

# How to Guide for Data Carrier Synchronization



## Applies to:

SAP NetWeaver 7.1 SP03 release and above.

## Summary

This document provides a step-by-step description on how to use Data Carrier Synchronization.

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**Created on:** 26 July 2010

## Author Bio

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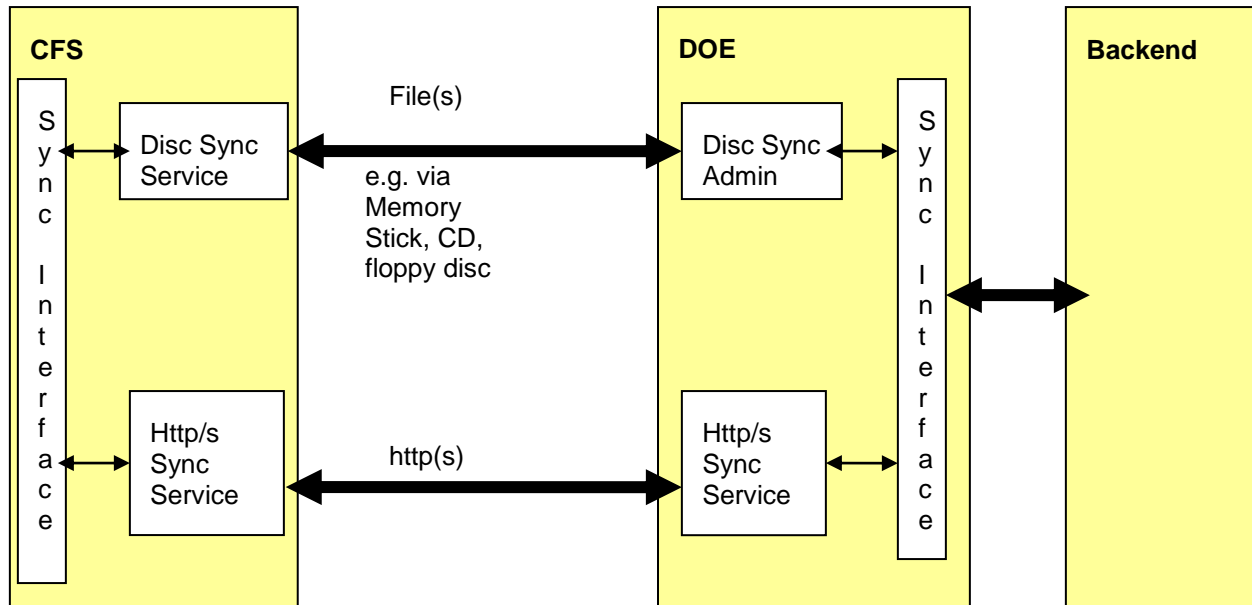
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## Introduction

Data Orchestration Engine is a Message Oriented Middleware (MOM) that facilitates the communication between the backend systems and the various mobile receivers. Based on connectivity between DOE and receiver, there are two synchronization options with Data Orchestration Engine (DOE) –

1. Http(s) based when connected
2. Using File(s) when receiver cannot connect with DOE

Data Carrier based Synchronization is thus one means of Communication between the DOE and the Mobile Receivers. This type of communication is used when there is no online connectivity between the DOE and the Mobile Receivers. The data to be synchronized is carried over any suitable media.



This could be done for example via ftp, via floppy discs, via CD or via memory stick. Net Weaver Mobile Client [Client Framework Service (CFS)] and DOE also has to ensure that no data will be lost even if the data is synchronized multiple times via different channels.

## Data Carrier Synchronization

Data carrier synchronization is a mechanism to synchronize data with the DOE if a mobile client cannot connect to the DOE by making use of suitable storage media. In the storage medium (such as a floppy disk, CD, DVD, or USB drive), the data is stored as files.

1. The data that receiver wants to send to DOE is stored as file in storage media. This data is identified from the messages in the outbound queue of the mobile client. The storage media is then sent to admin.
2. The administrator uploads the data (files) from the storage medium to the DOE.
3. The messages in the files are read and used by DOE for device specific processing.
4. The data that DOE want to send to receiver is stored as files in storage media. This data is identified from the messages in the respective queue of the receiver. The administrator can then download these files to the required storage medium and send this storage medium to the required device as part of synchronization.

## Usage of Data Carrier Synchronization

Based on your requirements, you can use the following options in DOE for data carrier based synch:

- Download

Allows you to download [the receiver relevant content] as files to a storage medium. After you download the files to the required storage medium, you can send this storage medium to the required receiver. In this case, the files contain data that the receiver must receive from the DOE as part of the synchronization process.

- Upload

Allows you to upload the files [containing the data from receiver] from a storage medium to the DOE. In this case, the files contain data that the DOE must receive from the mobile client as part of the synchronization process.

- Upload and download

Allows you to:

- I. Upload the files from a storage medium to the DOE.
- II. Download the files to a storage medium. After you download the files to the required storage medium, you can send this storage medium to the required receiver.

### Data Carrier Synchronizatoin Steps

The below example gives the typical steps involved in Data Carrier Synchronization:

You created a receiver DEMO\_DISC and registered with it mobile client. You have maintained Data Carrier Synchronization settings on mobile client.

1. Download Data from DOE for receiver DEMO\_DISC into directory C:\DISC SYNC where the download files should be created.
2. In directory C:\DISC SYNC, a subfolder '001560AB336002DE95DFF7B7518582AB' with selected receiver GUID as the name of the folder should be created. In this subfolder 001560AB336002DE95DFF7B7518582AB, a subfolder with disc number as '1' should be created.
3. Copy folder '1' from location C:\DISC SYNC into location C:\Program File\SAP\SAP Net Weaver Mobile Client\Disc\_Sync\Client\_Import folder.
4. Perform sync from client in silent mode.
5. As a result of synchronization, mobile client will send a response to DOE and this is available in location C:\Program File\SAP\SAP Net Weaver Mobile Client\Disc Sync\Client\_Export folder.
6. Copy folder from C:\Program File\SAP\SAP Net Weaver Mobile Client\Disc\_Sync\Client\_Export folder into location C:\DISC SYNC\DEMO\_SYNC.
7. Go to DOE and trigger upload operation. As a result, the discs corresponding to this receiver will be deleted from C:\DISC SYNC\DEMO\_SYNC. An entry will be shown in the "Uploaded Receivers" list for this receiver.

## Configuring the Initial Data Carrier Synchronization Settings

You can configure the initial settings based on your requirements. This includes the location where you want to store the upload and download files, the type of data carrier you want to use, whether you want to encrypt the data, and so on.

1. Log on to the DOE system and start transaction **SDOE\_DISC\_SETTING**.
2. In the *Source Directory* field, fill the required path.

The screenshot displays the SAP SDOE\_DISC\_SETTING transaction interface. At the top, there is a menu bar with 'System' and 'Help' options. Below the menu bar is a toolbar with various icons. The main title of the window is 'Disc synchronization default settings'. A 'Save' button is located at the top left of the main content area. The configuration fields are as follows:

Source Directory:	C:\Disc Sync		
Media Type:	USER DEFINED	Media Size:	1
		Unit:	MB
	<input type="checkbox"/> Encryption	<input type="checkbox"/> Signing	

3. In the *Media Type* field, select the type of storage receivers, such as floppy discs, CDs, DVDs, and USB drives.



You can also select *User defined media* if required

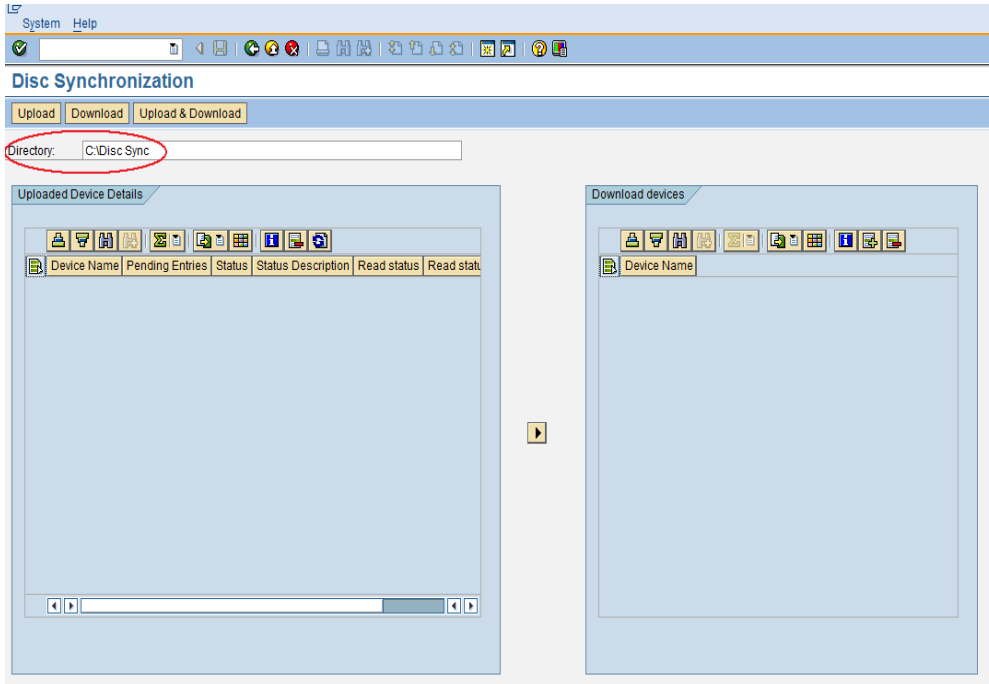
4. In the Media Size field, Enter the size of the selected storage media
5. To encrypt data, select *Encryption*. Select this flag if you want the export data to be encrypted.
6. To digitally sign the data, select *Signing*. Select this flag if you want the export data to be signed.
7. Choose *Save*.

