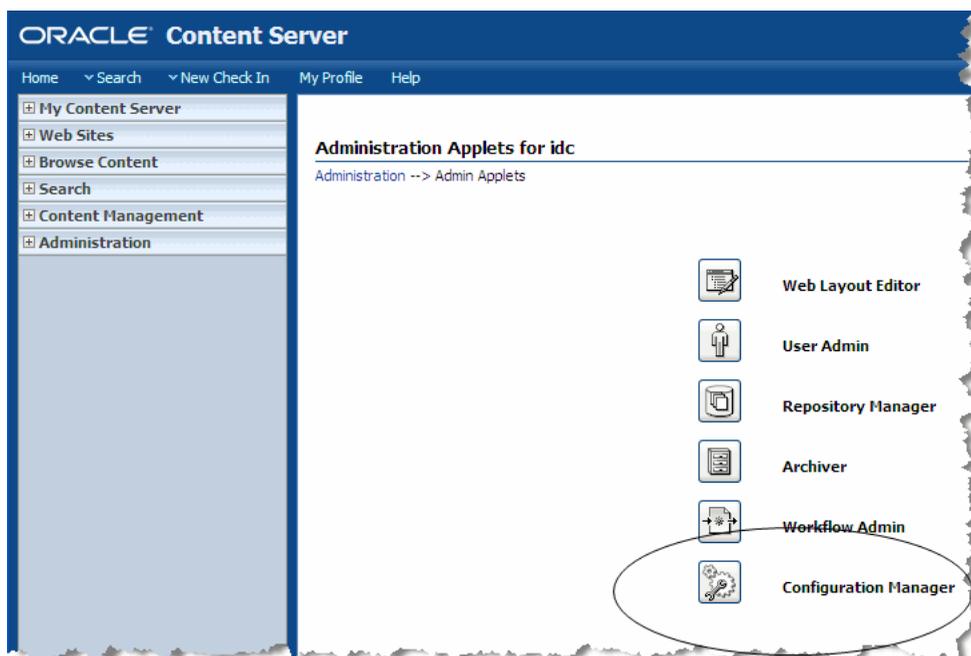
Tasks described in this section include:

- [“Creating a New Content Type” on page 3-17](#)
- [“Creating Information Fields” on page 3-19](#)
- [“Creating a Rule” on page 3-20](#)
- [“Creating a Profile” on page 3-23](#)

### Creating a New Content Type

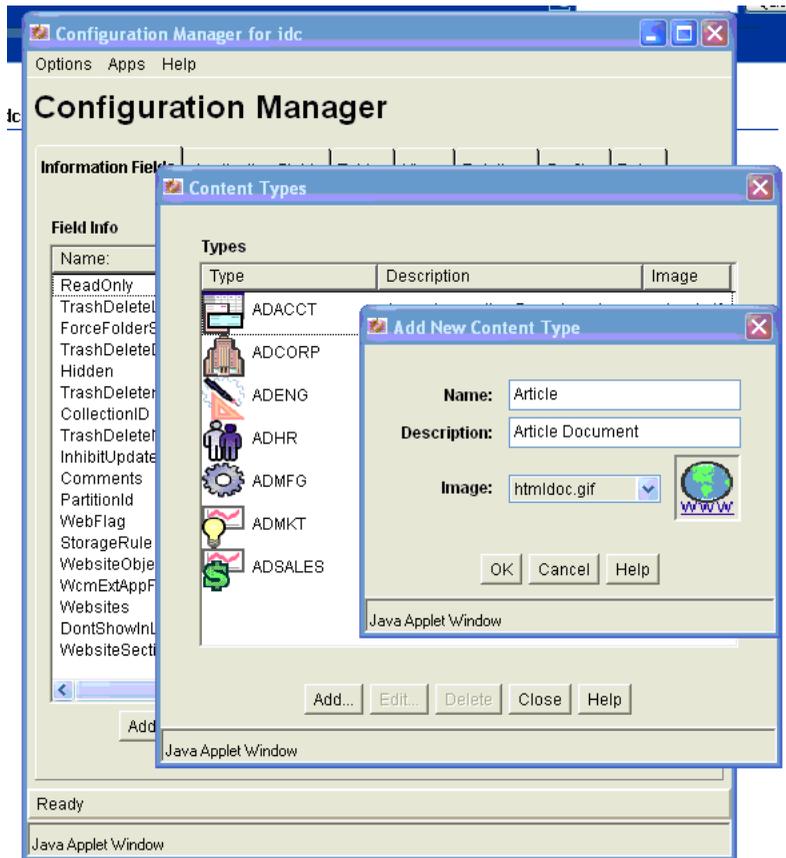
1. Start Oracle Content Server and log in to the user interface.
2. From the Administration tray, select **Admin Applets**.
3. In the Administration page, select **Configuration Manager**, as shown in [Figure 3-2](#). The Configuration Manager window appears.

Figure 3-2 Administration Page



4. In the Configuration Manager dialog, Select **Options > Content Types**.
5. In the Content Types dialog, select **Add**. The Add New Content Type dialog appears, as shown in [Figure 3-3](#).

Figure 3-3 Add New Content Type Dialog



6. Enter a Name and Description for the new content type, and click **OK**. The new type is added to the list of types in the Content Types dialog.

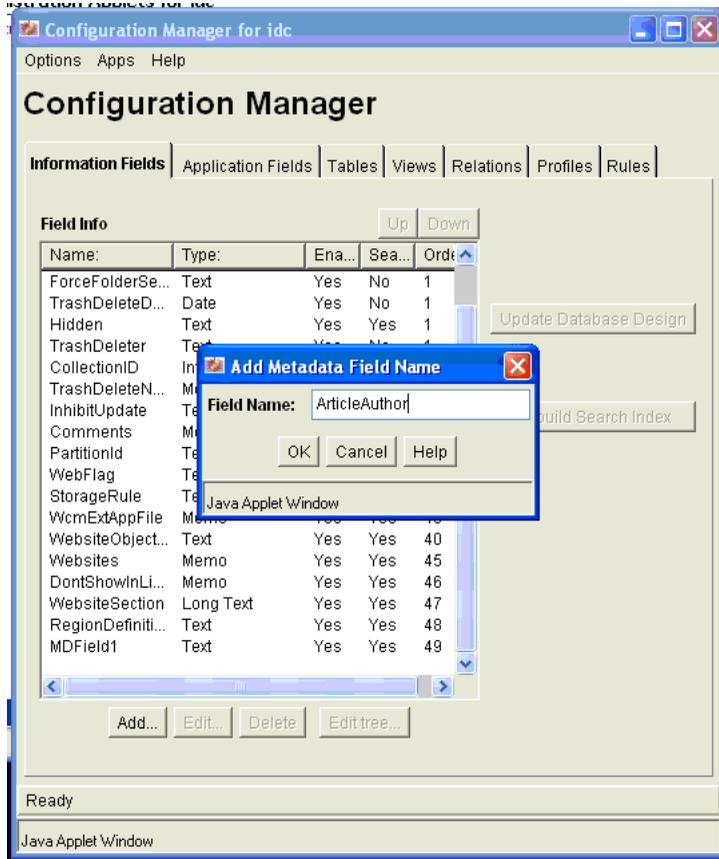
## Creating Information Fields

This section explains how to create the Information Field(s) (metadata fields) that will be associated with your new VCR Content Type (as content properties).

1. Open the Configuration Manager dialog as explained in “Creating a New Content Type” on page 3-17.
2. In the Configuration Manager dialog, be sure the Information Fields tab is selected.

3. Click **Add**.
4. In the Add Metadata Field Name dialog (Figure 3-4), enter a Field Name and click **OK**.

**Figure 3-4 Add Metadata Field Name Dialog**



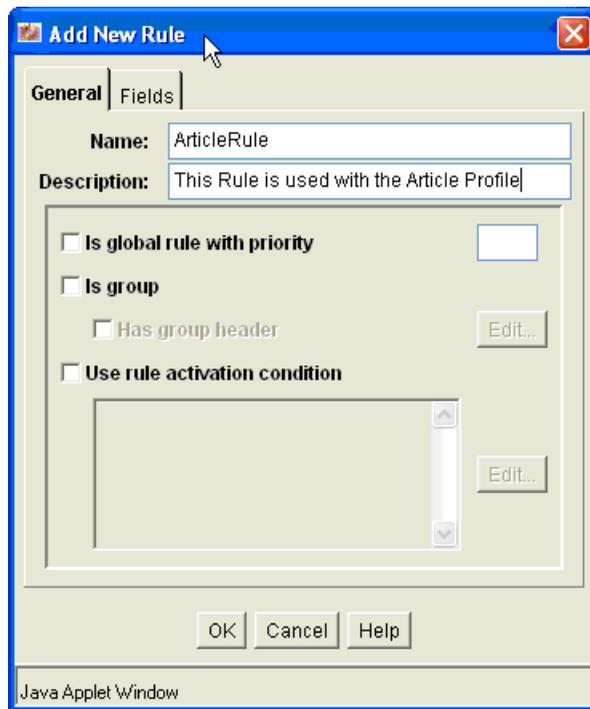
5. In the next Add Metadata Field dialog, specify the desired field type. Click **OK**. The new field is added to the Field Info list.
6. Click **Update Database Design**.

## Creating a Rule

This section explains how to create a Rule that will be used with the Profile that defines the Content Type.

1. Open the Configuration Manager dialog as explained in “Creating a New Content Type” on page 3-17.
2. In the Configuration Manager dialog, select the Rules tab.
3. Click **Add**.
4. In the Add New Rule dialog, enter the name of the rule, as shown in Figure 3-5.

