

# Qlik Replicate Upgrade Guide

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## SUMMARY

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- A step by step guide of how to upgrade Qlik Replicate, Windows Clusters, SAP, and DB2 Endpoint.
- The guide has step by step instructions, for how to upgrade for Windows and Linux. Also, picture examples are included of the processes.
- For the SAP it includes transports installation and how to assign the roles on the Replicate server.
- The DB2 Endpoint installation guide includes detailed steps on how to install and upgrade the mainframe for RZ4.

## INTRODUCTION

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These sections explain how to upgrade an installation of Qlik Replicate. Before upgrading it is strongly recommended to back up the Replicate **data** directory (or directories when multiple instances are installed). All the data that is created when you use Attunity Replicate is stored in a directory called **data**. By default, this directory is in the installation directory where you install Attunity Replicate.

Also, included are explanations on how to upgrade Qlik Replicate for Linux, Windows Cluster, SAP, and DB2Z.

# Qlik Replicate Upgrade for Windows

## Upgrade Instructions

1. Choose one of the backup methods below.

### Method 1:

Stop all Replicate tasks and instances.

Back up the Replicate "data" directory to a location outside the product folder. This method is recommended in most cases. However, if your "data" folder is very large and there is not enough space to back it up, then use **Method 2** below.

### Method 2:

1. Open a Windows command prompt and change the path to <PRODUCT\_DIR>\bin. Then issue the following command:  

```
repctl [-d alternate_data_directory_path] exportrepository where [-d alternate_data_directory_path] is required when the Replicate "data" directory is in a non-default location.
```
2. Run the Attunity Replicate setup wizard (AttunityReplicate\_<version-build>\_X64.exe).
3. If you notice an issue with the upgrade, you can either revert to the previous version as described below or do one of the following depending on which backup method you chose above.

### If you chose Method 1:

- a. Stop all Replicate instances.
- b. Overwrite the "data" directory with the "data" directory that you backed up earlier.
- c. Start all Replicate instances.

**Note:** The old version doesn't need to be reinstalled just the data directory replaced.

### If you chose Method 2:

Issue the following command:

```
repctl [data=data-directory] importrepository json_file=Full path to the exported *.json file
```

where [data=data-directory] is only required if you installed the Replicate "data" directory to a non-default location.

### Example:

```
repctl data=/opt/mydatadir/ importrepository json_file=/opt/mydatadir/many_tables.json
```

## Revert to an earlier version

1. Stop all Replicate tasks and Replicate services. (Replicate Service and Replicate UI service)
2. Uninstall the product.
3. Using the earlier version reinstall the product to the same product directory.
4. Stop all Replicate services. (Replicate Service and Replicate UI service)
5. Overwrite the "data" directory with the previous version's data directory.
6. Start all Replicate services. (Replicate Service and Replicate UI service)
7. Resume the Replicate tasks.

**Note:** When upgrading from a version where the **data** directory is in a non-default location, you need to add the following parameter to the upgrade command:  
data=existing-data-directory

Example (when Replicate is installed in the default installation directory):

```
C:\Program Files\Attunity\Replicate\bin repctl -d  
E:\Attunity\Replicate\DATA exportrepository
```

**Note:** If the user specified in the original installation has since been deleted, the upgrade will fail. The user will need to re-create a new user before upgrading the installation.

**Note:** As in the first installation, if the new or existing user and/or group is not defined locally (namely, in Active Directory), you must include `nocredentials=true` parameter in the command. Otherwise, the upgrade will fail.

**Note:** When upgrading Replicate, all instances will be reinstalled and all services will be started, even if they were not running prior to the update.

## Back out of the upgrade

1. The back out requires the product to be uninstalled and then installed to the same directory using the previous kit.
2. Once the install is done stop the Replicate Services and copy/overwrite the data directory with your backup.
3. Start the Replicate service

## Qlik Replicate Upgrade for Linux

1. Stop all tasks From the Replicate UI.
2. Once all tasks are stop, stop the Replicate service: from the Linux shell:

```
/opt/attunity/replicate/bin/areplicate stop
```

Check if status is stop by running */opt/attunity/replicate/bin/areplicate status*

3. On Linux as attunity user or root account.
  - a. Source the arep\_login.sh to pick up the libraries.

```
source /opt/attunity/replicate/bin/arep_login.sh
```

- b. Then from the Replicate Command Line Console, run the following command:

```
/opt/attunity/replicate/bin/repctl -d data-directory  
exportrepository include_server_settings=true
```

**Example:** *repctl -d /software/attunity/data exportrepository  
include\_server\_settings=true*

This will create a json file in *the ~/software/attunity/data /imports* if successful.