## Downloading Files from the DOE to a Storage Medium

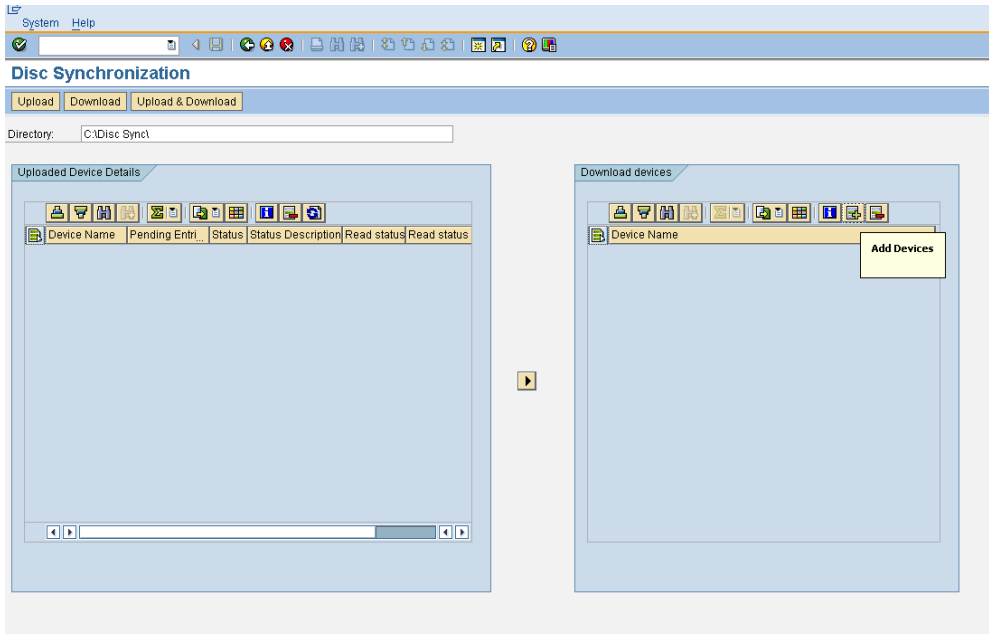
1. Create a logical receiver in DOE.
2. Log on to the DOE system and start transaction `SDOE_DISC_SYNC`.
3. In the *Directory* field, enter the path of the folder where you want to store the files.



We recommend that you copy the files to a folder in your local file system instead of directly copying the files to the storage media. This is because you cannot directly write data on some storage media types such as a CD or DVD.



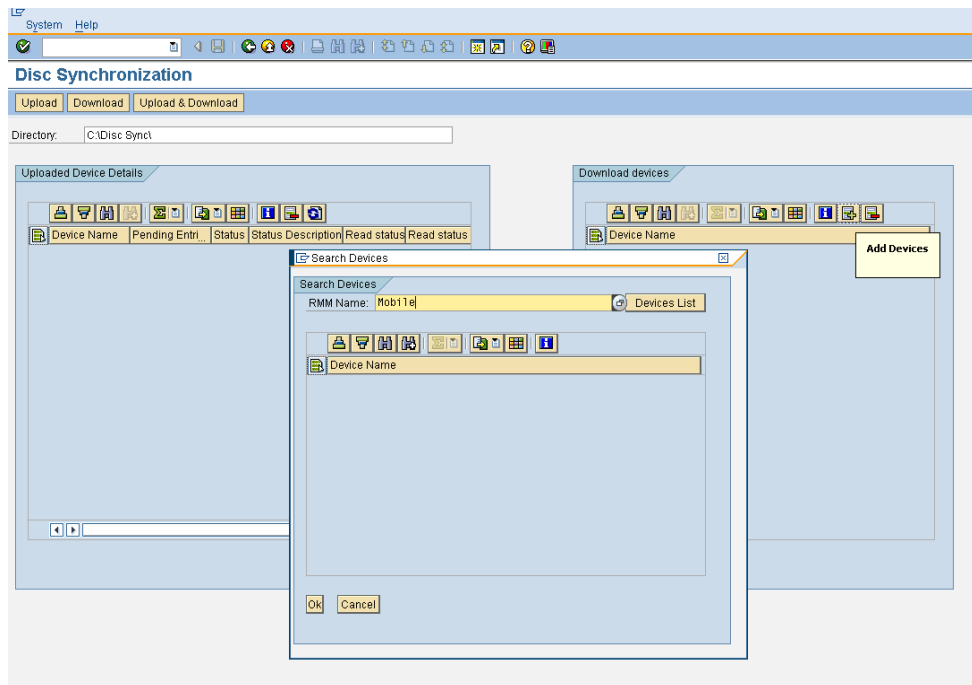
4. In the Download receivers screen area, to specify the receivers for which you want to download files, choose *Add Receivers*.



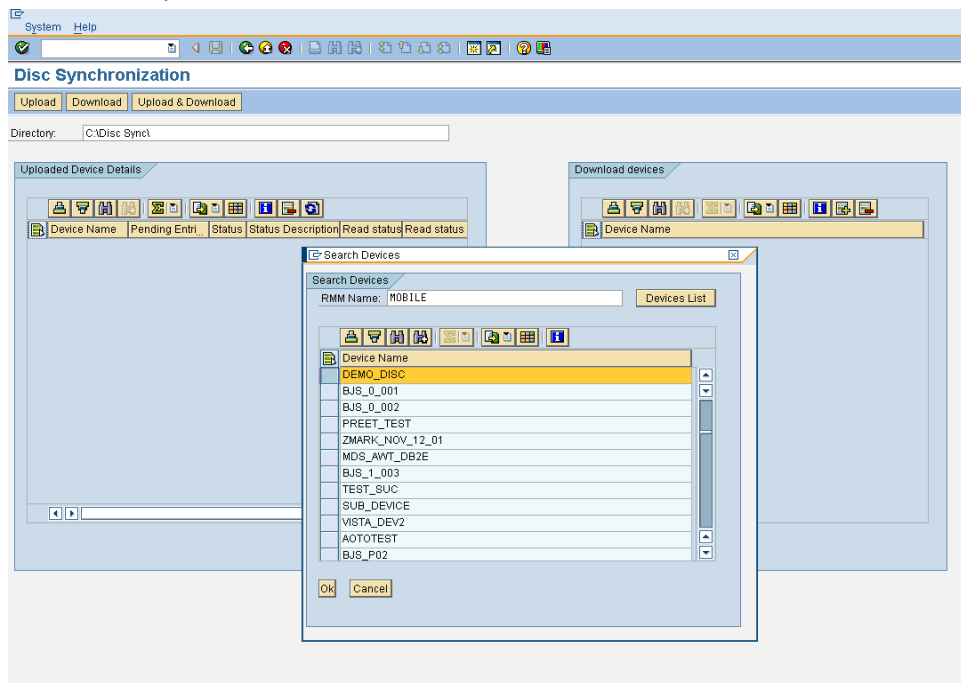
- In the *RMM Name* field, enter **MOBILE**.



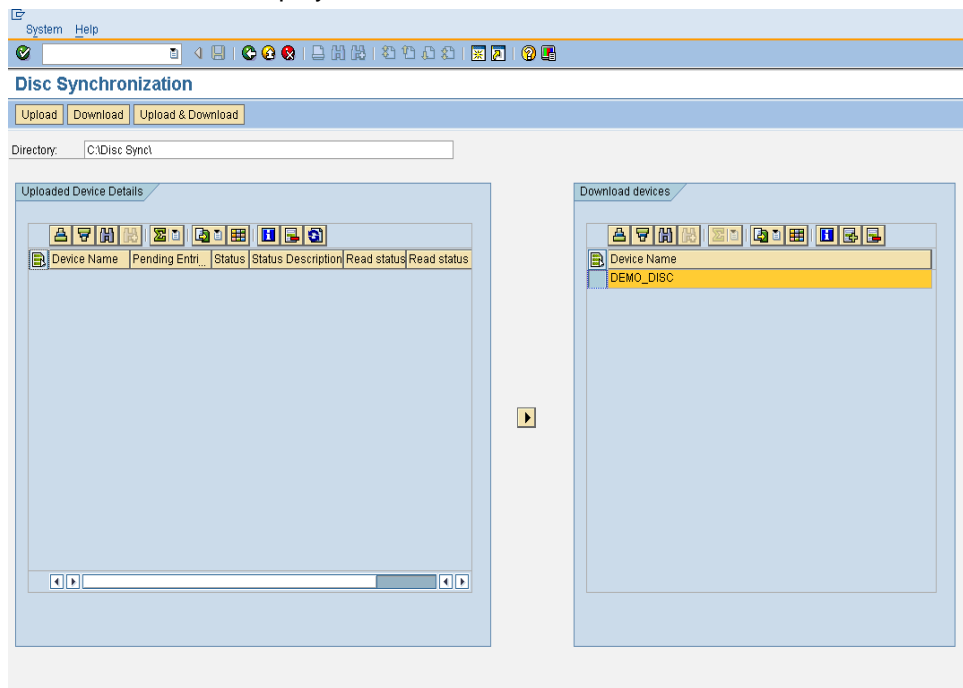
The list of receivers in “Mobile” RMM will be displayed in the table. This list will not contain the receivers which you have already selected for download.



