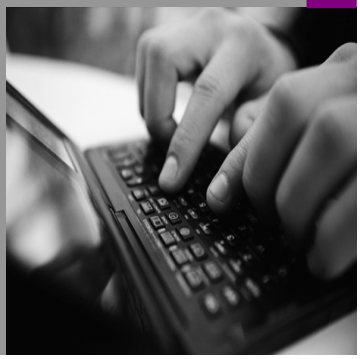

How-to Guide

SAP NetWeaver '04

How To... Distribute KM content using the ICE protocol

Version 2.00 – January 2005

Applicable Releases:

SAP NetWeaver '04

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1 (Business) Scenario

In your Enterprise Portal based on NetWeaver '04 you have a lot of KM documents which are accessible via Content Management. In order to provide these documents to other portals you plan to use the ICE (Information and Content Exchange) functionality of KM.

The Knowledge Management functions of NetWeaver '04 offer the possibility of using the ICE protocol in order to distribute KM-related content such as office documents and images. For details about the ICE protocol, see http://www.w3.org/TR/NOTE-ice or http://www.icestandard.org.

In this How-to guide you find information about the main steps in the configuration of the ICE-based functionality. Both typical elements of an ICE scenario - the syndicator (portal providing the documents), and the subscriber (portal receiving the documents) - are covered in this guide.

As well as the online scenario (a transfer between two up-and-running portals) the offline scenario is also covered. In this case the syndicator and the subscriber(s) do not need to be online.

2 Introduction

This How-to guide is not meant as a substitute for the official user and administration documentation available at http://help.sap.com. It only covers the topics that are necessary for reproducing the business scenario. Please check the Knowledge Management documentation for further details.

In principal, it is possible to build an ICE-based scenario with portals from different releases. For example, you can use an SAP Enterprise Portal Release EP5 SP6 as a syndicator and a NetWeaver'04 Portal as a subscriber. The only prerequisite in such a scenario is that you use the newest release of the corresponding portal platform in regard to patches and hotfixes.

This release of the document describes the usage of the ICE functionality of Knowledge Management as it is provided by the Enterprise Portal of NetWeaver '04. Apart from minor changes to the user interface, no further functional changes are delivered in NetWeaver '04.

3 Result

After carrying out all the steps described below, you should have a configured portal that acts both as an ICE syndicator and as a subscriber system. This approach was chosen as an introductory example., since the steps are basically the same when different portals are used.

4 The Step-By-Step Solution: Online Scenario

The description and the screenshots are based on NetWeaver '04 SPS 09.

For the configuration of automatic distribution, some assumptions concerning time data were necessary. These assumptions might not fit in your case.

The user mentioned later on in this guide that is used for the syndicator and for the subscriber (see the corresponding administration iViews) does not need read and/or write access to the KM repositories. This user is only used for authentication with the portal, and not for accessing the KM repositories directly.

4.1 Overview

Basically, you have to configure one portal that acts as a syndicator and one or more portals that act as subscribers. In this guide, one single NetWeaver '04 Enterprise Portal is used, which means that this portal acts as both syndicator and as subscriber.

The following section guides you through the configuration of the syndicator system. Screenshots help you to understand these steps and to reproduce them in your portal.

4.2 Configuration of the Syndicator

The syndicator acts as the content provider. The main configuration parts therefore cover the issues relevant to this role. It may help you to consider the following questions before starting to implement an ICE-based scenario:

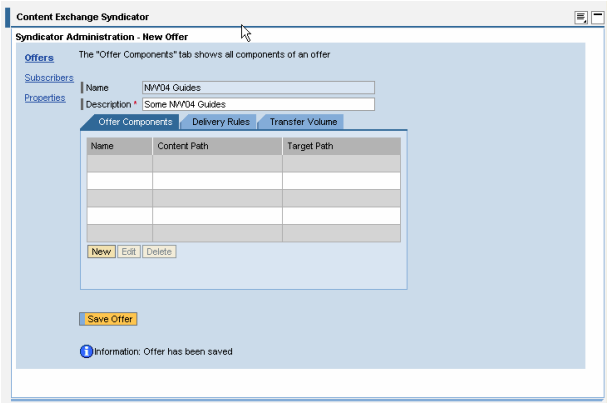
- Which content should be distributed?
    - Which folders/repositories?
- How often should it be distributed?
    - Regularly/on request?
- What other restrictions have to be taken into account?
    - Size/document types?