**Figure 3-5 Add New Rule Dialog**



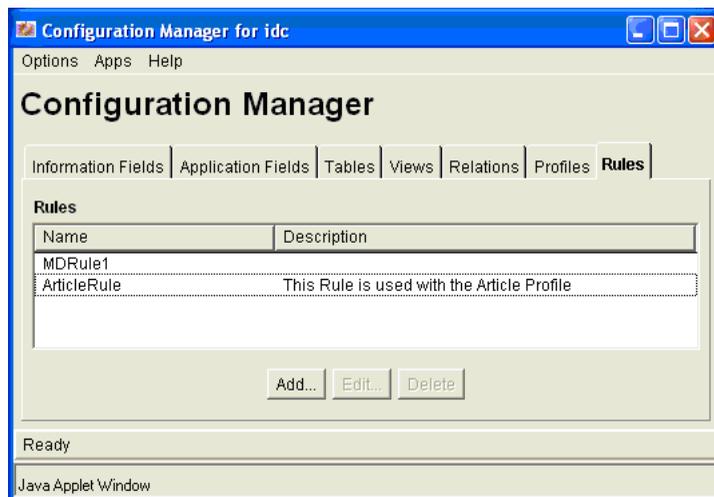
5. Select the Fields tab.
6. In the Fields tab, click **Add**.
7. In the Add Rule Field dialog (Figure 3-6), select an Information Field from the Field Name dropdown list. For example, select the Information Field you created in “Creating Information Fields” on page 3-19. This field will be associated with the Content type that you are creating.

**Figure 3-6 Add Rule Field Dialog**



8. Click **OK**.
9. In the Add Rule Field dialog, do not change the defaults. Click **OK**.
10. Repeat steps 5 – 9 to add any additional property fields you want associated with this content type. Any required fields should generally be listed in your rule, in order to support document creation. When your done all of these property fields will appear in the dialog.
11. Click **OK** in the Add New Rule dialog. The new rule appears in the Rules list under the Rules tab of the Configuration Manager dialog, as shown in [Figure 3-7](#).

**Figure 3-7 New Rule in the Configuration Manager**



## Creating a Profile

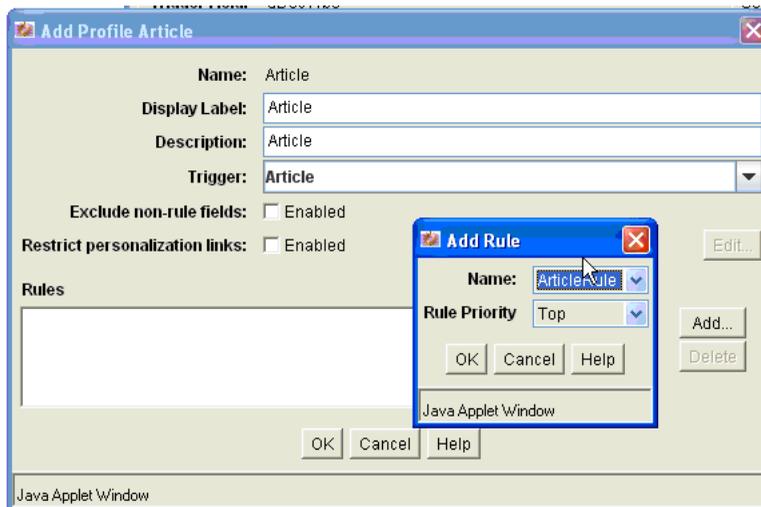
This section explains how to create the profile that will define the Content Type you created in [“Creating a New Content Type” on page 3-17](#).

1. Open the Configuration Manager dialog as explained in [“Creating a New Content Type” on page 3-17](#).
2. In the Configuration Manager dialog, select the Profiles tab.
3. Click **Select**.
4. In the Edit Trigger Field dialog, select **Type** from the dropdown menu and click **OK**. Note that in the Configuration Manager, the Trigger Field is now (in this example) set to `dDocType`. This specifies how documents are associated with UCM profiles, in this case through the Type (`dDocType`) field value.

**Note:** The use of `dDocType` is not required. You can use any other option list metadata field. For details on creating content profiles and using triggers, see [“Content Profile Triggers”](#) in *Managing Repository Content*.

5. In the Profiles tab, select **Add**. The Add Profile dialog appears.
6. In the Add Profile dialog, enter a name and click **OK**.
7. In the next Add Profile dialog, enter a label and a description. From the Trigger dropdown menu, Select the Content Type that you created in [“Creating a New Content Type” on page 3-17](#) See [Figure 3-8](#).
8. Ensure each profile has a unique trigger value. Sharing the same trigger value across multiple profiles is not supported.
9. Check **Exclude non-rule fields**.
10. In the Rules part of the dialog, click **Add**.
11. In the Add Rule dialog, select the Rule you created in [“Creating a Rule” on page 3-20](#). See [Figure 3-8](#).

**Figure 3-8 Add Rule Dialog**



12. Click **OK** in the Add Rule dialog, and click **OK** in the Add Profile dialog.
13. Close the Configuration Manager dialog.
14. Use the UCM Content Management Contribution functions to add content using this new content type.
15. Log on to the WebLogic Portal Administration Console to see this Content Type and any content you create that is associated with this type. Depending on how your UCM Adapter Type caches are configured, you need to flush the caches or restart the server before the updated type is visible in WLP.

## Creating Region-Based Content Types with Oracle Site Studio

This example illustrates how to create a Site Studio region definition (which will be mapped to a WLP content type) as well as a contributor data file based on the region definition. In the WLP VCR, the data file will surface as a content node with associated metadata fields. The metadata fields are those associated with the UCM region definition, plus additional metadata that comes from the UCM metadata fields pulled in by a profile. See also [“Best Practices for Modeling Content” on page 3-4](#).

**Note:** If you do iterative development where you have already started your WLP server and then you change or add to your UCM content definitions, you will either need to restart your WLP server or flush the P13N caches for the definition changes to take effect. For information on flushing the caches, see [“Modify Cache Settings” on page 2-11](#).

## Prerequisites

This section explains how to use Oracle Site Studio and the UCM Administration console to create content using region definitions. The goal of this procedure is to create region-based content in UCM and have that content and its properties appear in the WebLogic Portal VCR. The Site Studio region elements will be expressed as property fields in the VCR.

For background information on Site Studio, see [“Best Practices for Modeling Content” on page 3-4](#).

**Note:** The example shown here will use the Article profile definition used in the previous example, [“Creating Profile-Based Content Types with the UCM Administration Console” on page 3-17](#).

## Overview of Steps

The basic steps described in this section are:

1. Create your element definitions. This example demonstrates how to create one element definition for each of the four supported types:

WYSIWYG Element

Plain Text Element

Static List Element

Link Element Type (via a custom element using the supplied custom element form)

**Note:** Image and Dynamic lists are not supported by the UCM VCR Adapter.

2. Create a Region definition.
3. Add the element definitions to the Region definition.
4. Create a Contributor Data file based on the Region definition.
5. Edit the Contributor Data file.
6. View the Content in the WLP VCR.

## Creating the Element Definitions

This section explains how to create four element definitions: WYSIWYG, plain text, static list, and link.

1. Start Oracle Site Studio.
2. In the Site Assets dropdown menu in the Site Studio window, select **Element Definitions**, as shown in [Figure 3-9](#).

**Figure 3-9 Site Assets Menu**

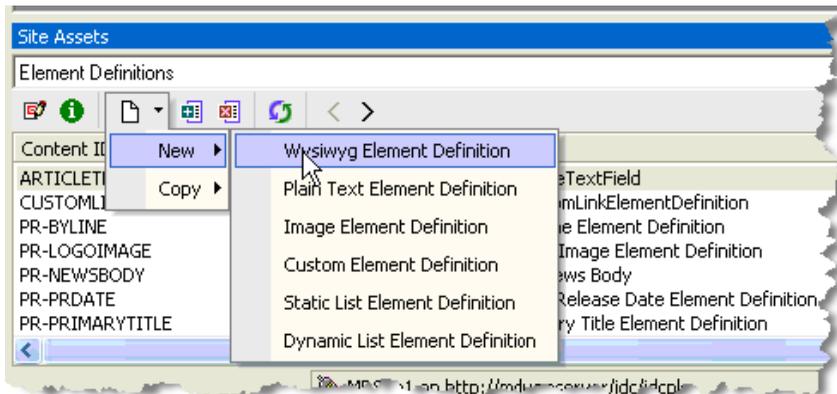


### Create the WYSIWYG Element

Follow these steps to create a WYSIWYG element:

1. Select the **Page** icon and select **New > WYSIWYG Element Definition**, as shown in [Figure 3-10](#). The Content Server Dialog appears.

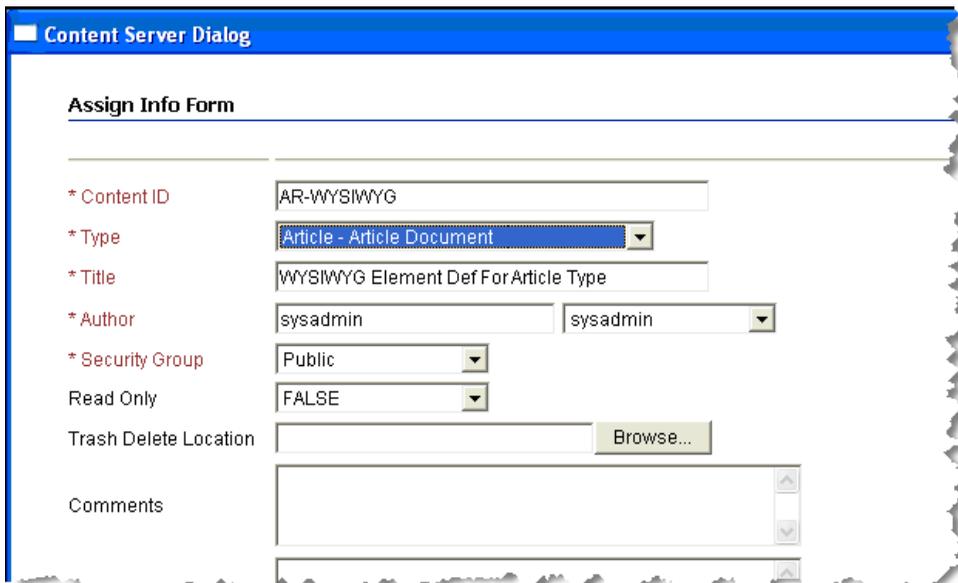
**Figure 3-10 Selecting Wysiwyg Element Definition**



2. In the Content Server dialog enter a Content ID and a Title, as shown in [Figure 3-11](#).

Optionally, associate this Element Definition to the Content Type that it will be used with. In this example, the Article content type is used.