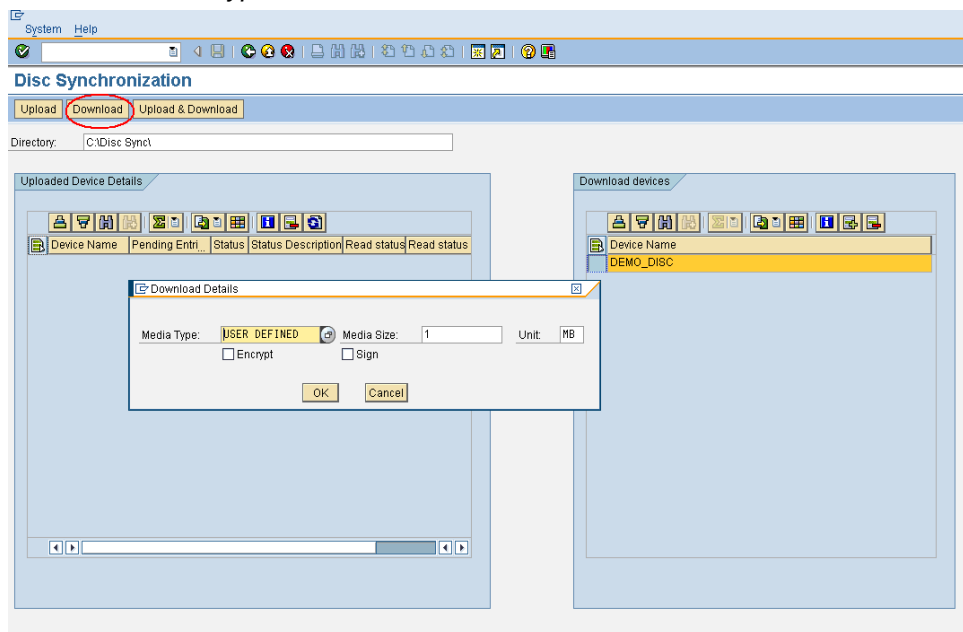
- Choose *Receiver List*.
- Select the required receivers and choose *OK*.



8. Selected receiver is displayed in the Download receivers screen area.



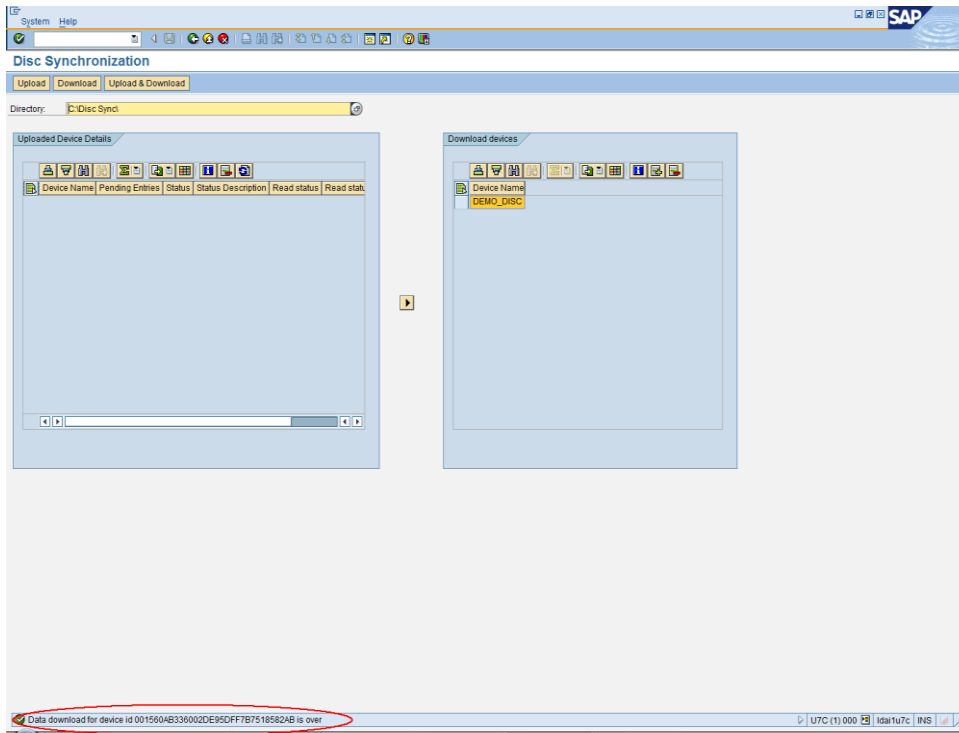
9. In the *Disc Sync* screen area, choose *Download*.  
 10. Select the *Media Type* and *Media Size*.



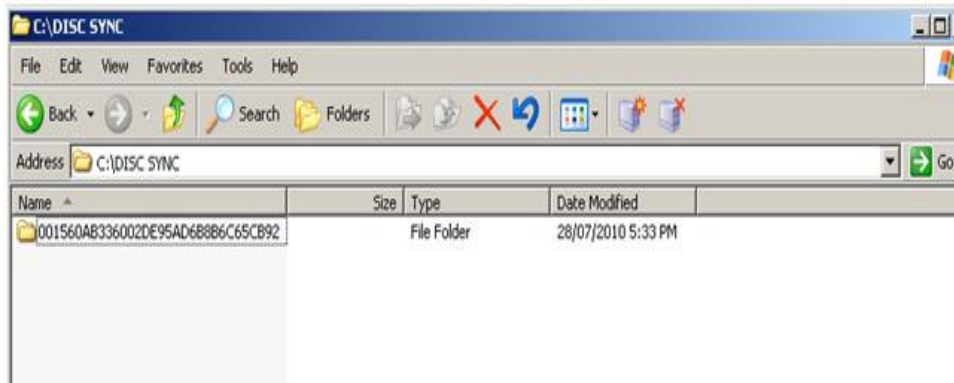


11. Choose *Ok*.

During the download of files to the storage medium, if new data is pushed to the outbound queues, then to get this new data, you must restart the transaction `SDOE_DISC_SYNC`.



## 12. In the selected directory subfolder/s should be created with the selected receivers receiver id's as the Name of the folder.





## Importing Data from the Storage Medium to the Mobile Client

You import data from a storage medium to the mobile client. The Data Orchestration Engine (DOE) groups the data, which the client has to receive as part of the synchronization process, in the form of files.

You can import the data from the storage medium in two ways:

1. **Silent Mode:** In this mode, all data to be imported is copied from the storage medium and placed in the home location specified in the Data Carrier Synchronization settings.
2. **Interactive Mode:** In this mode, the client prompts the user for the location from which the data has to be imported. You can use this mode for scenarios where you have multiple locations from where the client has to import the data, or the location is different to the home location specified in the Data Carrier Synchronization settings.

This is the default mode for importing the data.

### Using the Silent Mode to import data from a storage receiver

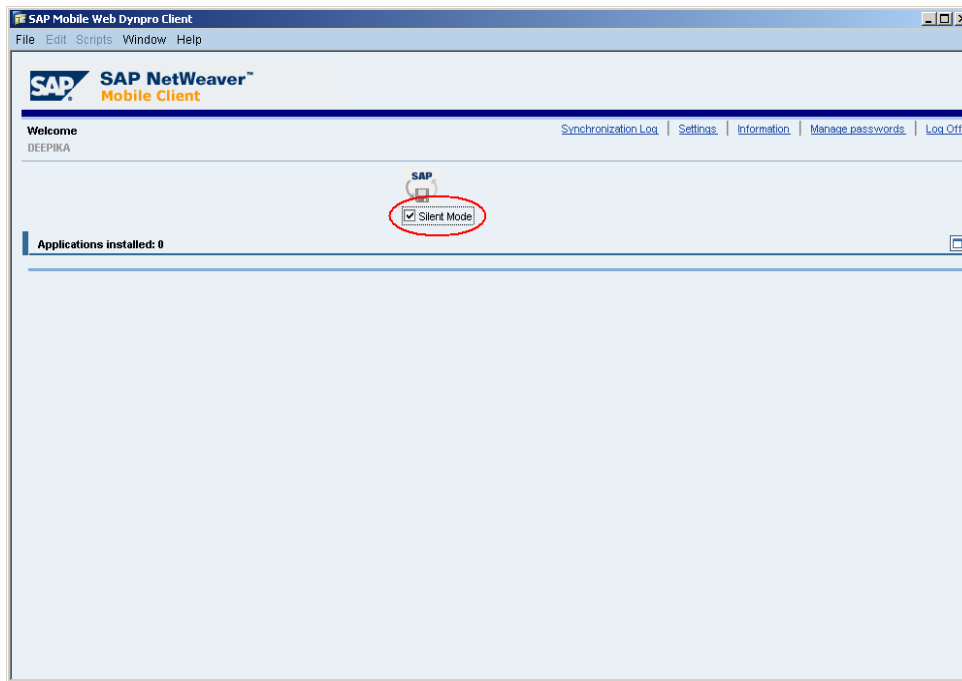
1. You have installed a Mobile Client and registered the receiver successfully.
2. You have configured the Data Carrier Synchronization settings.