4. Back up the Replicate data folder, example *~/software/attunity/data* directory to a directory outside of the Replicate product.

Example: *cp -avr /software/attunity/data /opt/attunity/replicate/data\_20200122*

5. Perform the upgrade by running the executable as root.

```
tar -xzvf areplicate-6.4.0-517.x86_64.tar.gz --unzip the rpm file
```

```
user=attunity group=attunity verbose=true rpm -Uvh areplicate-6.4.0-517.x86_64.rpm
```

6. Resume the tasks.

## Resolving Configuration File Conflicts

During an upgrade, if the new version's repctl.cfg file contains different parameters than the existing file, and the existing file has been modified, you need to manually merge the new configuration file with the existing one.

In such a scenario the upgrade process will:

- Rename the file from the new version. The file will be renamed **repctl.cfg.rpmnew** and installed in **<product\_dir>/replicate/bin/** (the same directory as the **repctl.cfg** file).
- Issue the following warning (assumes the default installation path):

```
[root@bldlinux-rh62 tmp]# rpm -Uvh areplicate-version-build.x86_64.rpm
```

```
Preparing... ##### [100%] 1:areplicate warning:  
/opt/attunity/replicate/bin/repctl.cfg created as  
/opt/attunity/replicate/bin/repctl.cfg.rpmnew  
##### [100%]
```

**Note:** When the configuration files need to be merged, you need to restart each instance manually after merging the files.

## Complete the upgrade

1. Manually (and cautiously) merge the new parameters in the **repctl.cfg.rpmnew** file with the existing parameters in the **repctl.cfg** file. Save the **repctl.cfg** file.
2. Delete the *repctl.cfg.rpmnew* file by issuing the following command:

```
rm -f <product_dir>/bin/repctl.cfg.rpmnew
```

3. Restart each instance by running the following commands in the *<product\_dir>/replicate/bin* directory:

```
./instancename start
```

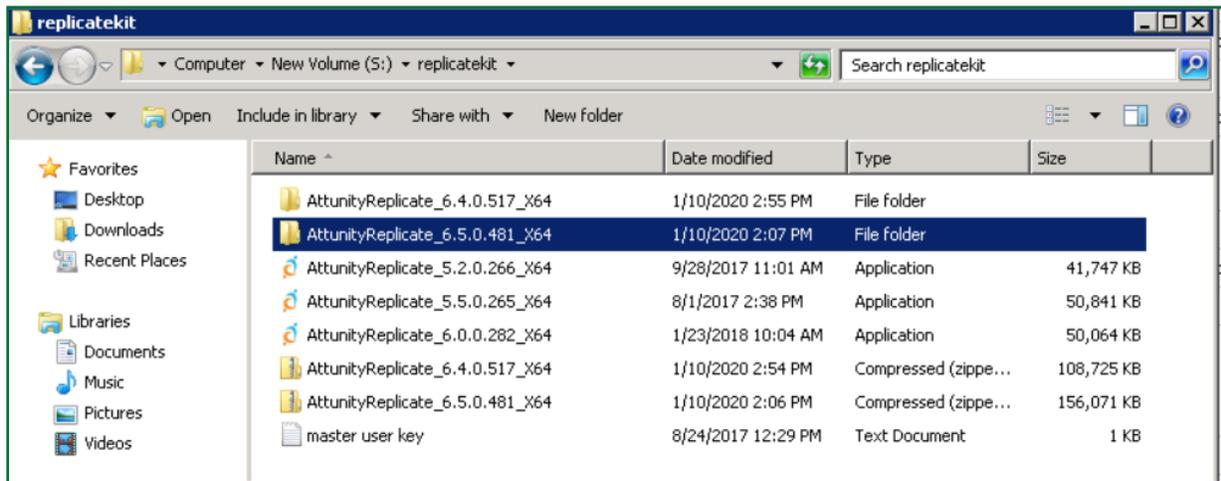
**Example:**

```
./areplicate start
```