**Figure 3-11 Assign Info Form for WYSIWYG Content Element**



3. Click **Assign Info** at the bottom of the dialog.

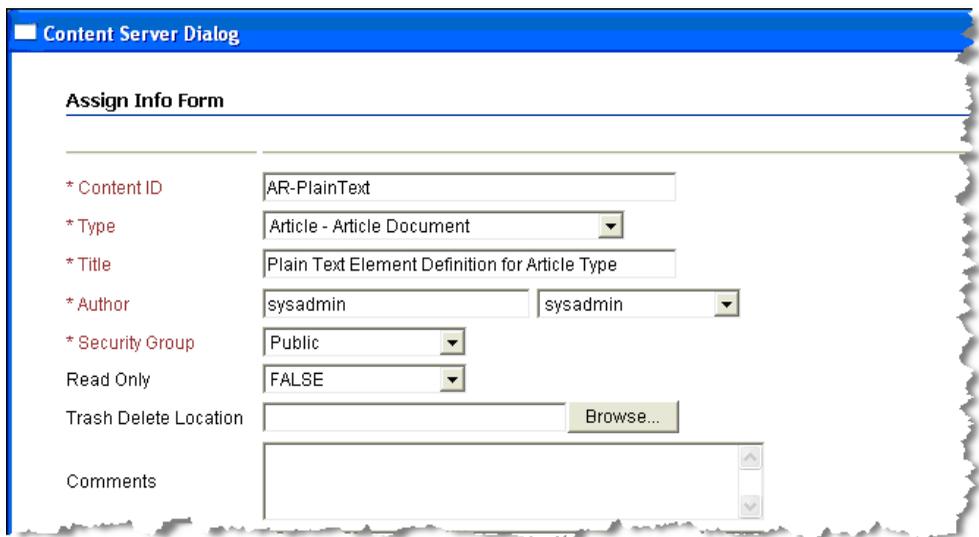
## Create the Plain Text Element

Follow these steps to create a plain text element

1. Select the **Page** icon and select **New > Plain Text Element Definition**.
2. In the Content Server Dialog enter a Content ID and a Title, as shown in [Figure 3-12](#).

Optionally, associate this Element Definition to the Content Type that it will be used with. In this example, the Article content type is used.

**Figure 3-12 Assign Info Form for Plain Text Content Element**



The screenshot shows a web-based form titled "Content Server Dialog" with a sub-section "Assign Info Form". The form contains several fields:

- \* Content ID: Text input field containing "AR-PlainText".
- \* Type: Dropdown menu with "Article - Article Document" selected.
- \* Title: Text input field containing "Plain Text Element Definition for Article Type".
- \* Author: Text input field containing "sysadmin" and a dropdown menu also containing "sysadmin".
- \* Security Group: Dropdown menu with "Public" selected.
- Read Only: Dropdown menu with "FALSE" selected.
- Trash Delete Location: Text input field with a "Browse..." button to its right.
- Comments: A large text area with scrollbars.

3. Click **Assign Info** at the bottom of the dialog.

## Create the Static List Element

1. Click the **Page** icon and select **New > Static List Element Definition**.
2. In the Content Server dialog enter a Content ID and a Title, as shown in [Figure 3-13](#)

Optionally, associate this Element Definition to the Content Type that it will be used with. In this example, the Article content type is used.

**Figure 3-13 Assign Info Form for Static List Content Element**

The screenshot shows a dialog box titled "Content Server Dialog" with a sub-section "Assign Info Form". The form contains the following fields and values:

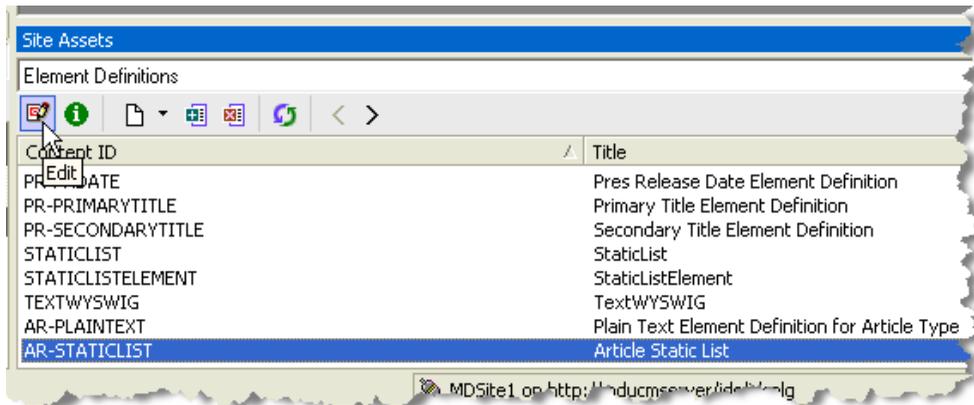
* Content ID	AR-StaticList
* Type	Article - Article Document
* Title	Article Static List
* Author	sysadmin
* Security Group	Public
Read Only	FALSE
Trash Delete Location	<input type="text"/> Browse...
Comments	<input type="text"/>

3. Click **Assign Info** at the bottom of the dialog.

**Note:** In the following steps, you further define the sub-elements that will comprise the static list. Keep in mind that when adding elements to the static list you can only add elements that the adapter supports (WYSIWYG, Plain Text, and the Link (custom) element type). Embedding a static list within a static list is not supported. In the example in this section, a static list consisting of two plain text fields is created.

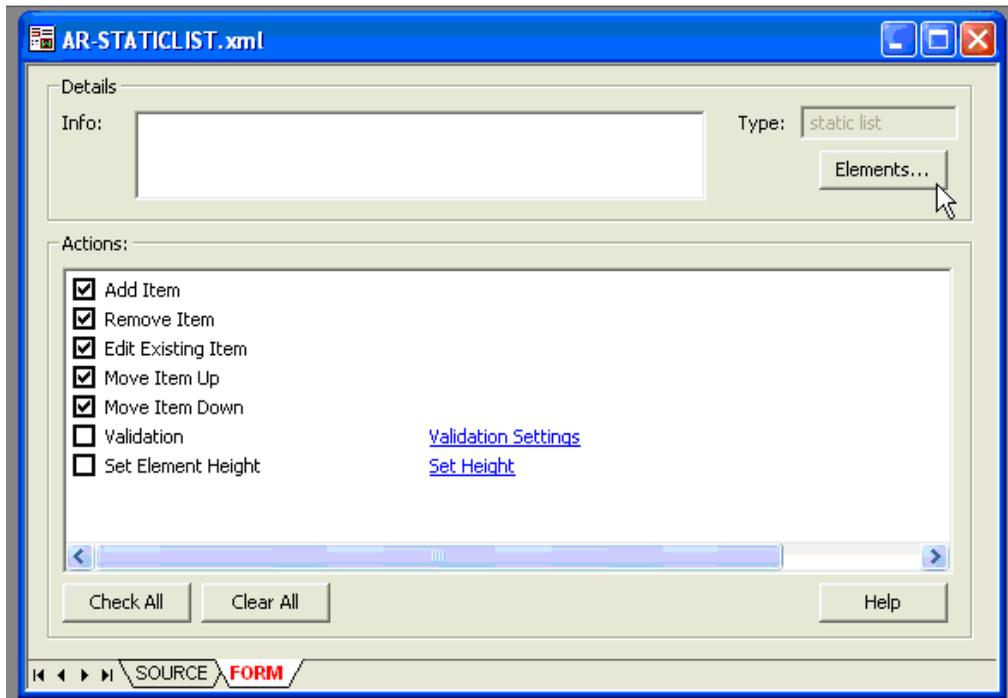
4. Select the static list element definition you just created from the list of elements and select the **Edit** icon, as shown in [Figure 3-14](#). The Elements dialog appears.

Figure 3-14 Selecting the Static List and Clicking the Edit Icon



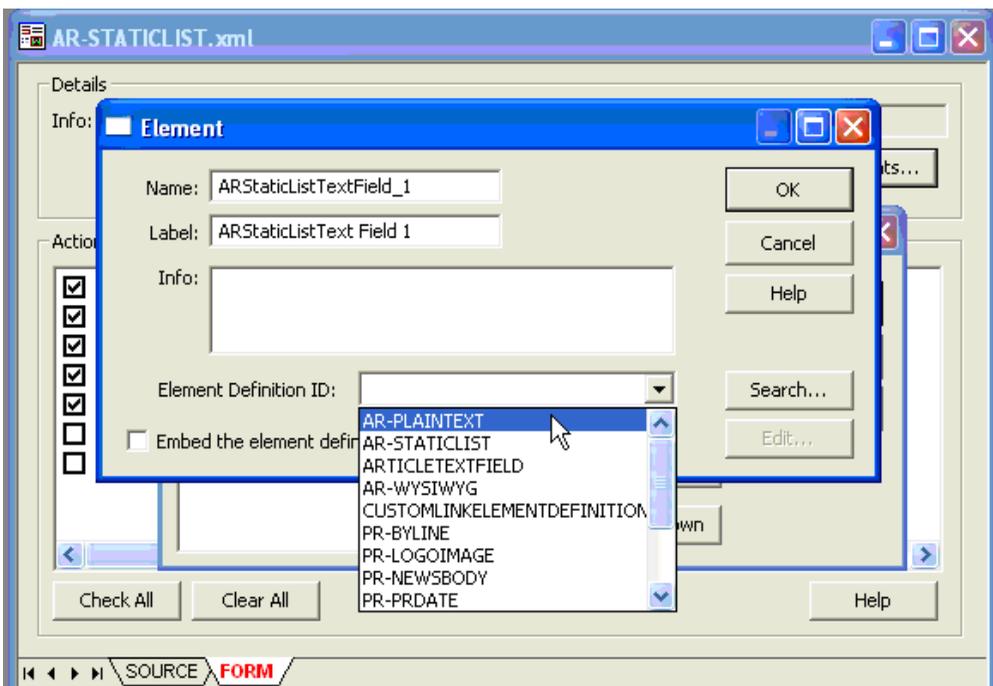
5. In the Element Edit dialog, select **Elements**, as shown in Figure 3-15. The Elements dialog appears.