On the mobile client home page, choose *Settings*. Choose *Synchronization Settings* → *Data Carrier Synchronization* and enter the following details –

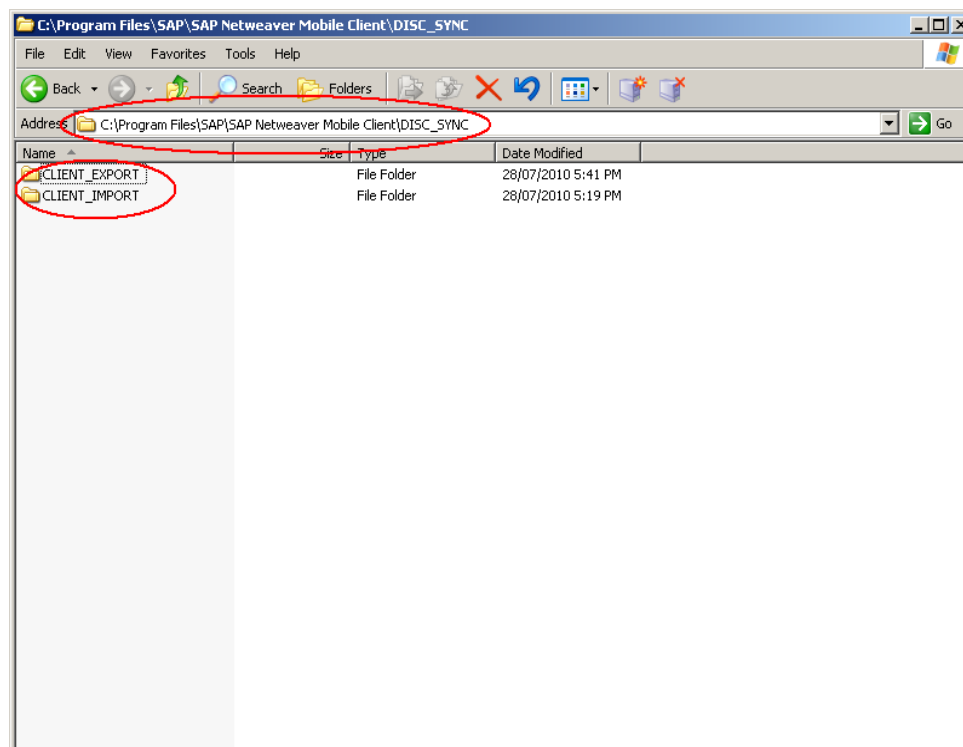
Use Data Carrier Synchronization	Select this option to enable data carrier synchronization.
Process Only Inbound Disc	Select this option to read data from the storage receiver only. If you select this option, the <i>Media Type</i> and <i>Media Size</i> options are disabled.

The screenshot shows the 'Data Carrier Synchronization' settings window in the SAP NetWeaver Mobile Client. The 'Use Data Carrier Synchronization' checkbox is checked and highlighted with a red circle. Below it, the 'Process Only Inbound Disc' checkbox is unchecked. The 'Home Location of Data Carrier Synchronization' is set to 'C:\Program Files\SAP\SAP Netweaver Mobile Client'. The 'Media Type' is set to 'User Defined', 'Media Size' is '1,024', and 'Unit' is 'KB'. The 'Encrypt' checkbox is unchecked, and there are empty input fields for 'Encryption File', 'Sign', and 'Signing File'. At the bottom, there are 'Save' and 'Cancel' buttons.

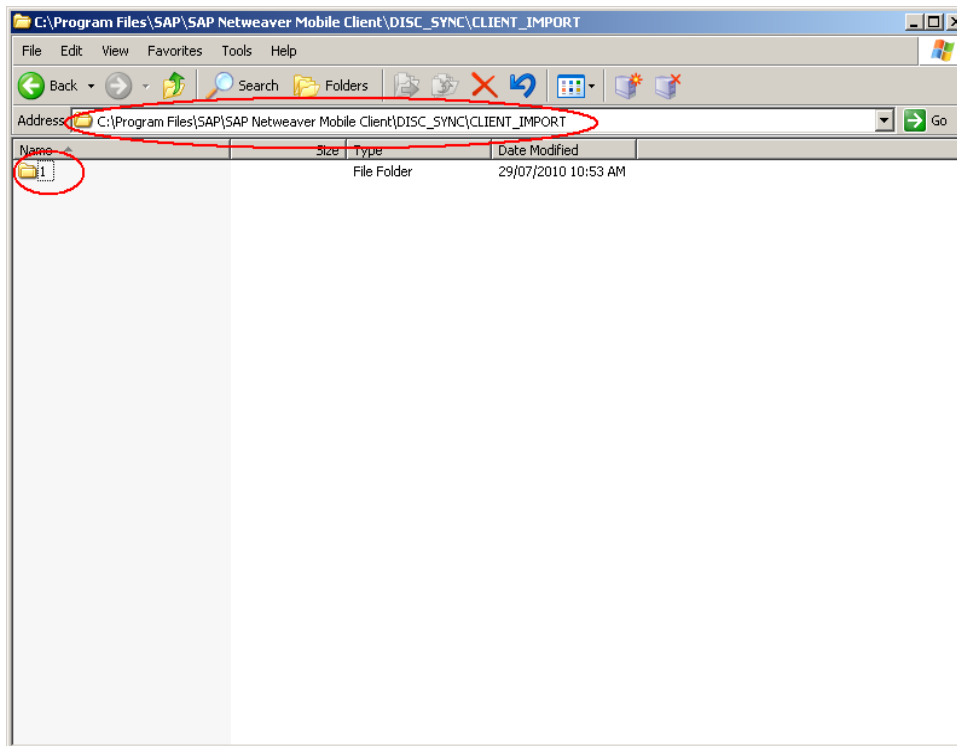
1. On the homepage, select the *Silent Mode* indicator and choose *Synchronize*.



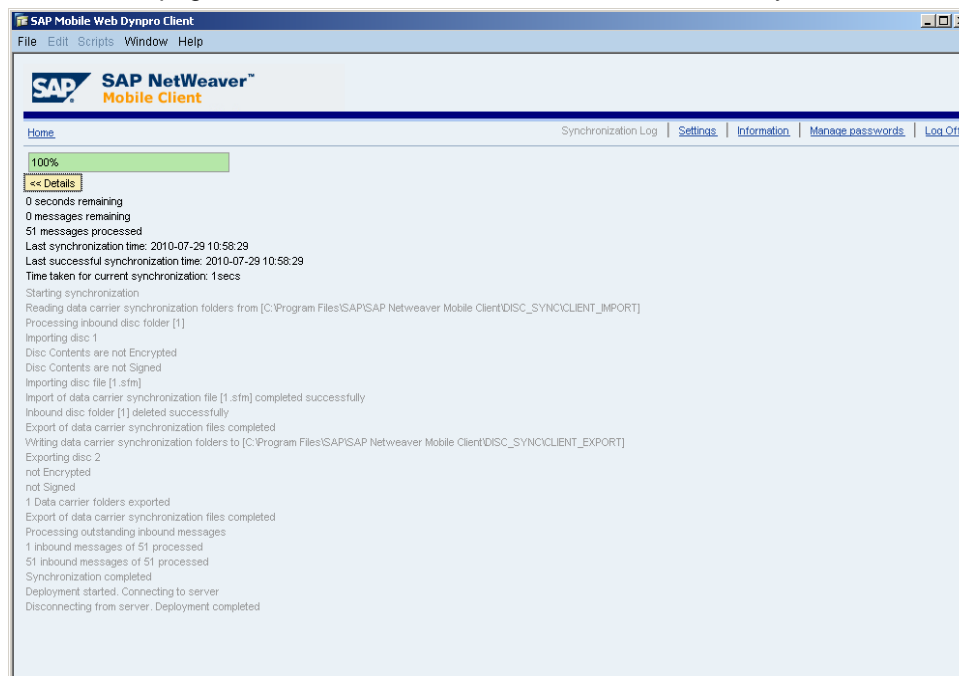
2. Verify the directory in which the synchronization data resides on the client receiver. For example, C:\Program Files\SAP NetWeaver Mobile Client\ –  
The directory contains two subdirectories. These are:
  - Disc\_Sync\Client\_Import: The directory from which the mobile client for laptops reads the DOE data
  - Disc\_Sync\Client\_Export: The directory to which the mobile client for laptops writes the DOE data