The answers to these questions are the input for the configuration later on. Below is a list of steps required for the configuration of the syndicator.

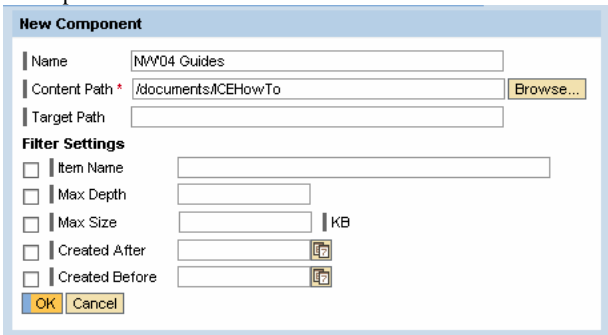
1. Create an offer and provide components at the location *Content Management* → *Content Exchange* → *Syndicator*

Click on *New* to create a new offer.

Choose a name and a description for the offer as shown in the screenshot below.



Now create an offer component by clicking on *New*. Enter a name and select a Content Management folder. You can do this using the *Browse* button for *Content Path*. See the screenshot below for an example.

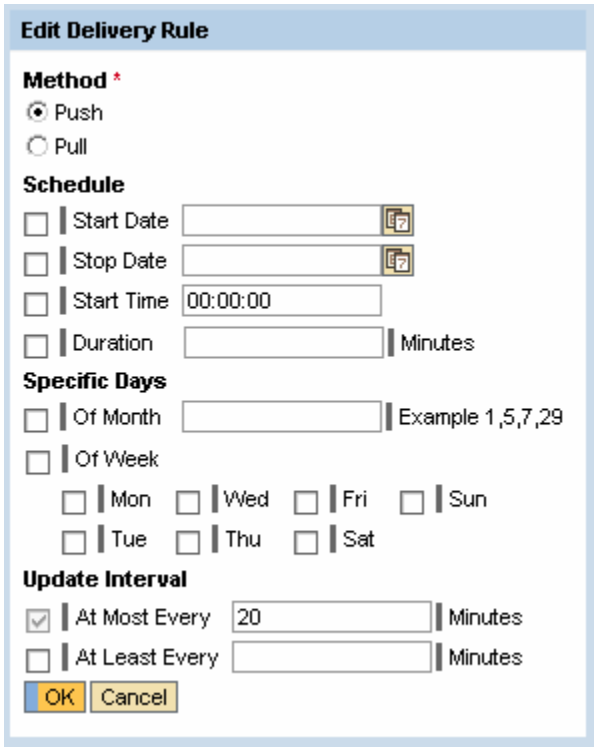


You can use *Target Path* you can specify where the content is stored in the subscriber system, starting from a directory specified by the subscriber. If you leave the target path empty, the subscriber can choose the destination folder starting from the root folder.

Set *Filter Settings* if additional restrictions are needed. These criteria are connected by AND, which means that if you specify more than one criterion, all criteria must be fulfilled in order for it to be true.

2. Specify the delivery rule(s)

The delivery rules specify the method (pull or push) and the time at which the documents can be obtained (pull) by the subscriber or are sent (push) to the subscriber. Currently only the methods pull and push are available.



It is possible to define more than one delivery rule for a single offer.

Pull
The subscriber actively gets the ICE offers by connecting to the syndicator system. An online connection is established and used for transferring the offer(s).

Push
The syndicator pushes the offers to the subscriber by establishing an online connection to the subscriber(s)

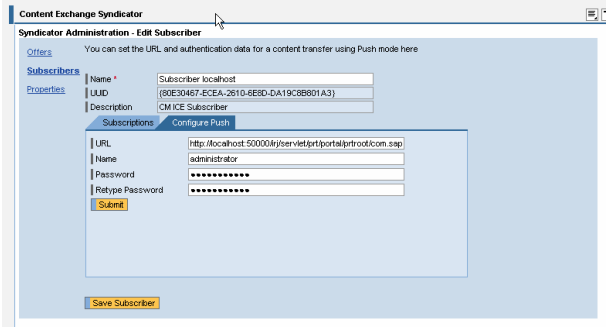
The options *Schedule*, *Specific Days*, and *Update Interval* are connected like the filter options with the Boolean operator AND. If you do not specify anything, the default setting is used. In this case the pulling/pushing of offers is done/possible, after saving the settings, at an interval of every 20 minutes starting on the hour + 20 minutes, or on the hour + 40 minutes, as configured.