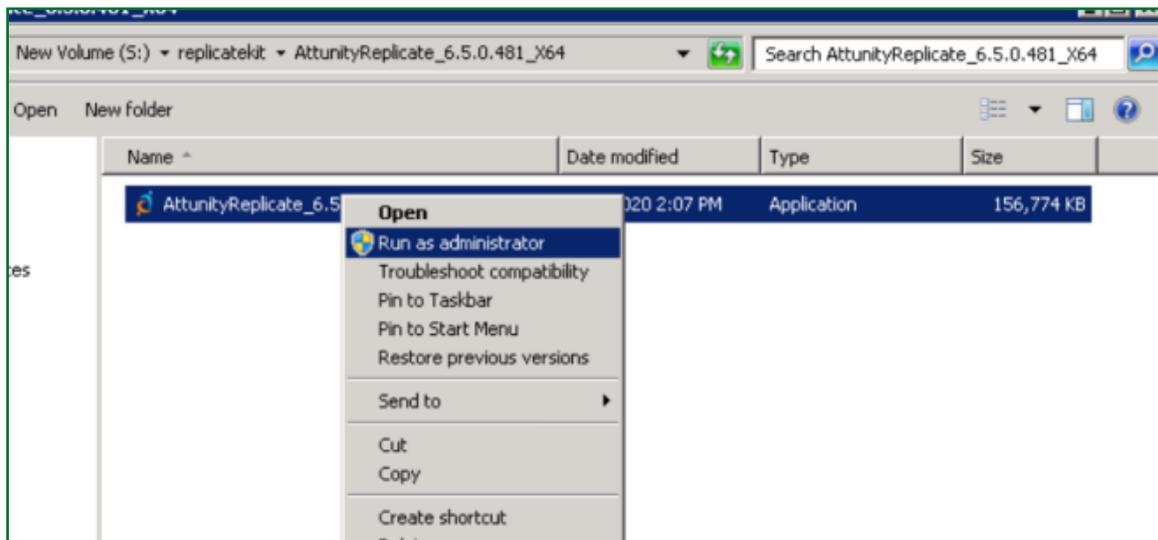
# Installation and upgrade Qlik Replicate for Windows Cluster

## Detailed Installation on Windows Cluster

1. Download Windows\_X64.zip software and extract to your Share drive temp folder:



2. Install Replicate on node A, (right click run as administrator) and make sure to use the shared drive for the data folder, during install. Following the steps to install Replicate into the path of your choice



and to locate the \DATA folder of your choice of location (the shared drive for the data folder)

3. On Node A, From Windows Explorer, delete the file mk.dat from the share ~\Data folder.

4. On Node A, Open a command window as administrator at the replicate bin directory. Run the following command:

```
~Program Files\Attunity\Replicate\bin>repctl -d "<data_folder>"  
setmasterkey your_own_password_enter_here master_key_scope=1
```

**Example:** repctl -d "S:\Programs\Qlik\Replicate\data" setmasterkey  
PASSWORD1password master\_key\_scope=1

5. On Node A, From Windows Services, stop both the Qlik Replicate Server and Replicate UI Service and set to manual.
6. Still on node A, from Administrator command prompt, run the following command:

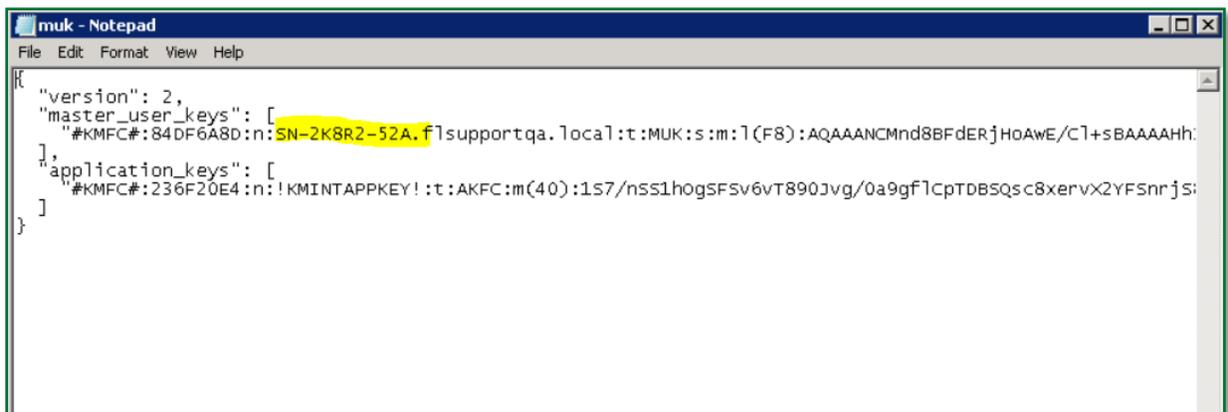
```
~Program Files\Attunity\Replicate\bin>RepUiCtl.exe -d  
"S:\Programs\Qlik\Replicate\data" utils genpassword
```

This would generate a long key. Note: you must save that key/password in a safe place for future use

7. Still on node A, from Administrator command prompt, run the following command:

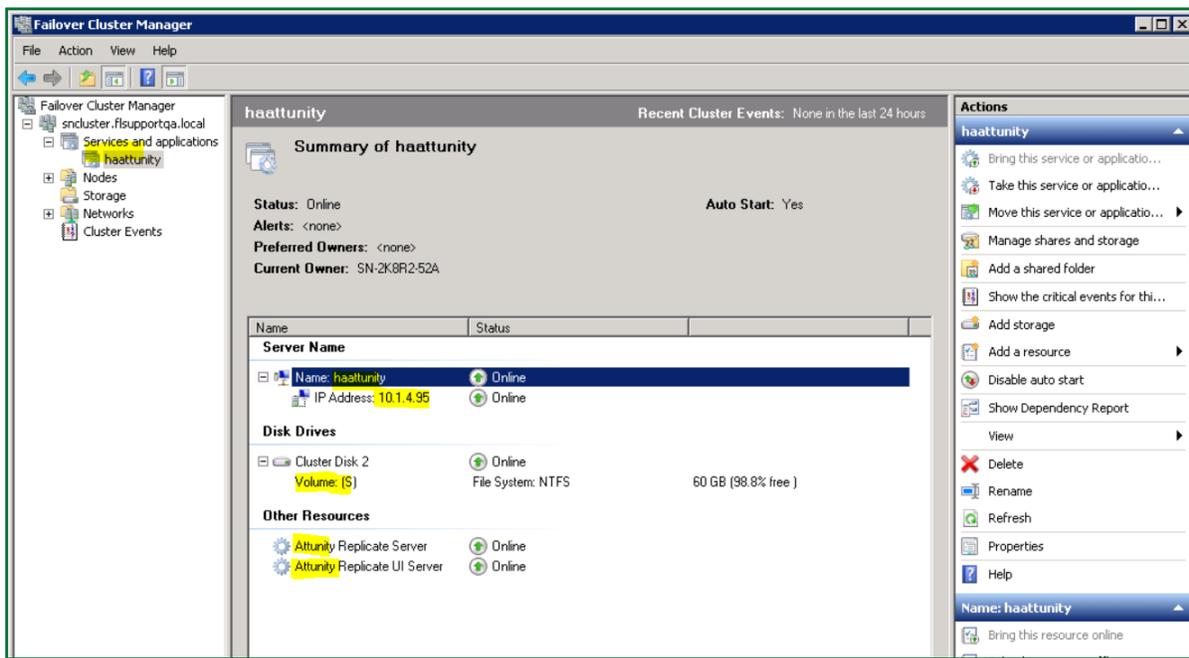
```
~Program Files\Attunity\Replicate\bin>RepUiCtl.exe -d  
"S:\Programs\Qlik\Replicate\data" masterukey set -p  
the_long_password_from_genpassword
```

From the share data folder, check the muk.dat file, it should show the Node A information added.