Figure 3-15 Selecting the Elements Button in the Dialog



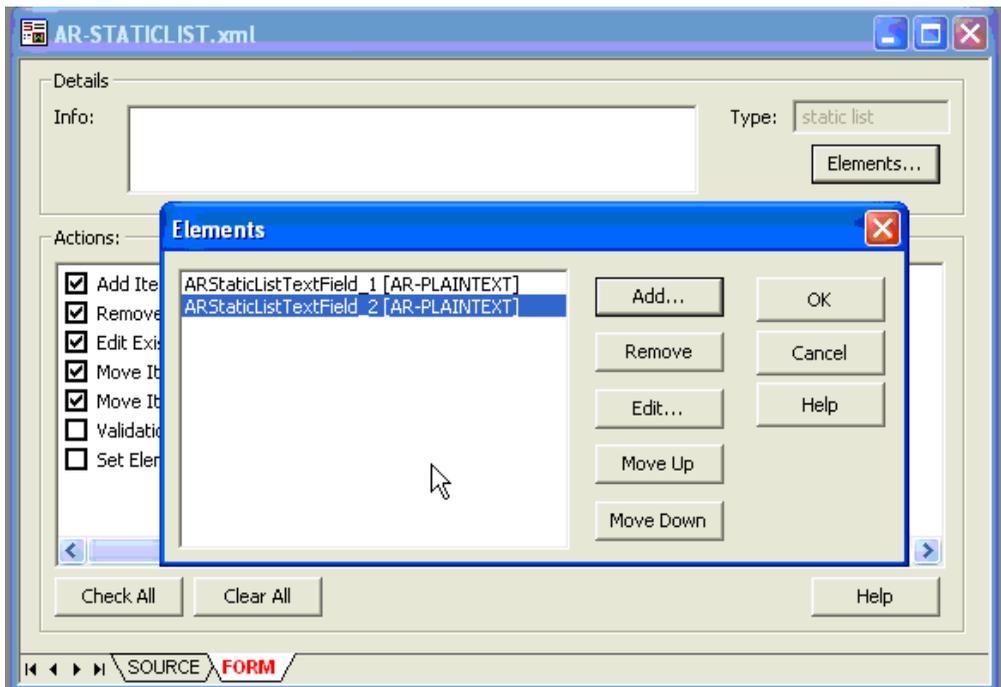
6. In the Elements dialog, select **Add**. The Element dialog appears.
7. In the Element dialog, enter the Name and Label for this entry and select the Element Definition to be used for this entry in the list, as shown in [Figure 3-16](#). In this example, the previously created Plain Text element is used. Click **OK**.

Figure 3-16 Completing the Element Dialog



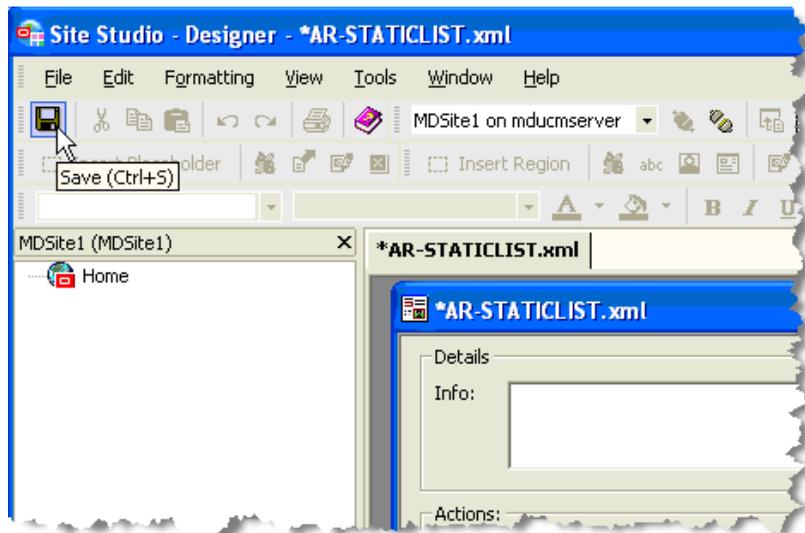
8. After you click OK, the Elements dialog appears again. Click **Add** to repeat the process as needed to add additional elements to the static list. In this example we added one more plain text element, as shown in [Figure 3-17](#) Press the **OK** button to complete the static list elements definition process.

Figure 3-17 The Elements Dialog



9. You are now returned to the top-level element definition dialog. *At this point, you must save the element definition.* Click the **Save** icon in the to-left part of the window, as shown in [Figure 3-18](#).

Figure 3-18 Saving the Definitions



## Create the Link Element

A Link element is a custom element that is understood by the UCM VCR Adapter. To be able to create this custom element type you must have loaded the custom element form called `ss_docname_link_form.htm` into your Site Studio Configuration. Refer to the UCM documentation for more information on custom element form.

1. Select the **Page** icon and select **New > New Custom Element Definition**.
2. In the Content Server dialog enter a Content ID and a Title, as shown in [Figure 3-19](#).

Optionally, associate this Element Definition to the Content Type that it will be used with. In this example, the Article content type is used.

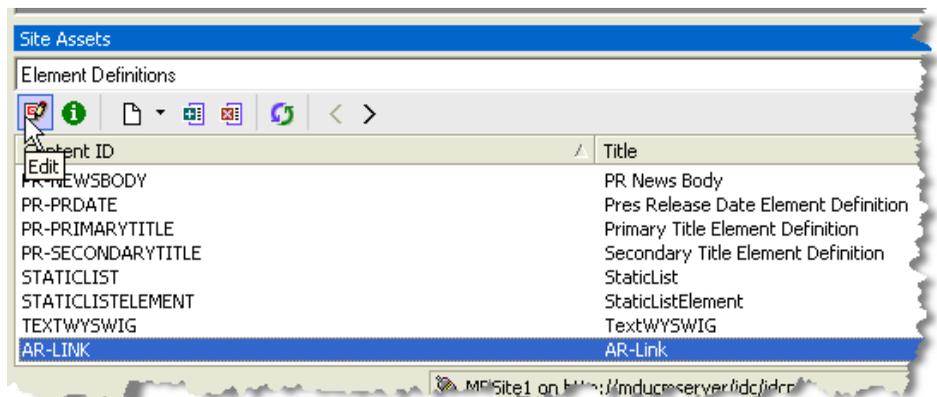
Figure 3-19 Assign Info Form for Link Element

The screenshot shows the 'Content Server Dialog' window with the 'Assign Info Form' tab selected. The form contains the following fields:

- \* Content ID: AR-Link
- \* Type: Article - Article Document (dropdown menu)
- \* Title: AR-Link
- \* Author: sysadmin (text input) and sysadmin (dropdown menu)
- \* Security Group: Public (dropdown menu)
- Read Only: FALSE (dropdown menu)
- Trash Delete Location: (text input) with a 'Browse...' button
- Comments: (text area)

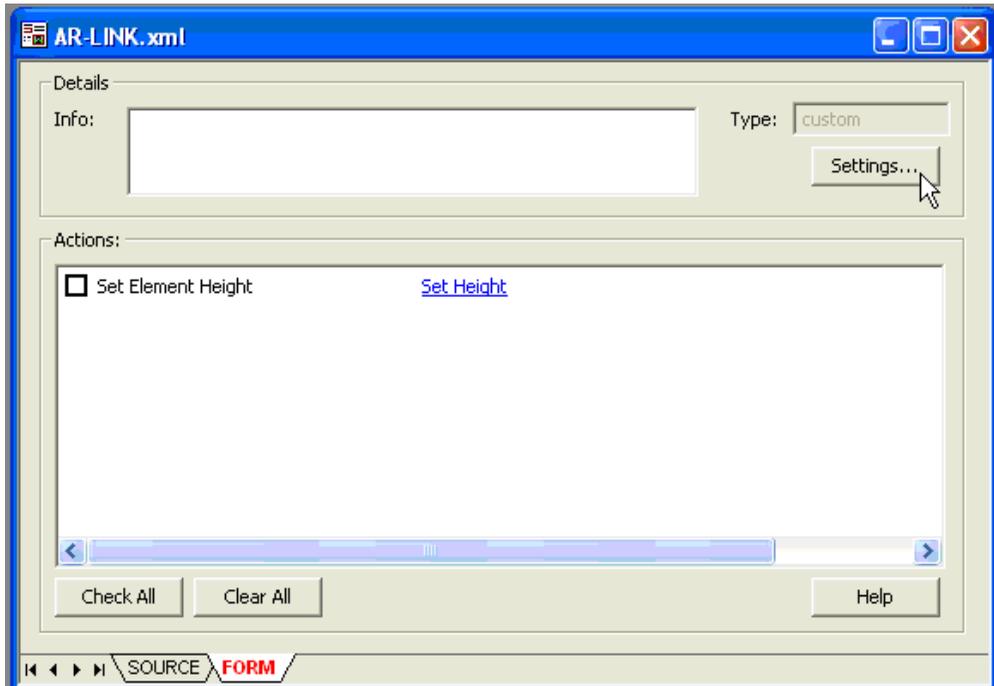
3. Select the link element definition that you just created from the list of elements and select the **Edit** icon, as shown in Figure 3-20.