The default value for *Start Date* is the current day. If you do not specify a stop date, the delivery will never end.

If needed you can restrict the pull/push to specific days of a the week (for example, only Friday) or to specific days of the month (for example, only the first day of each month). Furthermore, you can specify the start and stop date, between which times the ICE offer is pushable/pullable.

3. Configuration of user information in *Syndicator Administration* if the delivery rule *push* is chosen

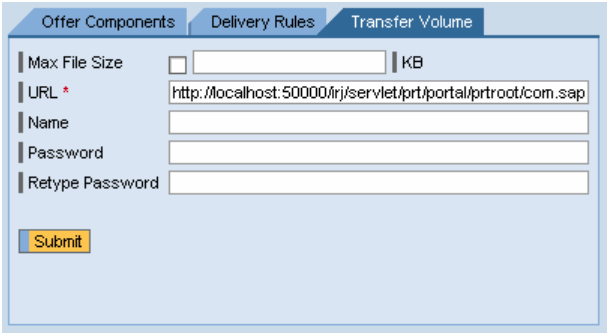
If the delivery rule *push* is selected, you have to specify the user and password used to connect to the subscribing portal. This user is only used for authentication with the portal, so no read or write access is necessary.



In the screen shot above, the *Syndicator Administration* iView is shown. You can maintain user data here. This step cannot be carried out before a subscriber has subscribed to the offer.

4. Optional: Specify transfer volume

If you want to restrict the maximal file size of a single document in the ICE offer, you can specify a size in the following dialog box.

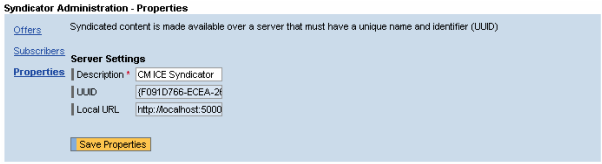


If there is a single document that is larger than the specified limit, only a link to the document in question is included in the ICE offer.

5. Prepare the connection information needed by the subscriber

In order to be able to receive the ICE offers, the subscriber needs certain data, including user data for connecting to the ICE syndicator server.

All necessary information can be geot/set in the *Properties* dialog box of the *Syndicator Administration* area.



To establish the connection, the subscriber needs at least the local URL (URL to the ICE servlet). You can also specify user data for accessing the ICE offers. It is not yet possible to specify passwords for a single offer, which means that any subscriber can subscribe to all ICE offers.

4.3 Configuration of the Subscriber

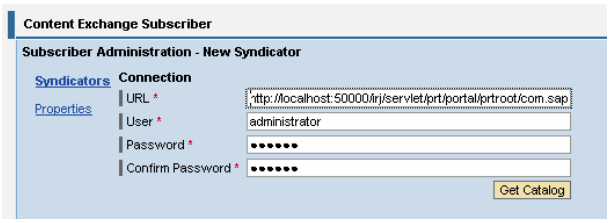
The subscriber takes the content offered by one or more syndicators. The configuration therefore specifies the following:

- Syndicator data such as URL and user information
- The offer to which the subscriber wants to subscribe
- The location at which the content is to be stored locally in the subscriber system?
- Whether to check the current status of the offer transfer

As before, the information indicated in the points above is needed later on during the configuration of the subscriber.

1. Create a subscription at *Content Management* → *Content Exchange* → *Subscriber*

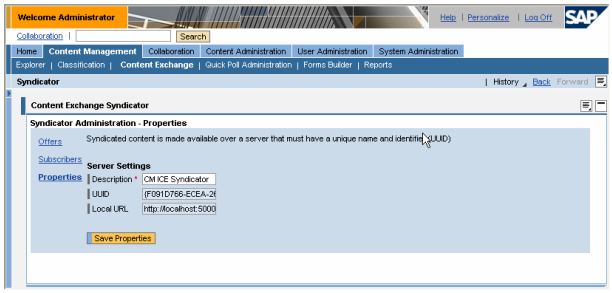
To specify ICE-relevant data, you need the connection and user data from the ICE syndicator.