8. Verify, that the Replicate services are still offline.

9. Using Windows Cluster, move/failover your Resource to Node B,
10. On Node B, install the same Replicate kit as Node A, during installation use the shared drive for the data folder. e.g., *S:\Programs\Qlik\Replicate\data*
11. From Windows Services, stop both the Replicate Server and Replicate UI Service and set to manual.
12. On node B, from Administrator command prompt, run the following command: *~Program Files\Attunity\Replicate\bin>RepUiCtl.exe -d "S:\Programs\Qlik\Replicate\data" masterukey set -p the\_long\_password\_from\_genpassword*
13. From the share data folder, check the muk.dat file, it should show the NodeB information added.
14. Follow the User Guide on how to add the Attunity Service to the Microsoft Cluster Manager Service.



## Upgrade 6. xx to current 6.xx on Windows Cluster

Below are steps for 6.xx Upgrade guide for Replicate on Microsoft Windows Cluster.

1. Stop all tasks. Notes, some tasks could take up to 20 minutes or more to stop.

2. Assuming we are on Active Node A: From Cluster Manager, take the Replicate Server and UI server Offline
3. On Node A, from the Replicate Command Line Console, run "As Administrator" run the following command:

```
repctl -d "YOUR_DATA_DIRECTORY_PATH" exportrepository
```

**Example:** ~Program Files\Attunity\Replicate\bin> repctl -d "S:\Programs\Qlik\Replicate\data" exportrepository

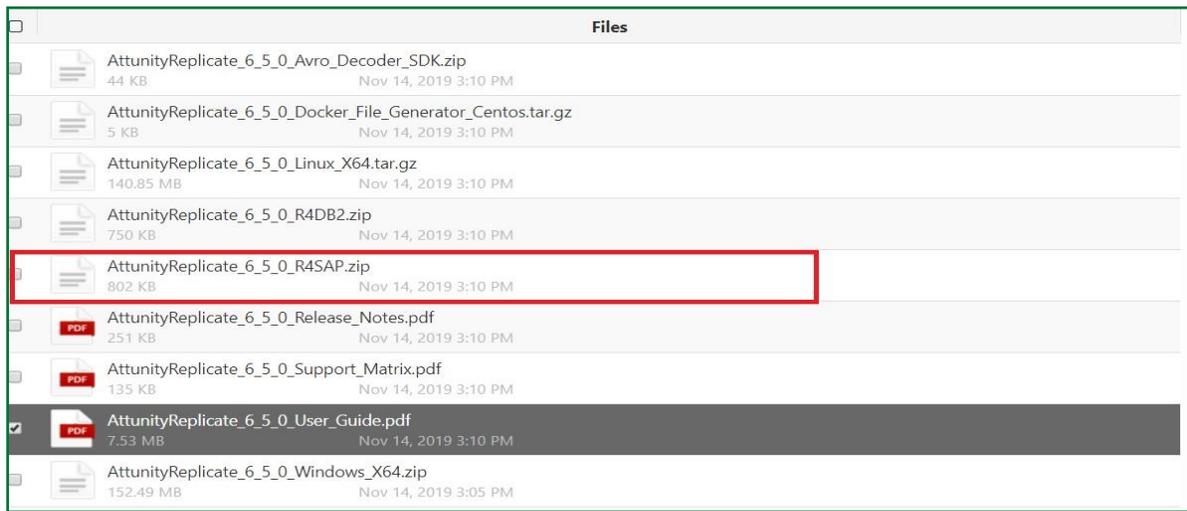
This is to backup all your task definitions to a Replication\_Definition.json file.

4. Back up the ~Replicate\data directory to a directory outside of the Replicate product (no need to back up the \logs subfolder).
  5. On Node A, Check the installed version of Replicate from add/remove program. Then perform the upgrade by running a newer version of the Replicate executable (right click, run as administrator) on the active node, \*Notes if you run the same version as already installed, Replicate going to do an uninstall.
  6. On Node A, from the Cluster Manager, make sure that the Replicate Server and UI server Offline after upgrade. Then move the service or application to another node (node b) / this is going to move the share drive and service to the other node (node B).
  7. On Node B, right click Run as Administrator on the same Replicate Executable to upgrade from node B, if you have more node, repeat steps 6-7.
  8. Once all nodes are upgraded, From Cluster Manager, bring the Replicate server and UI server Online.
- Note:** \*\*some user like to bring the service online from Node A, so you can fail over to node A, then bring on the Replicate Services online. \*\*

9. Resume the tasks.

## SAP new setup for Qlik replicate transports import

These transports are available on Replicate download site in **R4SAP** folder.