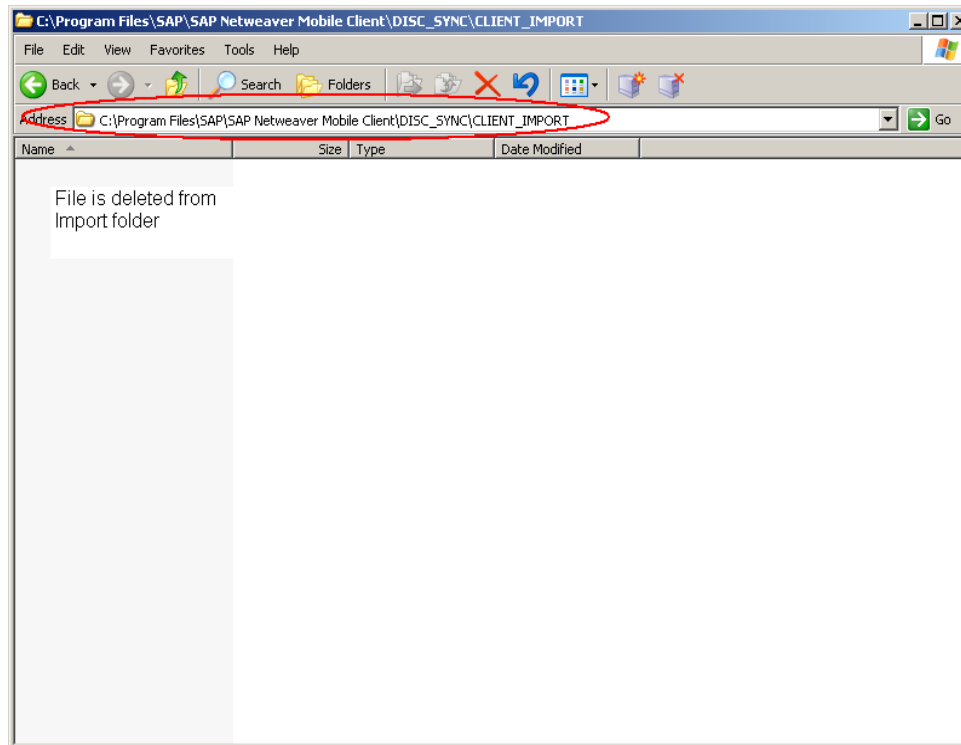
- Copy all the folder from the location specified in the Data Carrier Synchronization settings to the default location is the ...\\Program Files\\SAP NetWeaver Mobile Client\\Disc\_Sync\\Client\_Import folder.



- Log on to the mobile client.
- On the homepage, select the Silent Mode indicator and choose Synchronize.



- After the import all files in the import folder are deleted and the synchronization details are available in the client logs.



## Exporting Data to the Storage Medium from Mobile Client

Once you export client data to a storage medium, you can send this storage medium to the Data Orchestration Engine (DOE). The client groups the data in the form of files. In this case, the files contain data that the DOE must receive from the receiver as part of the synchronization process.

### Prerequisites

- You should have configured the Data Carrier Synchronization settings
- You should have exported data to storage medium from mobile client using synchronization.

### Procedure

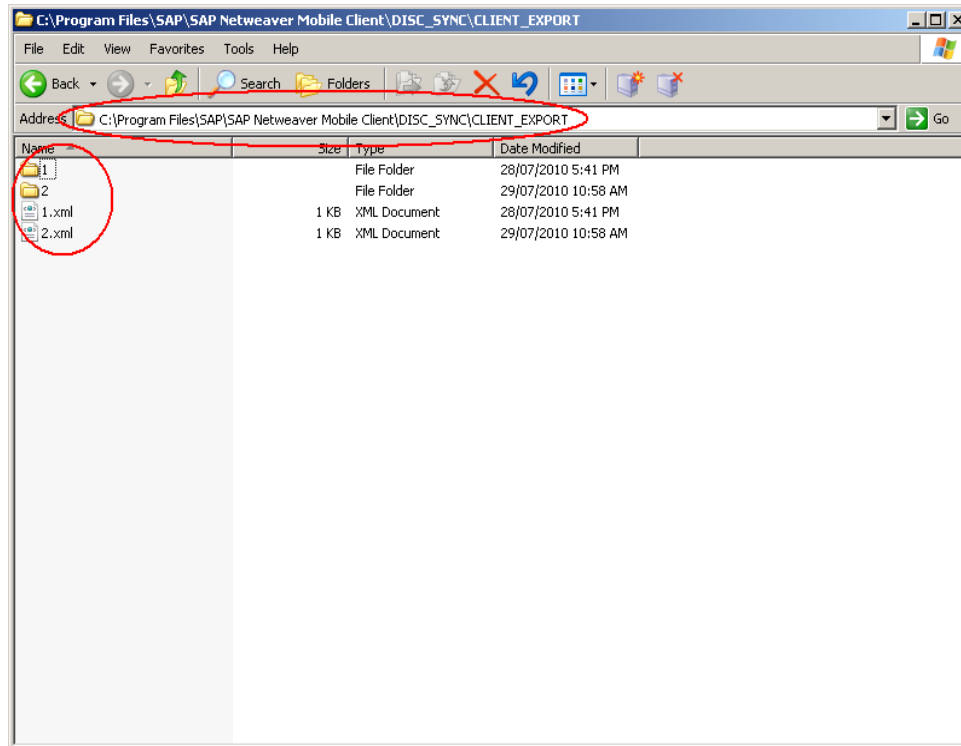
- The client creates the files in the location specified in the Data Carrier Synchronization settings.

The default location is the ... \Program Files\SAP NetWeaver Mobile Client\Disc\_Sync\Client\_Export folder.

The client creates the files in a folder structure numbered 1, 2, 3, and so on. The number of folders depends on the amount of data that the receiver has to export. Each folder has a maximum amount of data that it can store. This is determined by the *Media Size* parameter in the Data Carrier Synchronization settings.

The client creates the following files for each folder:

- XML file – Metadata of the synchronization process
- SFM file – Data that has to be exported
- DMF file – Metadata of the exported data



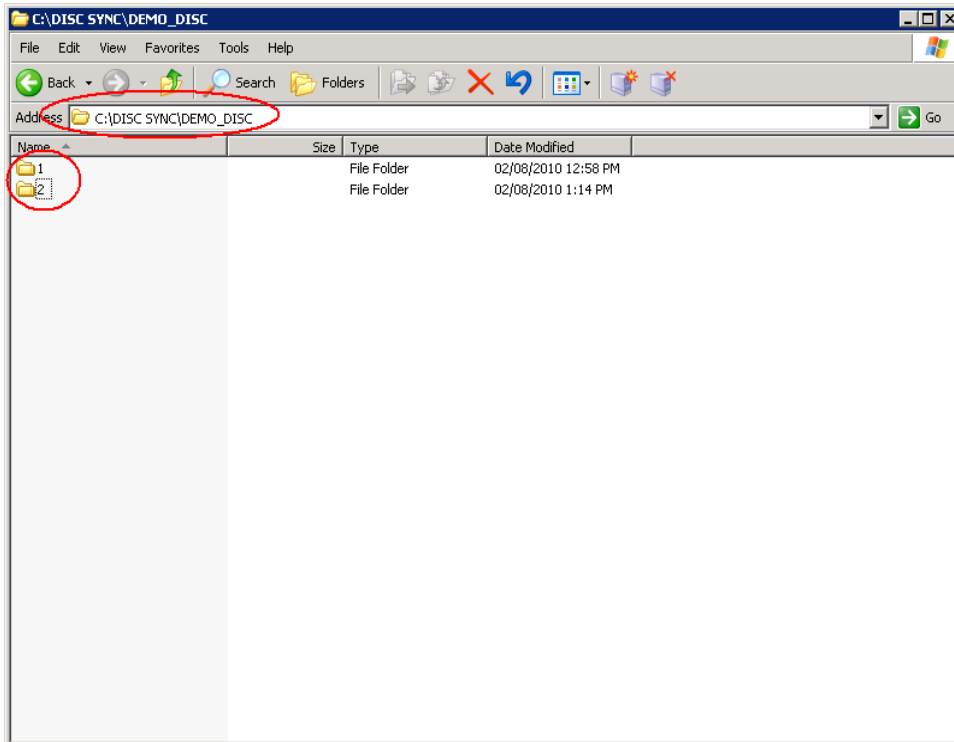
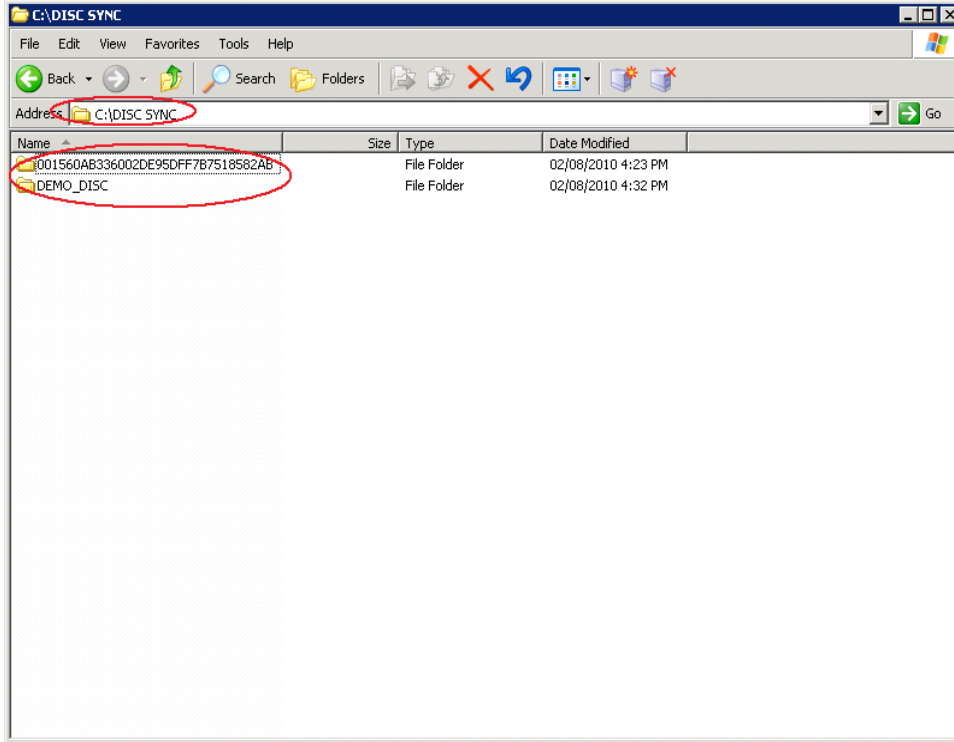
2. Copy all the folders from default location is the ... \Program Files\SAP Net Weaver Mobile Client\Disc\_Sync\Client\_Export folder to the location specified in the Data Carrier Synchronization settings.