Navigate to the *Subscriber Administration* dialog box in the ICE subscriber system, and create a new subscription. Fill in the connection and user data in the dialog box that appears.

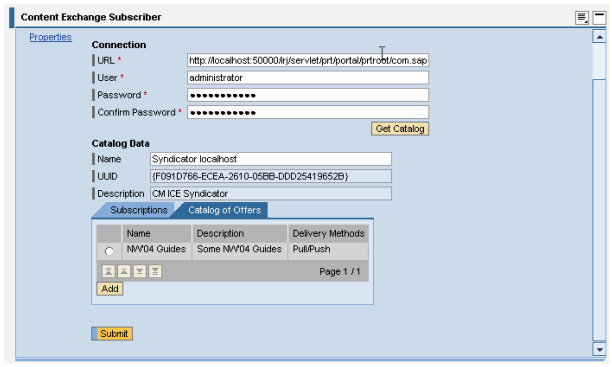
The URL and logon information needed should be provided by the syndicator. The URL is displayed in the

Properties part of the *Syndicator Administration* iView, as shown in the screenshot below.



The user that is used by the subscriber does not need to have read or write access to the folders in the syndicator system. The user information is only used for authentication with the portal. It is not necessary to provide an administrator user - just a standard portal user.

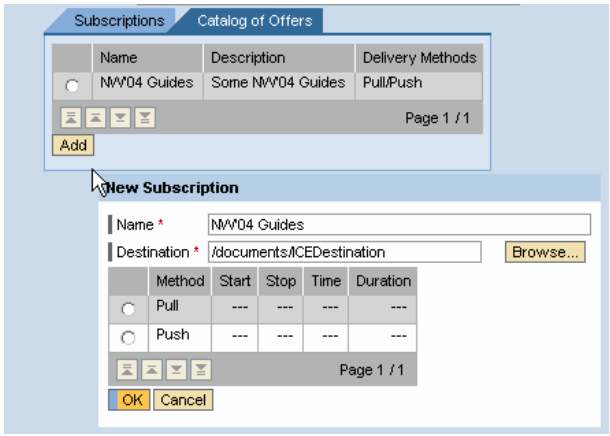
After entering the data, an online connection to the ICE syndicator is established by pressing *Get Catalog*. The syndicator sends back a list of available offers to which the subscriber can subscribe. This list is displayed in the lower part of the dialog box.



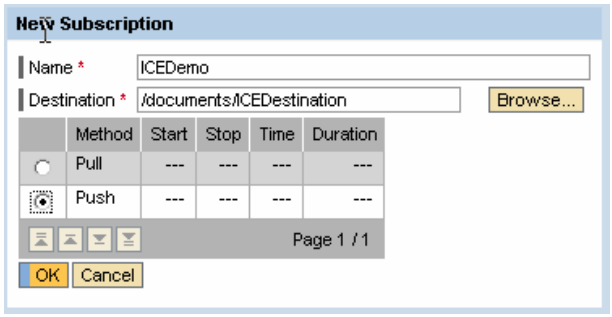
If you get an error message, please refer to the *Troubleshooting* section.

2. Subscribe to an ICE offer

If you select an offer and click *Add* you get a dialog box in which you need to specify the name of the subscription and the destination location at which the documents are stored locally in the subscriber system.



The screenshot below shows the dialog box. Specify *Pull* or *Push* according to the settings provided by the syndicator system.



Specify a name for the subscription and the destination folder. The content provided by the syndicator will be stored in this folder, in this example in /documents/ICEDestination. The folder hierarchy of the offer will not be changed, which means that the content of the offer is stored with its hierarchy below the given destination folder.

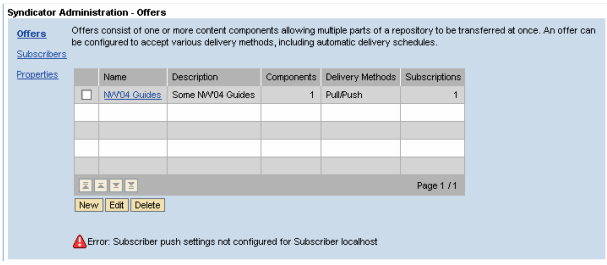
The complete directory is formulated by adding the *Target Path* parameter of the syndicator to the *Destination Path* parameter of the subscriber. If, for example, the syndicator specifies the relative path *NewsItems* as the target path, and the subscriber specifies the absolute path /documents/GeneralNews as the destination path, the documents will be stored at /documents/GeneralNews/NewsItems.