**Note:** Contact the SAP basis team to do all the activities of the transports import.

1. Copy R4SAP Qlik Replicate Transports into the SAP system. There are two types of files required to import the ABAP objects into the SAP system: The data-file and the co-file.
2. Import the data-file
  - The data-file begins with an "R"
  - The data-file should be placed in the /usr/sap/trans/data file system or in the directory of the server where the transports are stored.
3. Importing the Co-file:
  - The co-file begins with a "K"
  - The co-file should be placed in the /usr/sap/trans/cofiles file system or in the directory of the server where the transports are stored.

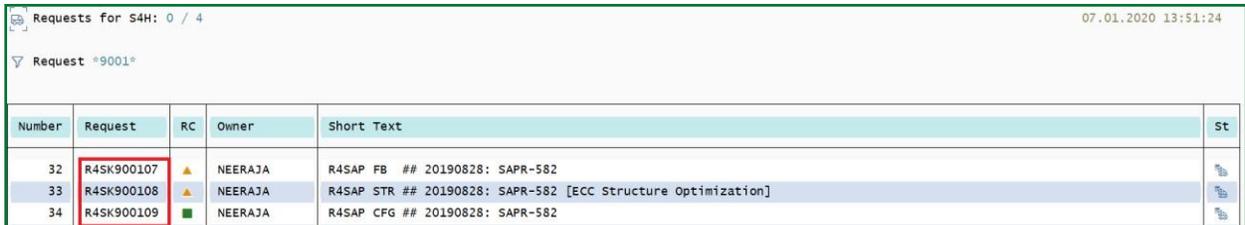
**Note:** Points to remember before transport import

- The transports must be installed in the order they appear below. Installing the transports in the incorrect order or omitting/skipping any of the transports will result in unexpected issues with replication tasks.

## Install the transports on ECC systems

The below transport's version is 6.5.

1. Install the main transport file (InstallCode.zip).
2. Install the ECC-specific transport (InstallCodeECC.zip).
3. Install the configuration transport (InstallConfig.zip).



Requests for S4H: 0 / 4 07.01.2020 13:51:24

Request \*9001\*

Number	Request	RC	Owner	Short Text	St
32	R4SK900107	▲	NEERAJA	R4SAP FB ## 20190828: SAPR-582	
33	R4SK900108	▲	NEERAJA	R4SAP STR ## 20190828: SAPR-582 [ECC Structure Optimization]	
34	R4SK900109	■	NEERAJA	R4SAP CFG ## 20190828: SAPR-582	

## Install the transports on non-ECC systems (e.g. CRM)

1. Install the main transport file (InstallCode.zip).
2. Install the configuration transport (InstallConfig.zip).



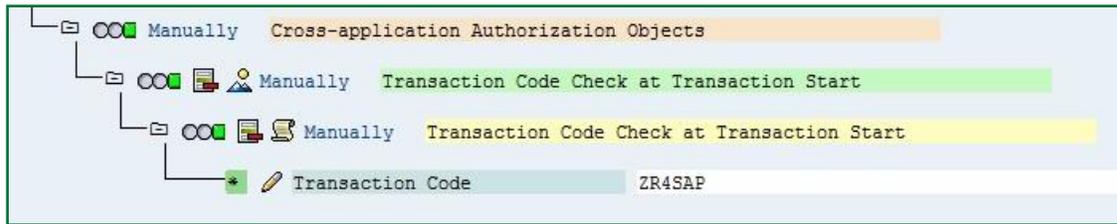
Number	Request	RC	Owner	Short Text	St
32	R4SK900107	▲	NEERAJA	R4SAP FB ## 20190828: SAPR-582	
34	R4SK900109	■	NEERAJA	R4SAP CFG ## 20190828: SAPR-582	