A folder with the same name as that of receiver name has to be created in Data Carrier Synchronization settings otherwise following error message will get displayed while uploading to DOE –“There are no valid discs for upload operation. Please check logs and traces”.

### Example

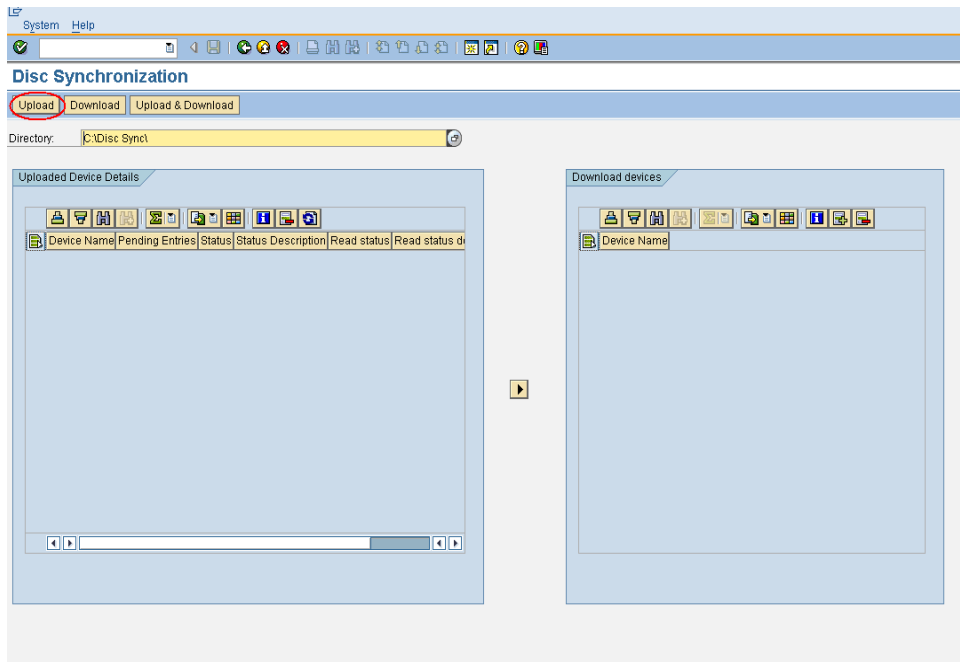
Before copying folders to this location C:\DISC SYNC, you should create a subfolder with receiver name i.e. C:\DISC SYNC\DEMO\_DISC and then copy data from C:\Program Files\SAP Net Weaver Mobile Client\Disc\_Sync\Client\_Export into C:\DISC SYNC\DEMO\_DISC so that mobile client data should get consumed by DOE on triggering upload operation.





## Uploading Files from the Storage Medium to DOE

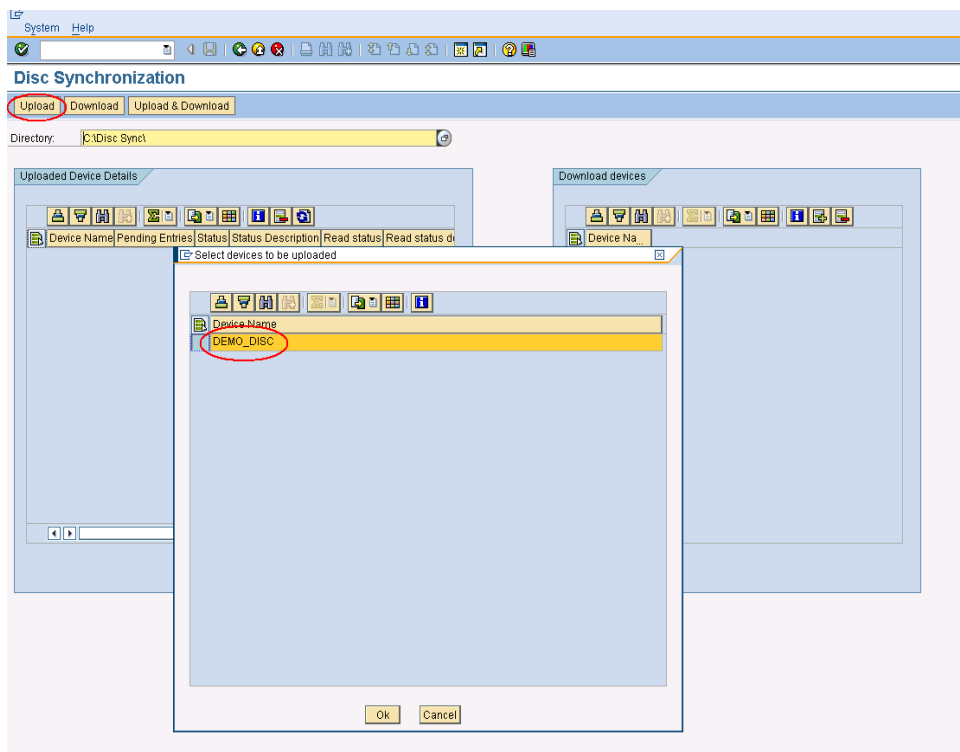
1. Log on to the DOE system and start transaction SDOE\_DISC\_SYNC.
2. In the *Disc Sync* screen area, choose *Upload*.



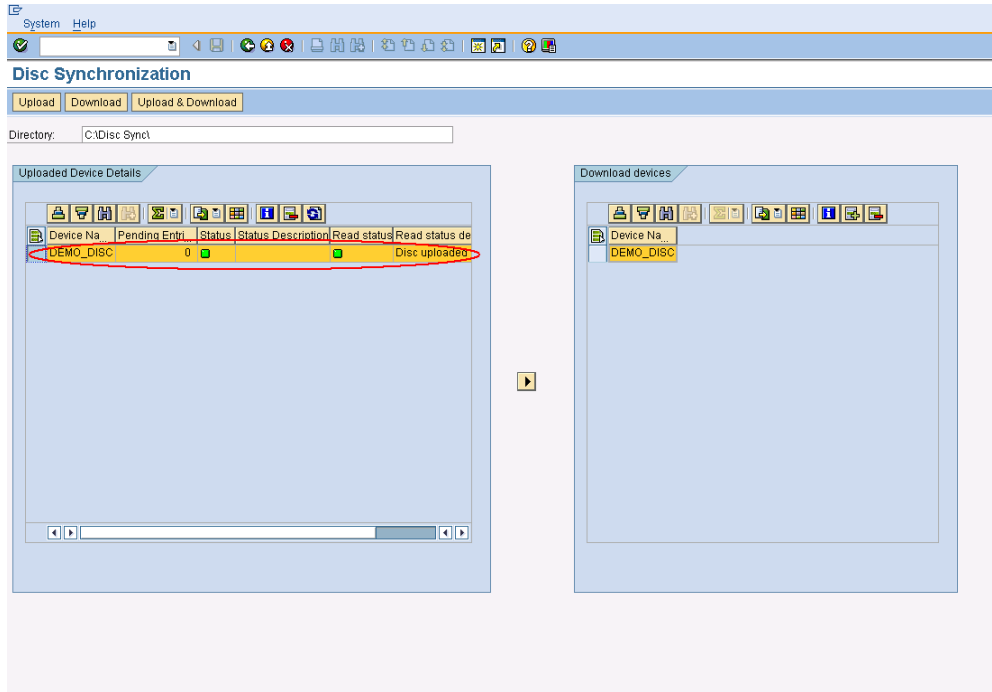
3. Select the receiver name and Choose Ok.