Figure 3-20 Selecting the Edit Icon



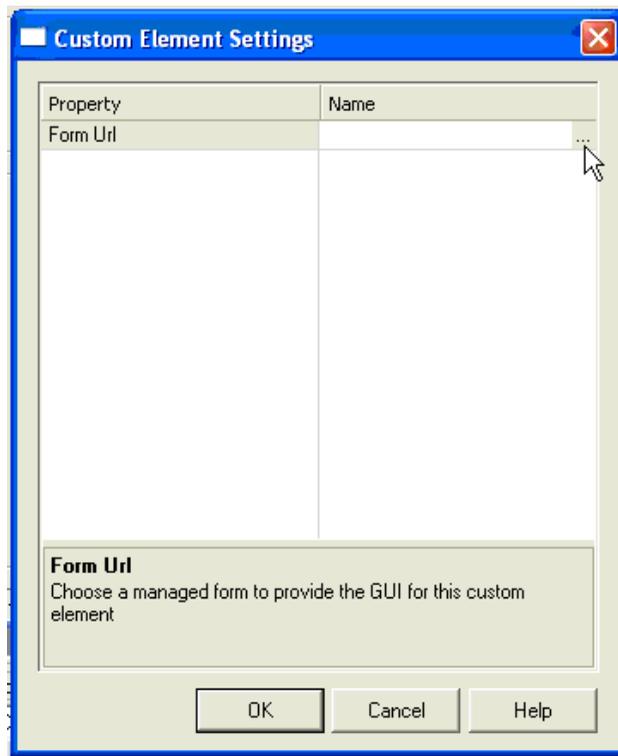
4. In the edit dialog for the link, click **Settings**, as shown in Figure 3-21. The custom element Settings Dialog appears.

Figure 3-21 The Edit Dialog for the Link Element



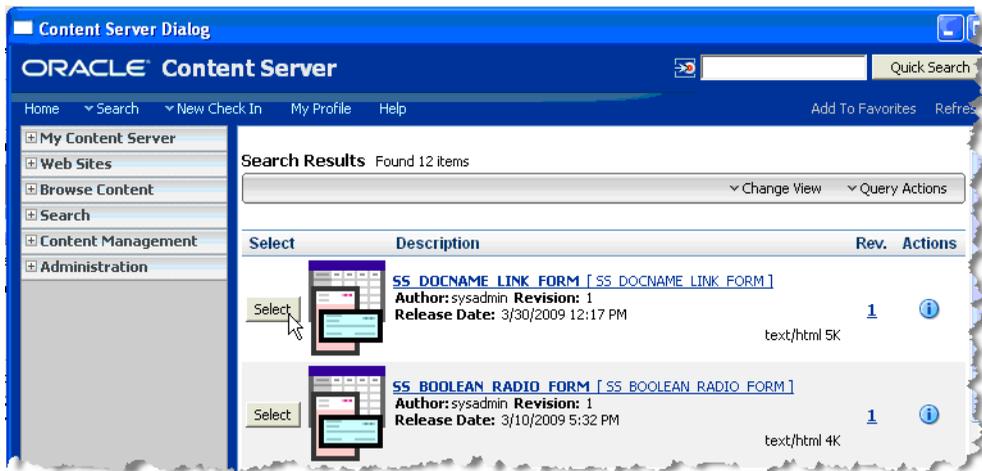
5. In the Settings dialog, select the "... " (ellipses) at the end of the name field, as shown in [Figure 3-22](#).

Figure 3-22 The Custom Element Settings Dialog



6. The Content Server Dialog appears showing all the custom forms available in the system. Using the **Select** button, select the form named **SS\_DOCNAME\_LINK\_FORM** [SS\_DOCNAME\_LINK\_FORM], as shown in [Figure 3-23](#)

Figure 3-23 Selecting the Form in the Search Results



7. The Custom element Settings dialog appears with the Name field populated. Click **OK**.
8. You are now returned to the top-level element definition dialog. *At this point, you must save the element definition.* Click the **Save** icon in the to-left part of the window.

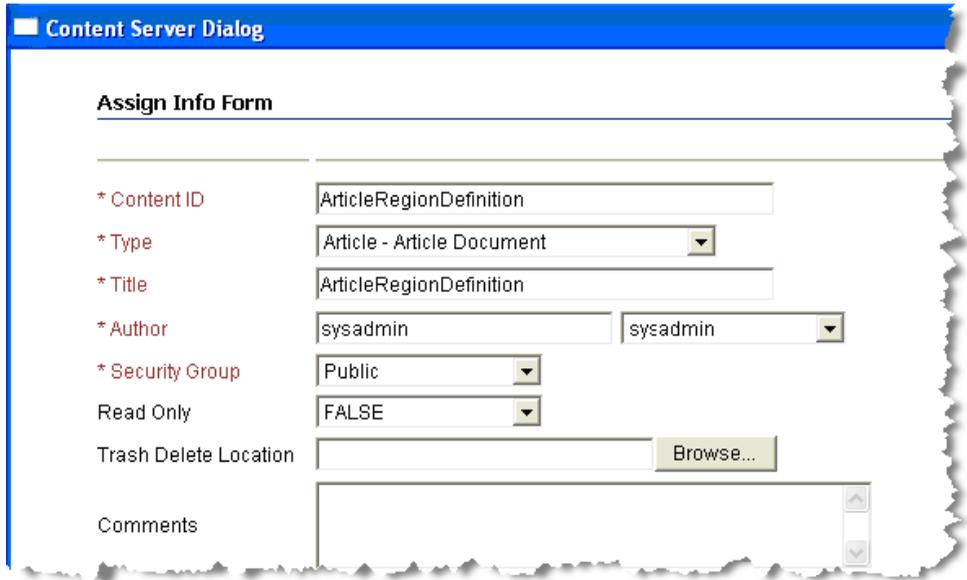
## Create a Region Definition

The next step is to create a Region definition and add the element definitions to it.

1. In the Site Assets dropdown menu in the Site Studio window, select **Region Definitions**.
2. From the **Page** icon dropdown menu, select **New > Region Definition**.
3. In the Content Server dialog enter a Content ID and a Title, as shown in [Figure 3-24](#).

Associate this Region Definition to the Content Type that it will be used with. In this example, the Article content type is used.

Figure 3-24 Assign Info Form for Region Definition

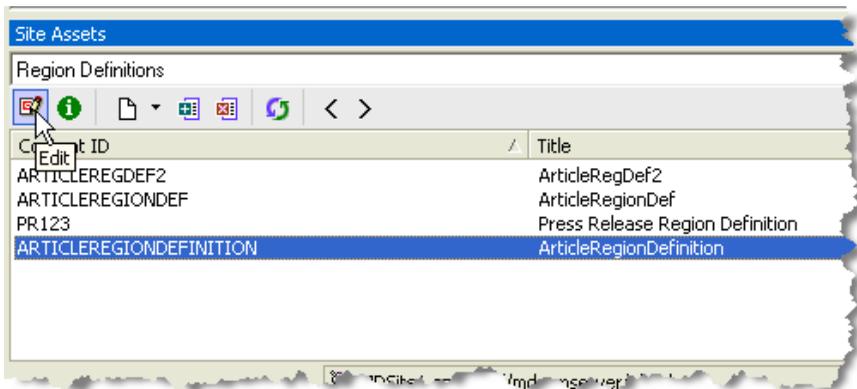


The image shows a 'Content Server Dialog' window with a blue title bar. The main area is titled 'Assign Info Form'. It contains several input fields and dropdown menus:

- \* Content ID: ArticleRegionDefinition
- \* Type: Article - Article Document
- \* Title: ArticleRegionDefinition
- \* Author: sysadmin (with a dropdown menu also showing sysadmin)
- \* Security Group: Public
- Read Only: FALSE
- Trash Delete Location: (empty field) with a 'Browse...' button
- Comments: (empty text area)

4. Click **Assign Info** at the bottom of the dialog.
5. Highlight the region definition that was just created and select the **Edit** icon, as shown in Figure 3-25. An Edit Dialog appears.