After you click *OK* and then *Submit* the data is stored in both the syndicator system and the subscriber system.

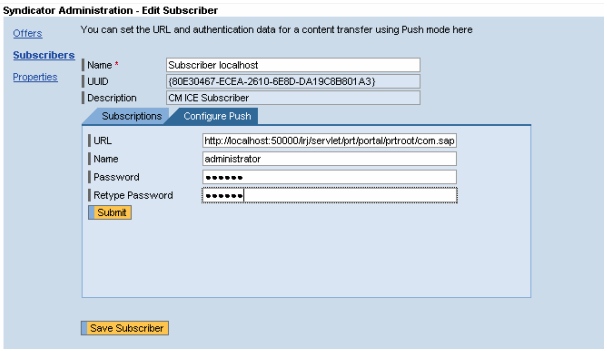
In a push scenario you need to specify user data that is used by the syndicator in order to connect to the subscriber system. This step is usually only necessary the first time a subscriber subscribes to an offer.

The screenshot below shows the error message that appears in the syndicator portal after the subscriber

submits its requests.

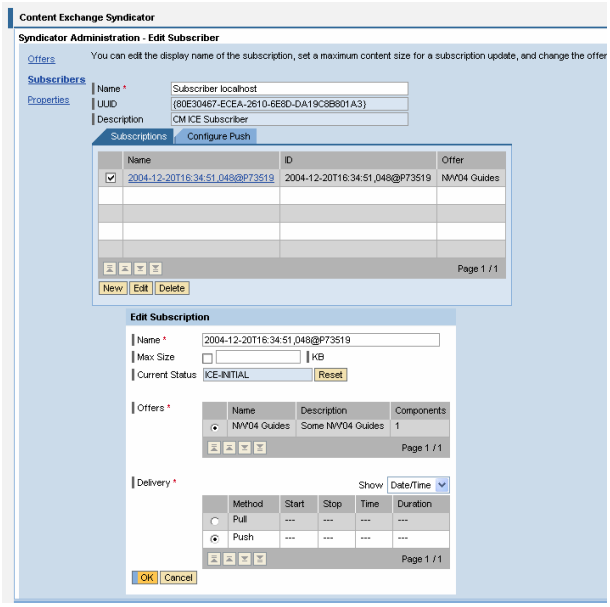


The configuration is carried out at *Subscribers* → *Configure Push*, as shown in the screenshot below.



3. Check the current status of the offer(s)

In the *Subscriber Administration* dialog box you can check which ICE offers you have subscribed to. Select an entry to check its current status.



In the dialog box above, the ICE offer currently has the status ICE-INITIAL, which means that no content has been transferred yet.

Details about the offer can be investigated by selecting *Date/Time* from the *Show* dropdown list.

4.4 Testing the Content Distribution

After you have configured the syndicator and subscriber using the standard iViews of the portal as described above, all necessary settings have been specified. The process of distributing the documents will be started according to the ICE syndicator settings for the offer.

During the content exchange process, the documents defined in the offer by the syndicator are transferred to the subscriber and stored in the folder specified in the subscription properties.