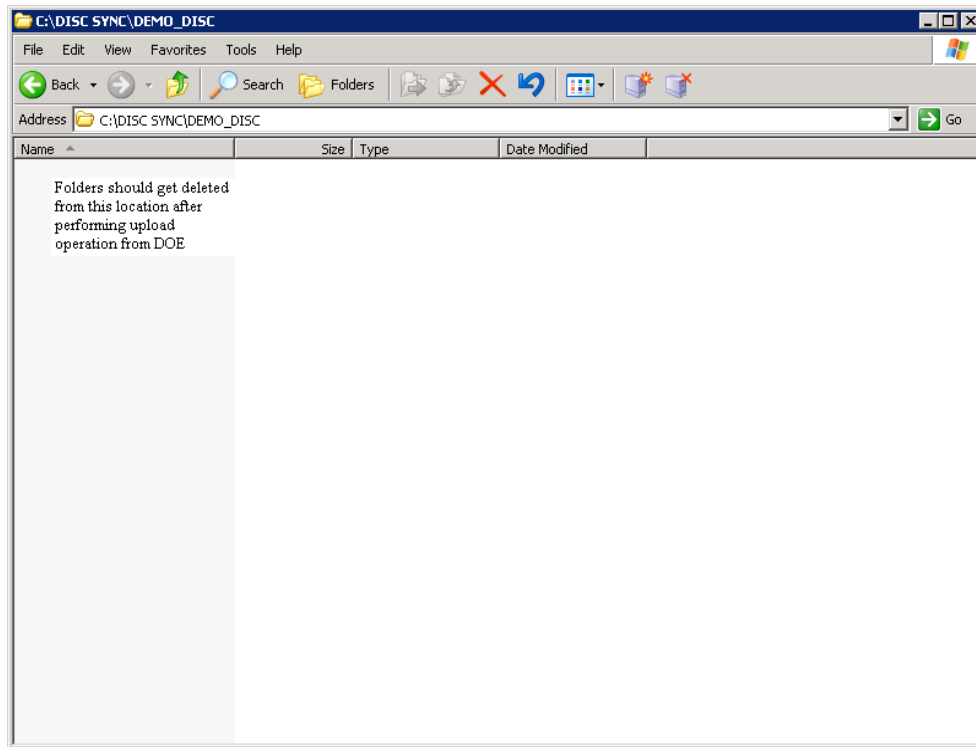
We recommend that you copy the files from the storage media to a folder in your local file system before you start to upload the files. This ensures that you can upload files quickly.



4. Data get consumed by DOE and following information should get displayed -



5. Go to the location specified in the Data Carrier Synchronization settings to make sure that the folder should get deleted once it is received by DOE.

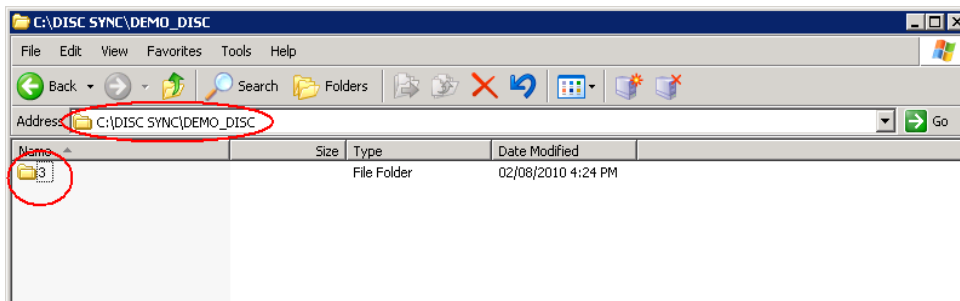
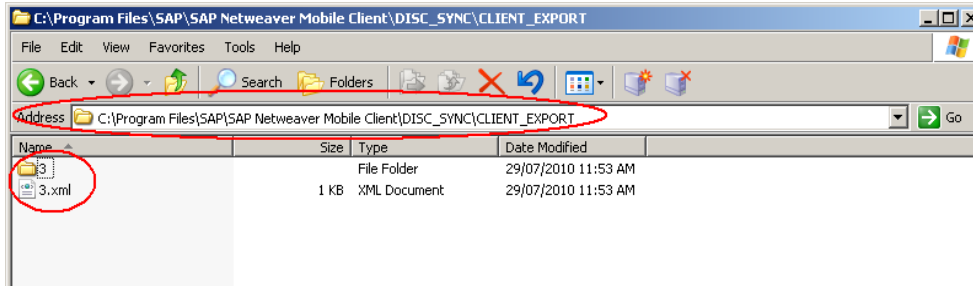


## Performing the Upload and Download of Files Simultaneously

In this case, you should have files containing data that the DOE must receive from the mobile client and should have files to be downloaded to a storage medium which in turns get imported to mobile client from storage medium as part of the synchronization process.

### Procedure

1. Copy folder from the default location ...\Program Files\SAP NetWeaver Mobile Client\Disc\_Sync\Client\_Export folder to the location specified in the Data Carrier Synchronization settings.

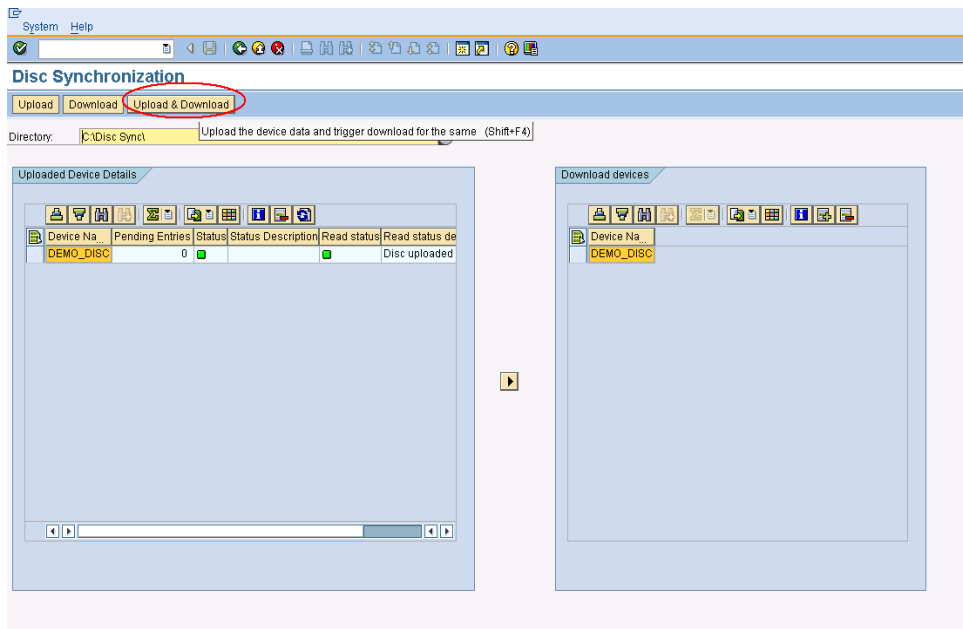


2. Log on to the DOE system and start transaction SDOE\_DISC\_SYNC.
3. In the Directory field, enter the path of the folder where the files are stored.

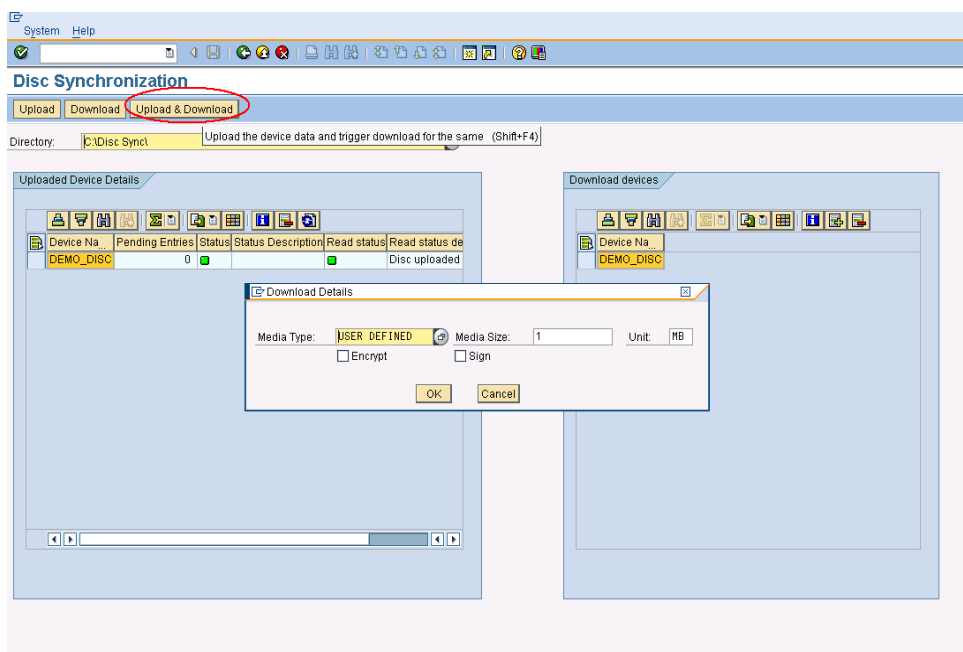


We recommend that you copy the files from the storage media to a folder in your local file system before you start to upload the files. This ensures that you can upload files quickly. After the upload is complete, the files that must be downloaded are downloaded to a new folder in the same location where the upload files were originally stored. This new folder is created only when the files are downloaded.