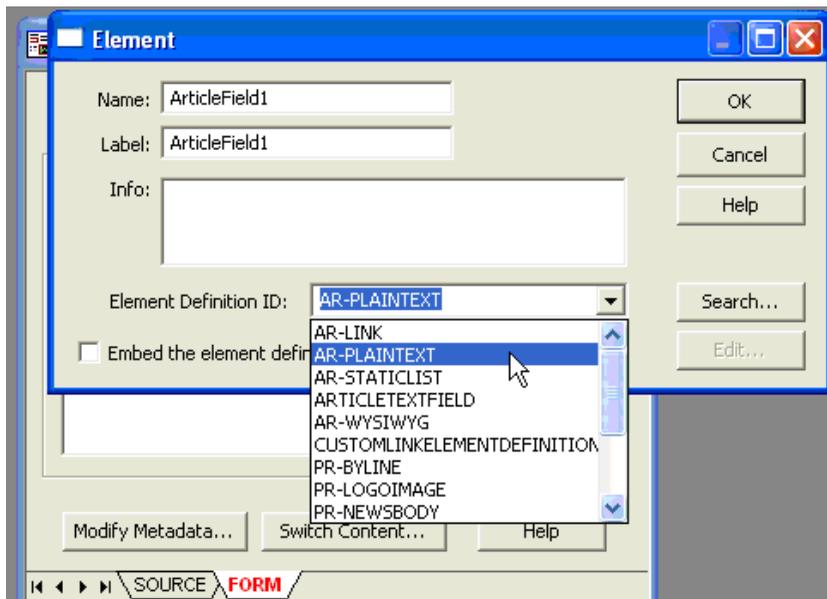
Figure 3-25 Selecting the Edit Icon



6. In the Edit dialog, click **Add**.

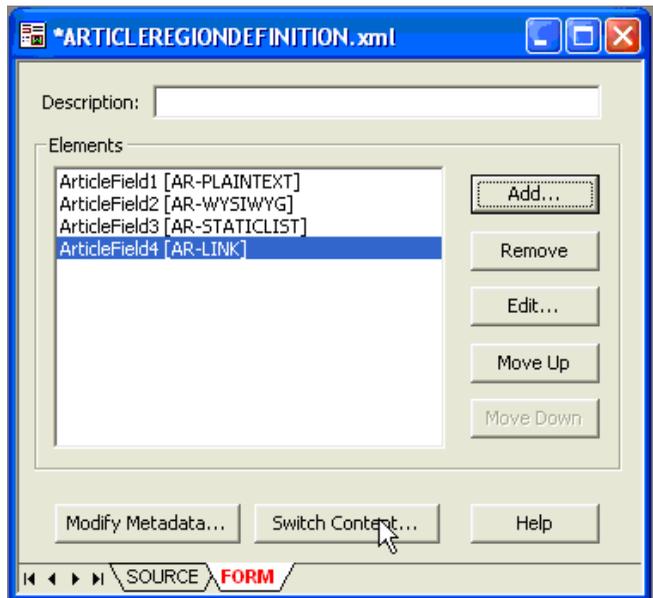
7. In the next dialog, enter the Name and Label fields. The values you enter in these fields will appear in the Property fields in the VCR. Select one of the previously defined element definitions in the Element Definition ID drop down box, as shown in [Figure 3-26](#). Do not check the **Embed the element definition inside the region definition** checkbox. Click **OK** when finished.

**Figure 3-26** Selecting a Previously Defined Element Definition



8. Repeat the previous step to add all the other element definitions that you wish to add, and you will see something similar to [Figure 3-27](#).

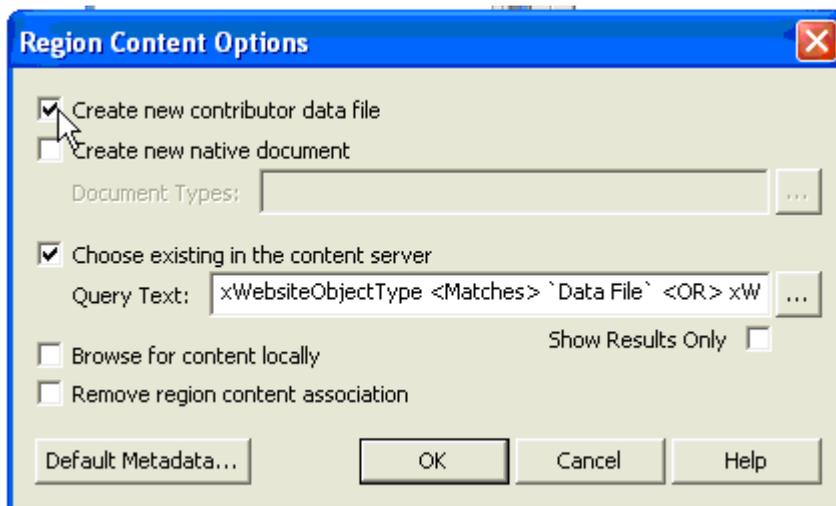
**Figure 3-27** Element Definitions Added to Region Definition List



**Note:** The next step creates a contributor data file based on this region definition.

9. Select **Switch Content** at the bottom of the region element list dialog (see [Figure 3-27](#)). The Regions Content Options dialog appears.
10. In the Regions Content Options dialog, make sure that the **Create new contributor data file** option box is checked, as shown in [Figure 3-28](#), and click **OK**.

Figure 3-28 Region Content Options Dialog



**Note:** You can optionally associate the region definition with a profile. This technique is useful to expose in the WLP content type a combination of the fields from the profile as well as elements from the region. If no profile association is configured, then the WLP content type will contain a combination of all metadata fields on the content server as well as elements from the region. To associate a profile with the region definition, select **Modify Metadata** at the bottom of the region edit dialog. The Enable Metadata Modification dialog appears. In this dialog, select a profile from the Profile Trigger Value popup menu in the lower-right hand corner, then click **OK**. This associates the region definition with that profile.

11. You are now returned to the top-level element definition dialog. *At this point, you must save the element definition.* Click the **Save** icon in the to-left part of the window.

The creation of the regions-based content type is now complete.

## Viewing the Region-Based Content Type from the WLP Repository

Figure 3-29 and Figure 3-30 show what the regions-based content type created in this section looks like when viewed from the WebLogic Portal Administration Console.

Figure 3-29 Region-Based Content Type Surfaced in WebLogic Portal

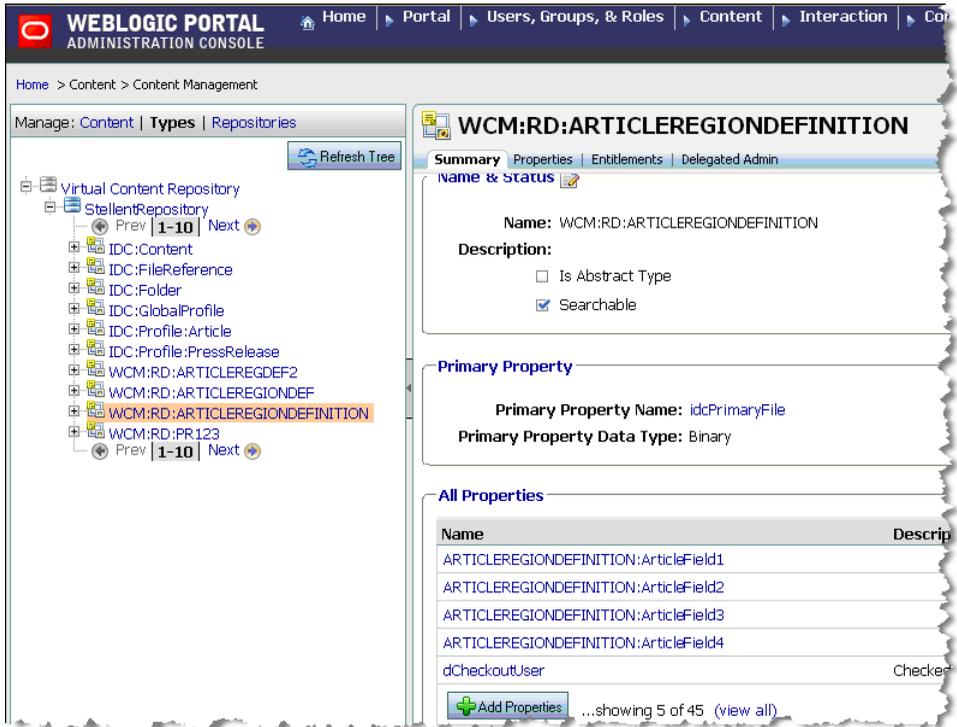


Figure 3-30 shows the property descriptions for the content type.

Figure 3-30 Property Descriptions

**All Properties**

Name	Description	Data Type
ARTICLEREGIONDEFINITION:ArticleField1		String
ARTICLEREGIONDEFINITION:ArticleField2		String
ARTICLEREGIONDEFINITION:ArticleField3		WCM:SL:AR-STATICLIST (Nested)
ARTICLEREGIONDEFINITION:ArticleField4		Link
dCheckoutUser	Checked out by	String

[Add Properties](#) ...showing 5 of 45 (view all)

# Creating a New Contributor Data File Based On a Region Definition

This section explains how to use Oracle Site Studio and the UCM Administration console to create content using region definitions. The goal of this procedure is to create region-based content in UCM and have that content and its properties appear in the WebLogic Portal VCR. The Site Studio region elements will be expressed as property fields in the VCR.

For background information on Site Studio, see [“Best Practices for Modeling Content” on page 3-4](#).

## Prerequisites

As a best practice, it is recommended that you first create a profile definition to associate with a newly created region-based content type definition. If you do not associate a region definition with a profile, then by default the region-based content type will be associated with a global profile and all UCM metadata fields will be exposed when viewing instances of content based on the region. UCM uses profiles to manage how metadata is structured and displayed.

**Note:** The example in this section uses the Article profile definition discussed in the previous example, [“Creating Profile-Based Content Types with the UCM Administration Console” on page 3-17](#).

## Overview of Steps

The basic steps described in this section are:

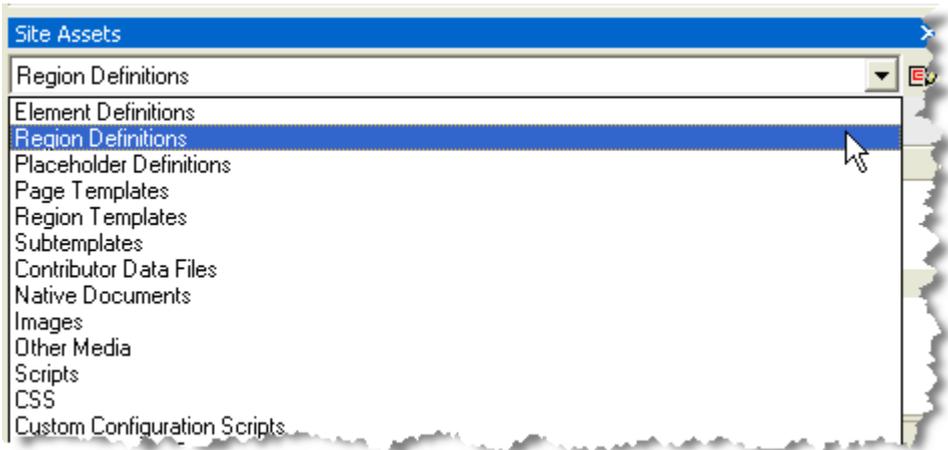
1. Select the region definition from which the new content node will be created.
2. Create an empty contributor data file based on that region definition.
3. Edit the contributor data file to populate the content fields.