## Create and assign SAP authorization roles to the users for Qlik Replicate

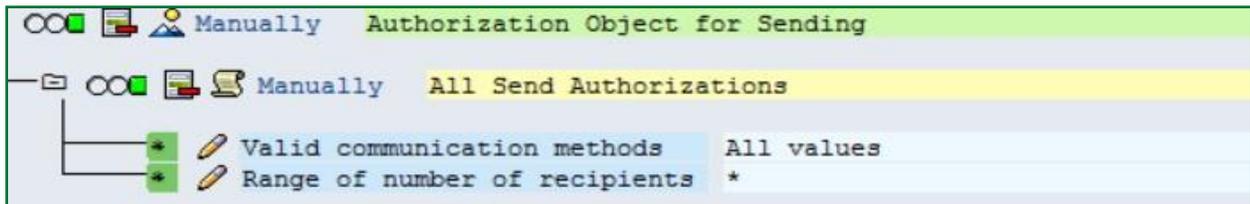
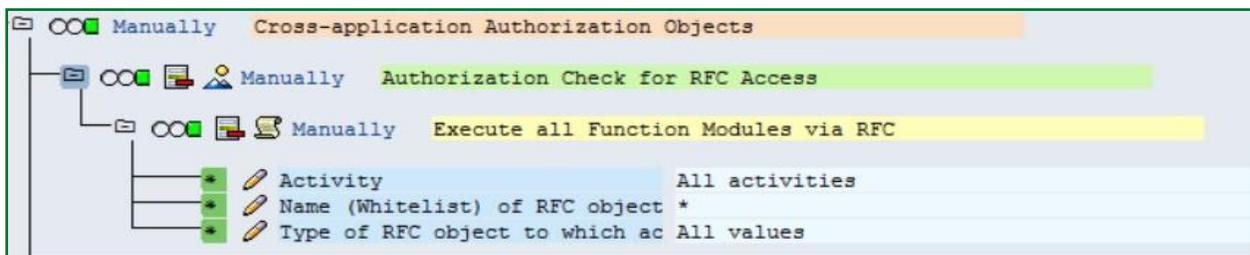
A dialog user in SAP is required to access the Qlik Replicate for SAP Client GUI in SAP. In addition, a communication user is required to support the RFC calls from the Qlik Replicate software to the SAP system.

Identify existing users in SAP or create dedicated users for the Qlik Replicate software.

Both the dialog and communication users will need to be assigned to a role with authorization object **S\_TCODE** and value **ZR4SAP**.



The communication user will also require the following authorization objects: **S\_RFC** and **S\_OC\_SEND**.

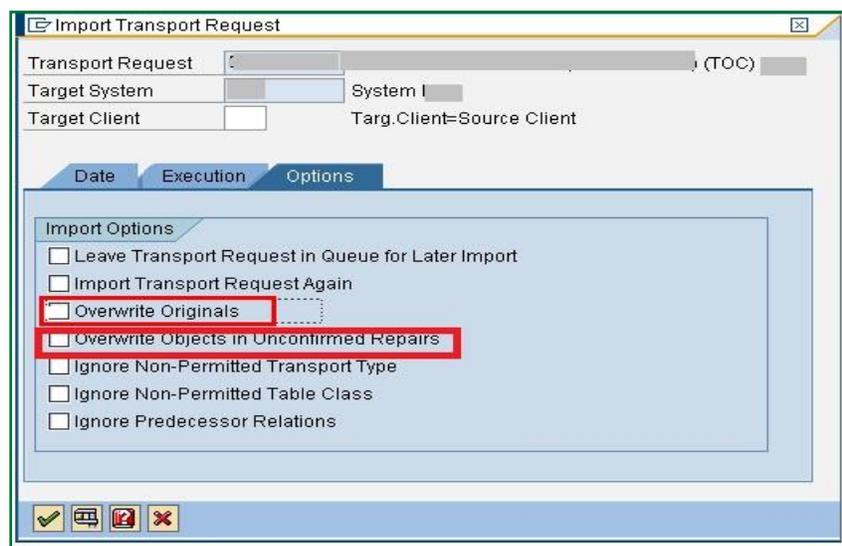


## SAP Patch or upgrade installation steps

- Import the SAP transports in the transaction STMS.