## 4. In the Disc Sync screen area, choose Upload &amp; Download.

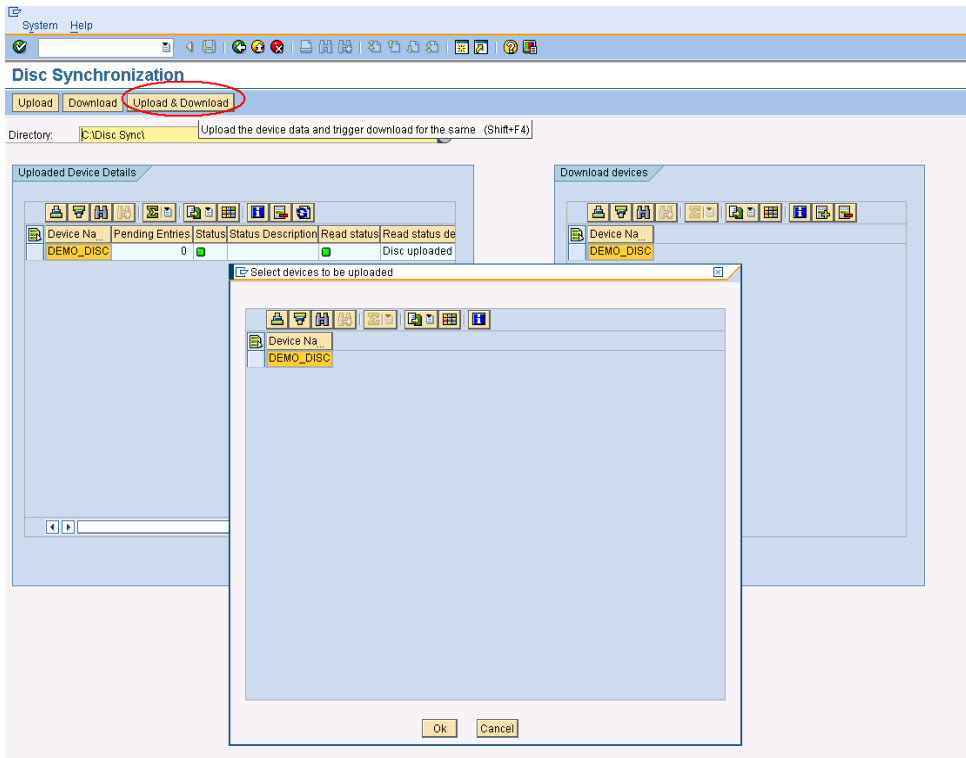


## 5. Choose Media Type and Media Size.

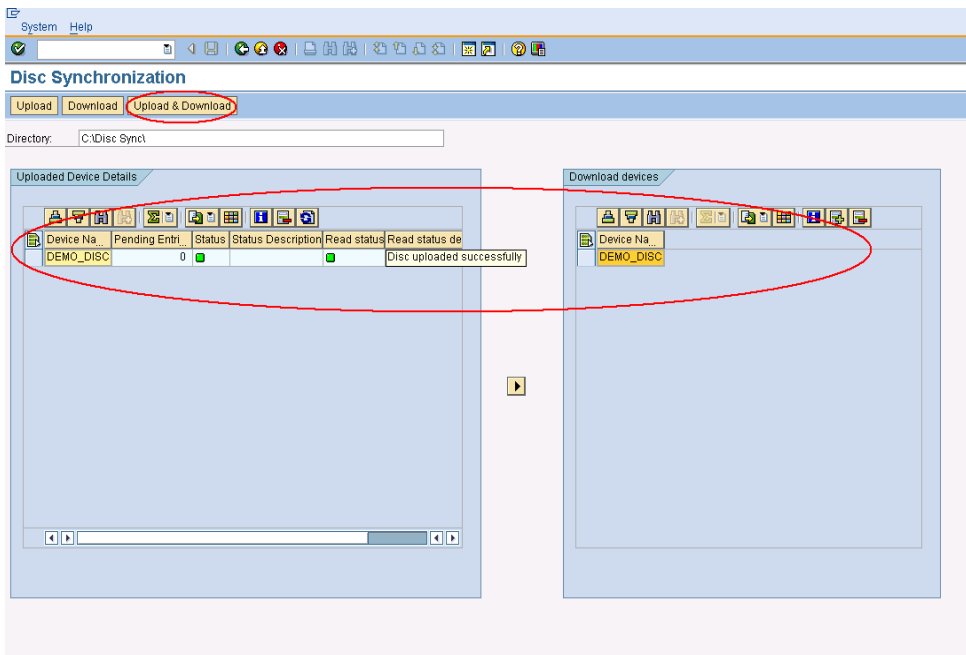


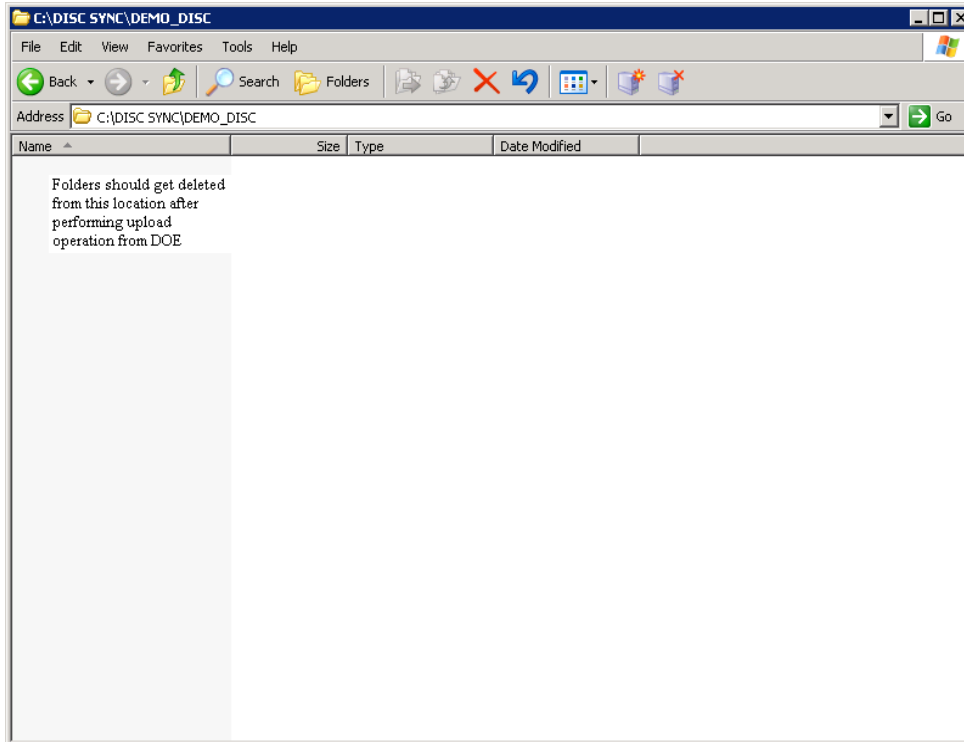
## 6. Choose Ok.

7. Now select receiver to be uploaded and choose Ok.

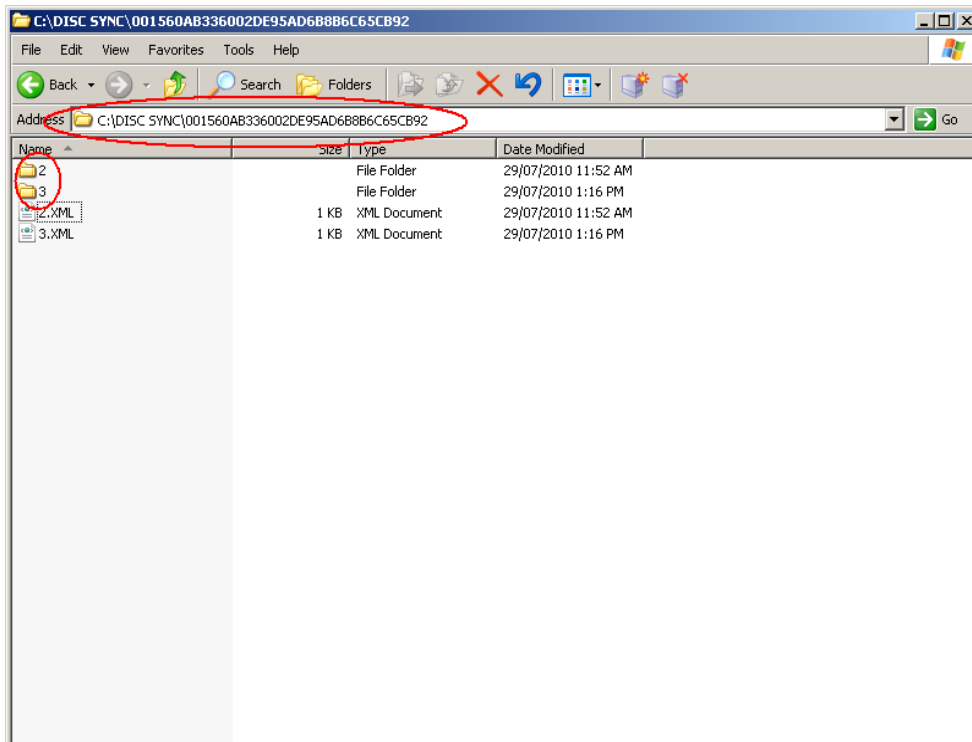


8. Check value for column name "*Read status message*" as "Disc uploaded successfully" in Uploaded Receiver Details screen. Also folder should get deleted from location specified in the Data Carrier Synchronization settings after successful completion of upload operation in DOE.





9. Check a subfolder/s should be created with the selected receivers receiver id's as the Name of the folder in the location specified in the Data Carrier Synchronization settings.



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[Link to SAP Help Documentation](#)

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