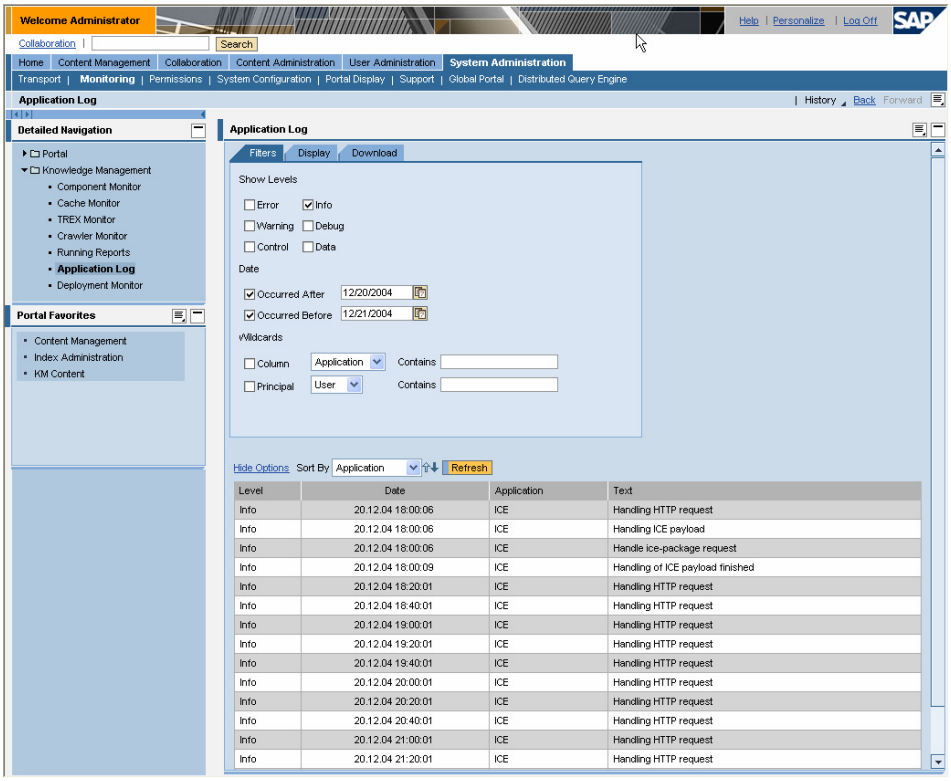
The documents themselves are transferred, not only links to them, as long as the maximum file size is not restricted. Changes to the documents in the ICE syndicator system will not become available for the subscriber until the next scheduled transfer of the ICE offer.

4.5 Troubleshooting

Below is a list of possible problems and proposed solutions

- *The ICE subscriber cannot connect to the ICE syndicator*
  Check whether the proxy settings for your browser **and** your servlet engine are set properly (for example, make sure that the proxy server is not used for accessing the ICE server).
- *After subscribing to an offer, nothing seems to happen*
  Several configuration settings could cause this behavior. You should firstly check the filter settings of the ICE offer. If you use the default settings, the ICE activity starts at, for example, 10:20am if you saved the offer at 10:01am, which means that you have to wait 19min before anything happens.
- *Syndicator host not found*
  Check the URL and make sure that it is valid (for example, check that the server name and port number are correct).

Additional information might be available in the application log of the syndicator or subscriber system. The screenshot below shows an example of the output on the syndicator. The iView is located at *System Administration → Monitoring → Knowledge Management → Application Log*. Useful settings for the options are selecting only info messages and choosing a proper time frame.



In the screenshot above you can see that ICE activities take place every 20 minutes. This activity reflects the configuration of the offer discussed previously, where a 20min schedule was defined (see step 2 of the section on syndicator configuration).

If the problems still occur, please refer to the KM administration guide and the How-to guides on Troubleshooting, which explain among other things how to check the log and trace files. Additionally, use problem reports in Online Service System (OSS) in order to clarify open issues.

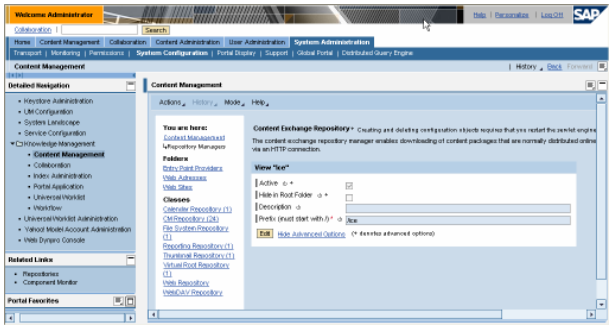
5 The Step-By-Step Solution: Offline Scenario

In this scenario, unlike in the online scenario described above, the subscriber and syndicator are not directly connected online. In the offline scenario, the syndicator creates an ICE package and delivers it offline to the subscriber(s), for example, by mail.

The ICE package represents a compressed XML document that contains all the transferred data, which means that it contains the document properties (**not** the application-related properties), the permissions based on ACLs (not the inherited ones), and the content of the encoded document.

1. Check whether the repository **/ice** is visible for the content manager

Navigate to *System Administration* → *Knowledge Management* → *Content Management* → *Repository Managers* → *Content Exchange Repository*. You may need to activate the *Advanced Options* in order to see this repository manager.