## Selecting the Region Definition

This section describes how to select the region definition in Site Studio. Region definitions can also be selected outside of Site Studio Designer, in the Content Server.

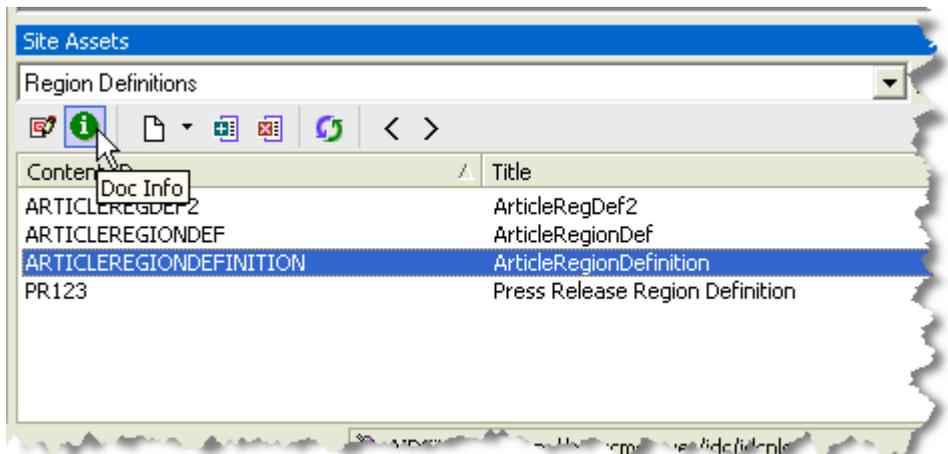
1. Start Oracle Site Studio.
2. In Site Studio, select **Region Definitions** from the Site Assets dropdown menu, as shown in [Figure 3-31](#).

Figure 3-31 Site Assets Dropdown Menu



3. From the resulting list of region definitions, select a region type on which to base the new content node, and select the **Doc Info** button to launch the Oracle Content Server Administration console, as shown in Figure 3-32. It is also possible to create contributor data files outside of Site Studio Designer, on the Content Server. The important part is to first locate the region definition.

Figure 3-32 Selecting the Doc Info Icon



4. From the Content Server Administration console, select **Create New Web Asset** from the Content Actions dropdown menu, as shown in Figure 3-33.

**Figure 3-33** Selecting from the Content Actions Menu



5. The Content Check In form appears for the Contributor data file. Fill out the ContentID and Title fields. Be sure and associate the Type field with the appropriate profile. In this case, select **Article Document**. Set the Author and Security group fields as appropriate. See [Figure 3-34](#).

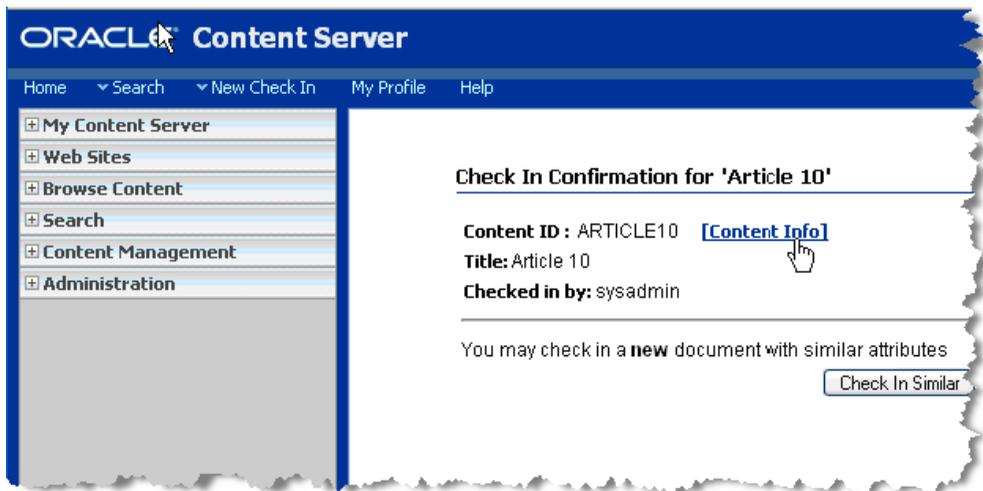
**Figure 3-34 Content Check In Form**

Content Check In Form	
* Content ID	<input type="text" value="Article10"/>
* Type	<input type="text" value="Article - Article Document"/> ▼
* Title	<input type="text" value="Article 10"/>
* Author	<input type="text" value="sysadmin"/> <input type="text" value="sysadmin"/> ▼
* Security Group	<input type="text" value="Public"/> ▼
Web Asset:	<input type="text" value="Data File"/>
* Revision	<input type="text" value="1"/>
Read Only	<input type="text" value="FALSE"/> ▼
Trash Delete Location	<input type="text"/> <input type="button" value="Browse..."/>
Comments	<div style="border: 1px solid black; padding: 5px;">This is an Article whos Content structure is based on a Region definition</div>
Trash Delete Old Name	<div style="border: 1px solid black; height: 60px;"></div>
Trash Delete Date	<input type="text"/> <input type="button" value="Calendar"/>
Inhibit Propagation	<input type="text" value="FALSE"/> ▼
Hidden	<input type="text" value="FALSE"/> ▼
Force Folder Security	<input type="text" value="FALSE"/> ▼

**Note:** Be sure and set the Folder location to save the data file otherwise it will not be browseable by the Portal Administration Console or Content Presenter, though it can be located via search.

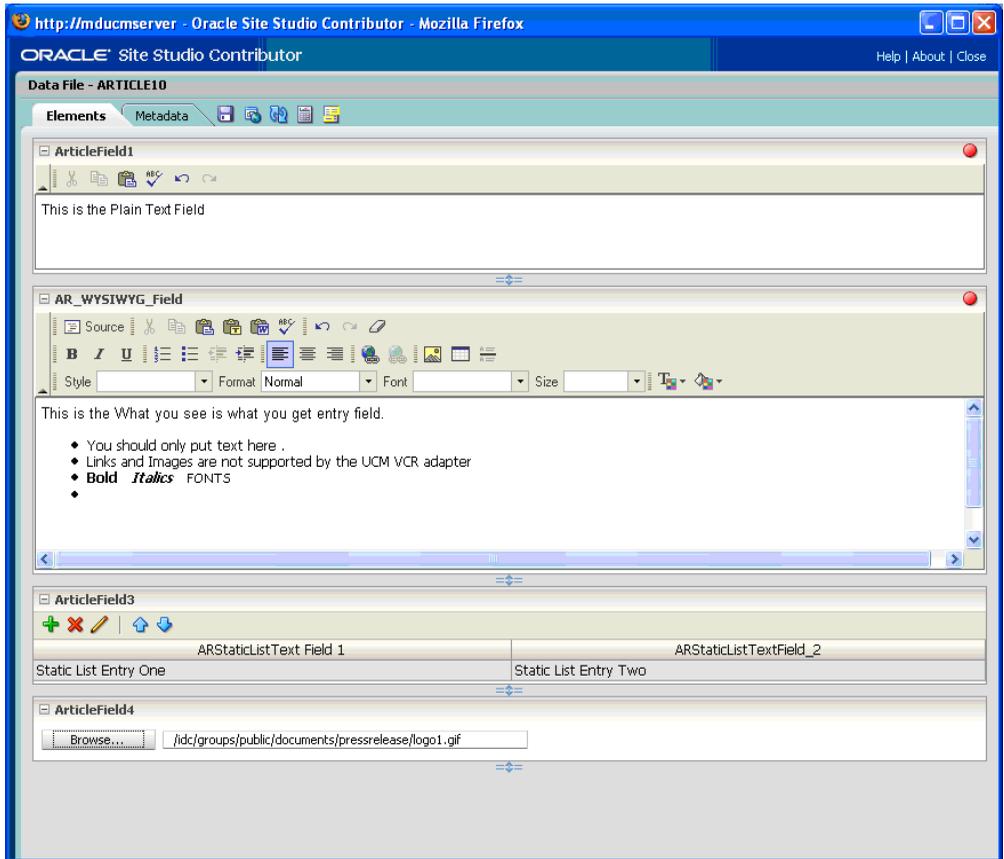
6. Select **Check In**. The Check in Confirmation Dialog appears.
7. In the Check In Confirmation Dialog, click the **Content Info** link to navigate to the entry for the contributor data file, as shown in [Figure 3-35](#).