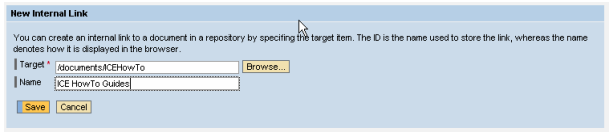


Make sure that the checkbox *Hide* in *Root Folder* is not checked for the content exchange repository.

2. Create an offline ICE offer

Navigate to *Content Administration* → *KM Content.* In the navigation iView, navigate to /root/ice/Syndicator/Global Offer

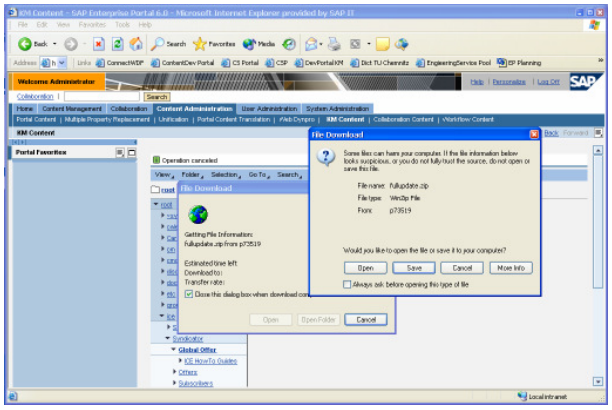
Create one or more new internal links to the folder that you would like to distribute. You cannot create external links.



The screenshot above shows the internal link to the document folder used in the online scenario.

3. Create an ICE package and download it to the client

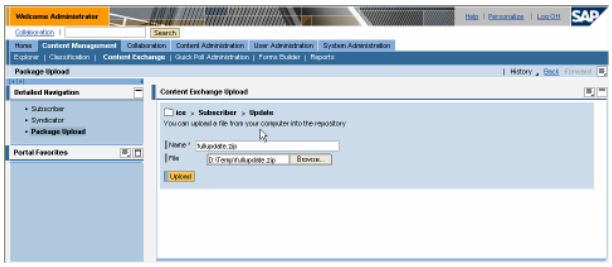
After creating one or more internal links, the ICE package is created as soon as you click on *Complete Package* or *Differential Package*. In the first case, all documents starting from the link destination and below are put together into the package. In the latter case, only the documents that have been created or modified since the last package creation are put into the ICE package.



After clicking on the link you will be prompted by the standard file download dialog boxes. This package can be stored anywhere on the local file system and can be delivered to the subscriber(s) by any appropriate means.

4. Impor the offline ICE package to the subscriber system

The subscriber can upload the ICE package by using the *Package Upload* iView, as shown in the screenshot.



After providing the name and path to the ICE package, click on *Upload*. By default, every complete package is named fullupdate.zip. When you select this archive the same name is proposed as the file name. This name is stored locally in the directory /root/ice/subscriber/update and removed after the portal is restarted. Next time you need to rename the package file.

You cannot specify the destination, unlike in the online scenario. The destination will be overwritten. In this example, /documents/ICEHowto will be overwritten.

6 Additional Issues

This section contains more detailed information on the usage of ICE both in general and specific to the KM implementation. For more details, please consult the documentation at http://help.sap.com

- *No application properties are transferred with an ICE offer*
  Repository services such as *statemanagement* or *versioning* use application properties to store application-specific data. This data is not added to the ICE offer and can therefore not be used in the ICE subscriber system.
- *ACL data is stored in an ICE offer*
  ACLs that are set for single documents or inherited from higher folders are stored in the ICE offer. If the user/group/role is available in the subscriber system, the ACLs are also available.
- *ICE offers only contain KM content*
  It is only possible to include KM resources such as folders and documents in an ICE offer. It is not possible to distribute configuration settings or functionality between two or more portals using ICE.

7 Terminology

ICE	Information and Content Exchange
Subscriber	The part of the ICE communication that recieves the resources (the destination of the the content delivery).
Subscription	The content to which a subscriber is subscribed is gathered in a subscription.
Syndicator	The part of the ICE communication that provides the content as packages (*offers*).
Offer	The content that is provided by a syndicator is organized in offers.
Offer component	Offer components are deeper hierarchical units for organizing the content. Offers therefore include one or more offer components that in their turn contain the resources such as documents.
ICE repository	The CM repository that is used to create offline ICE offers.
Catalog	All offers of a syndicator are organized in a catalog.

www.sdn.sap.com/irj/sdn/howtoguides