Figure 3-35 Clicking the Content info Link

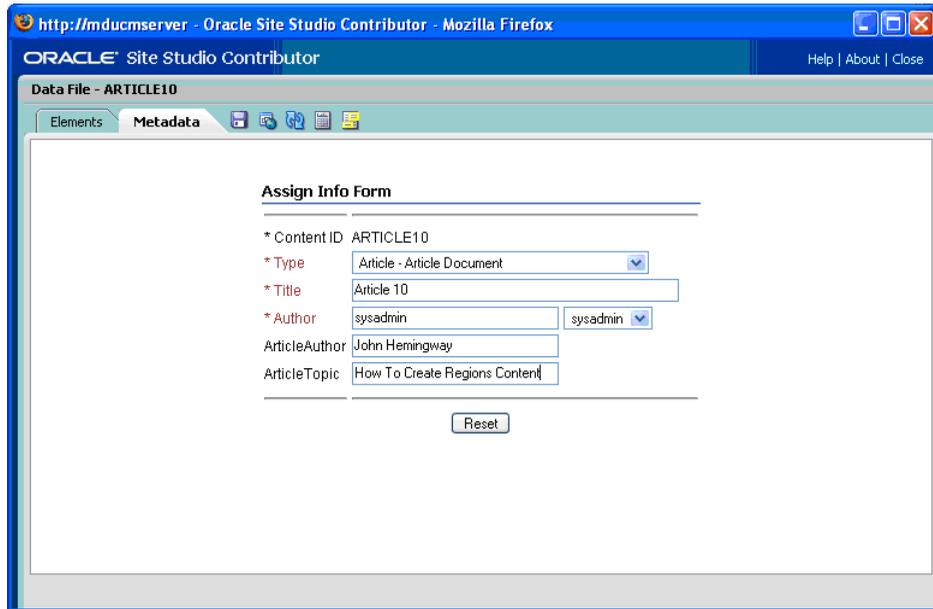


8. From the Content Information screen, select **Content Actions > Edit Data File** from the Content Actions dropdown menu. The Site Studio Contributor Data File Editor appears.
9. Use the editor to enter information in each of the pre-defined region fields (plain text, WYSIWYG, static list, and link). Also, select the Metadata tab and enter metadata for the contributor data file. Note that the available metadata fields are associated with the profile with which this content is associated. See [Figure 3-36](#) and [Figure 3-37](#).

Figure 3-36 Editing the Contributor Data File



**Figure 3-37** Editing the File's Metadata



10. Save the file.

### Viewing the Content in WLP

The following figures illustrate how this new content appears in the WebLogic Portal Administration Console. Remember that all Site Studio Region Elements are presented as WLP properties fields. See [Figure 3-38](#), [Figure 3-39](#), [Figure 3-40](#), and [Figure 3-41](#).

Figure 3-38 UCM Content Surfaced in VCR

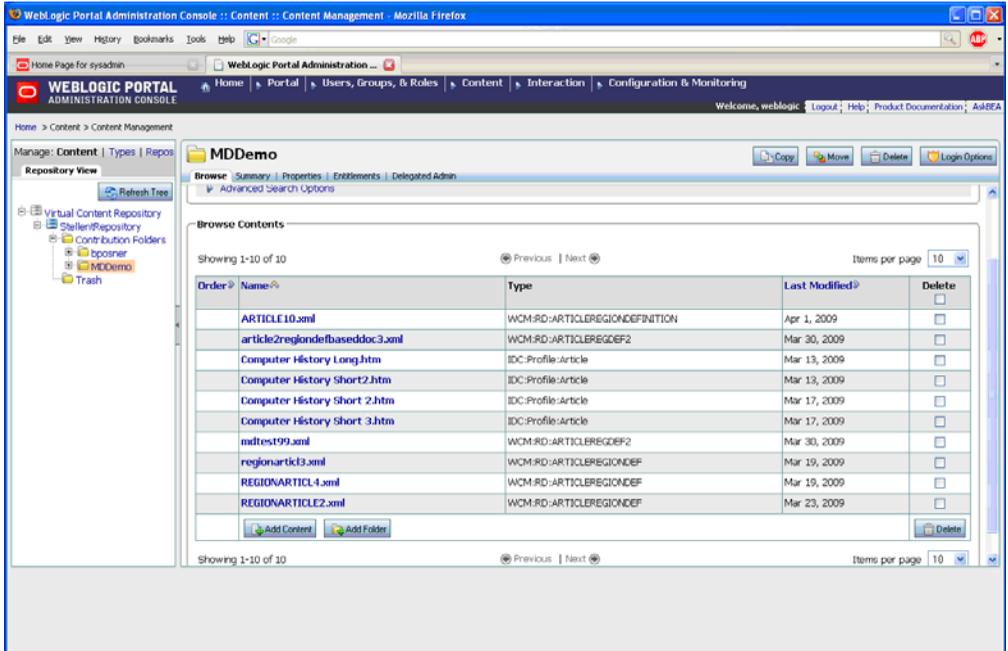


Figure 3-39 UCM Content Fields Surfaced in VCR

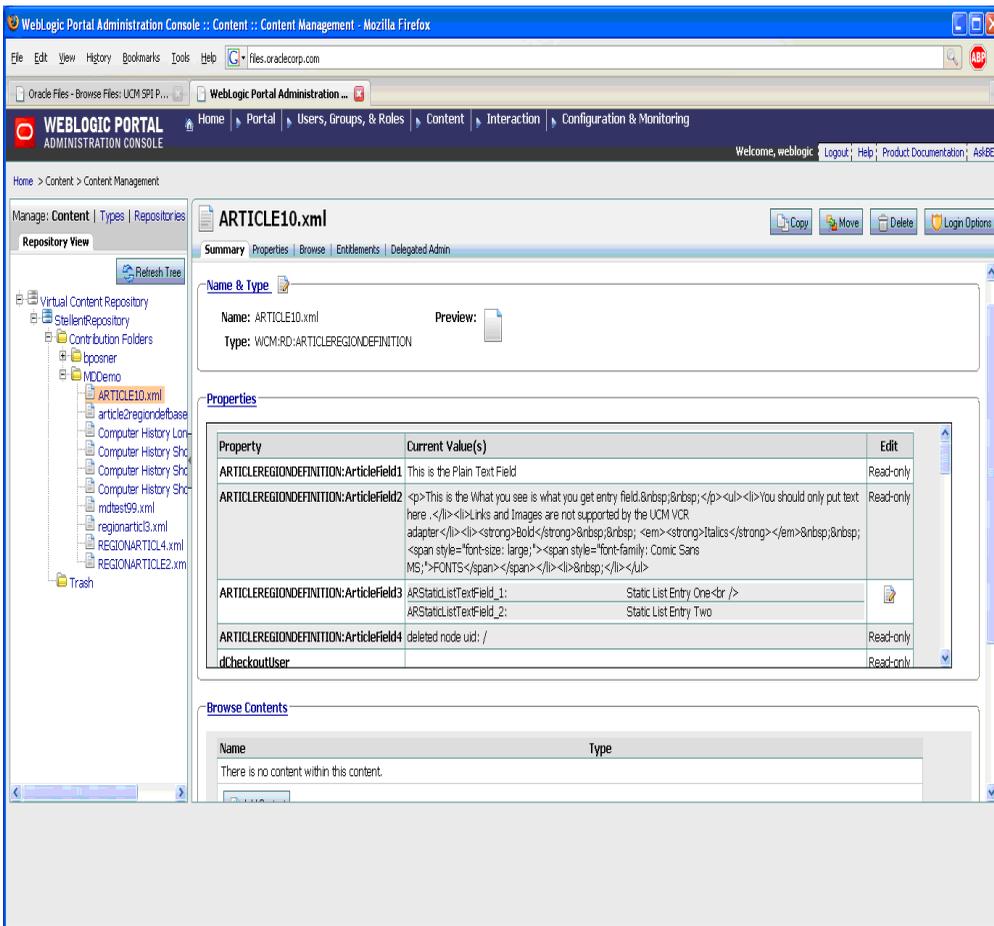




Figure 3-41 UCM Content Properties Surfaced in the VCR

The screenshot displays the WebLogic Portal Administration Console interface. The main content area shows the properties for an XML item named 'ARTICLE10.xml'. The interface includes a navigation pane on the left showing a tree view of content repositories, and a main table of properties on the right. The table lists various metadata fields such as creation date, release date, revision information, and security settings, each with a corresponding value and a checkbox for editing.

Property	Value	Field	Checkbox 1	Checkbox 2
dInDate*	01-April-2009 02:40:00 PM	Release Date	<input type="checkbox"/>	<input type="checkbox"/>
disCheckedOut*	0	Checked out	<input type="checkbox"/>	<input type="checkbox"/>
dOutDate*		Expiration Date	<input type="checkbox"/>	<input type="checkbox"/>
dReleaseDate*	01-April-2009 02:40:00 PM	Indexed Date	<input type="checkbox"/>	<input type="checkbox"/>
dReleaseState*	Y		<input type="checkbox"/>	<input type="checkbox"/>
dRevClassID*	78		<input type="checkbox"/>	<input type="checkbox"/>
dRevLabel*	3	Revision Label	<input type="checkbox"/>	<input type="checkbox"/>
dRevRank*	0	Revision Rank	<input type="checkbox"/>	<input type="checkbox"/>
dRevisionID*	3	Revision ID	<input type="checkbox"/>	<input type="checkbox"/>
dSecurityGroup*	Public	Security Group	<input type="checkbox"/>	<input type="checkbox"/>
dStatus*	RELEASED	Revision Status	<input type="checkbox"/>	<input type="checkbox"/>
dWorkflowState*		Workflow State	<input type="checkbox"/>	<input type="checkbox"/>
idRenditions	idRenditions 1: File: ARTICLE10.xml Encoding: — Default — Mime Type: Application/xml <input type="button" value="Download File"/> type*: web url*: http://indusserver/ids/groups/public/documents/article/article10.xml	Binary renditions for a document. Includes the webLayout file.	<input type="checkbox"/>	<input type="checkbox"/>
xArticleAuthor	John Hemingway	Article Author	<input type="checkbox"/>	<input type="checkbox"/>
xArticleTopic	How To Create Regions Content	Article Topic	<input type="checkbox"/>	<input type="checkbox"/>
xCollectionID	4	Folder	<input type="checkbox"/>	<input type="checkbox"/>
xComments	This is an Article whos Content structure is based on a Region definition	Comments	<input type="checkbox"/>	<input type="checkbox"/>
xDonotShowInListsForWebsites		Exclude From Lists	<input type="checkbox"/>	<input type="checkbox"/>
xForceFolderSecurity	FALSE	Force Folder	<input type="checkbox"/>	<input type="checkbox"/>