Points to remember before upgrading:

- The transports must be installed in the order they appear below. Installing the transports in the incorrect order or omitting/skipping any of the transports will result in unexpected issues with replication tasks.
- When installing the Qlik Replicate for SAP client, do not chose the "overwrite" option if Gold Client is already installed on the Replicate Server machine. Otherwise, the Gold Client software will stop working.



- If you are applying a **patch or upgrading** the Attunity Replicate for SAP Client, you should only install the main transport and the ECC-specific transport (if upgrading on an ECC system). **Do not install the configuration transport again, or any customizations made to the configuration will be lost.**

### Install the transports on ECC systems

1. Install the main transport file (InstallCode.zip).
2. Install the ECC-specific transport (InstallCodeECC.zip).

### **Install the transports on non-ECC systems (e.g. CRM)**

1. Install the main transport file (InstallCode.zip).

### **Uninstall the Replicate SAP Client permanently**

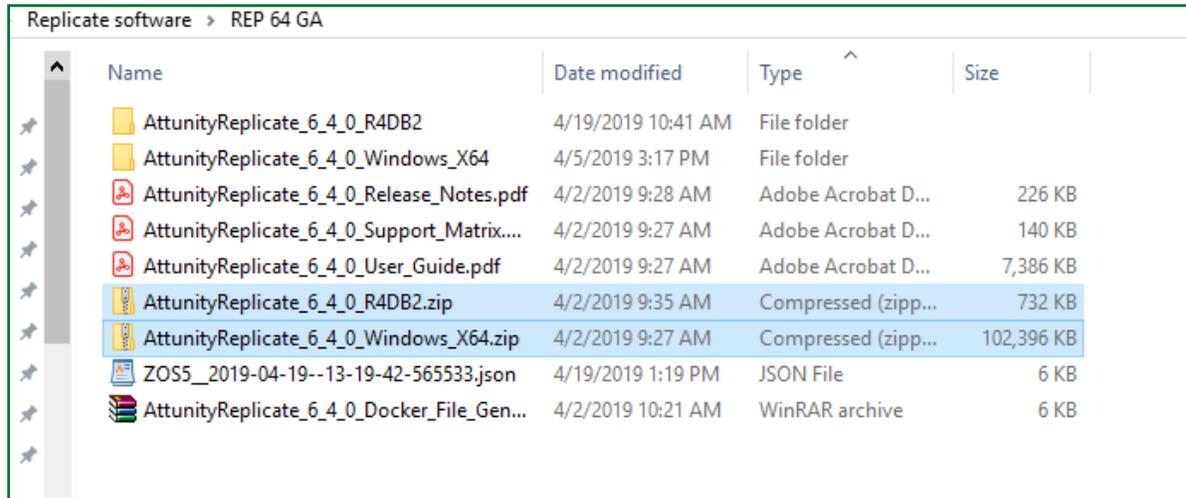
1. Apply the "Delete Main" transport (DeleteCode.zip).
2. Apply the "Delete Package" transport (DeletePackage.zip).
3. Apply the "Delete Common" transport (DeleteCodeCommon.zip)
4. Apply the "Delete Common Package" transport (DeletePackageCommon.zip)

**Note:** Do not apply items 3 and 4 if you are also running Replicate Gold Client Solution.

# Installation and Upgrade Handbook for DB2Z Endpoint

## Detailed Installation/Upgrade steps

1. Download all R4DB2.zip and Windows\_X64.zip software to your PC
2. There are 2 zip files. Simply unzip them into a folder of your choice.



3. Stop all tasks if tasks are not already stopped. Wait for the tasks to finish Stopping. For Linux, do not look at the UI whether tasks have stopped, run:

```
grep repctl tasks
```

(Follow USER GUIDE FOR UPGRADING for LINUX)

4. Stop the 2 Replicate services. (server and UI)
5. From the Replicate Command Line Console run the following as **ADMINISTRATOR**

```
repctl exportrepository
```

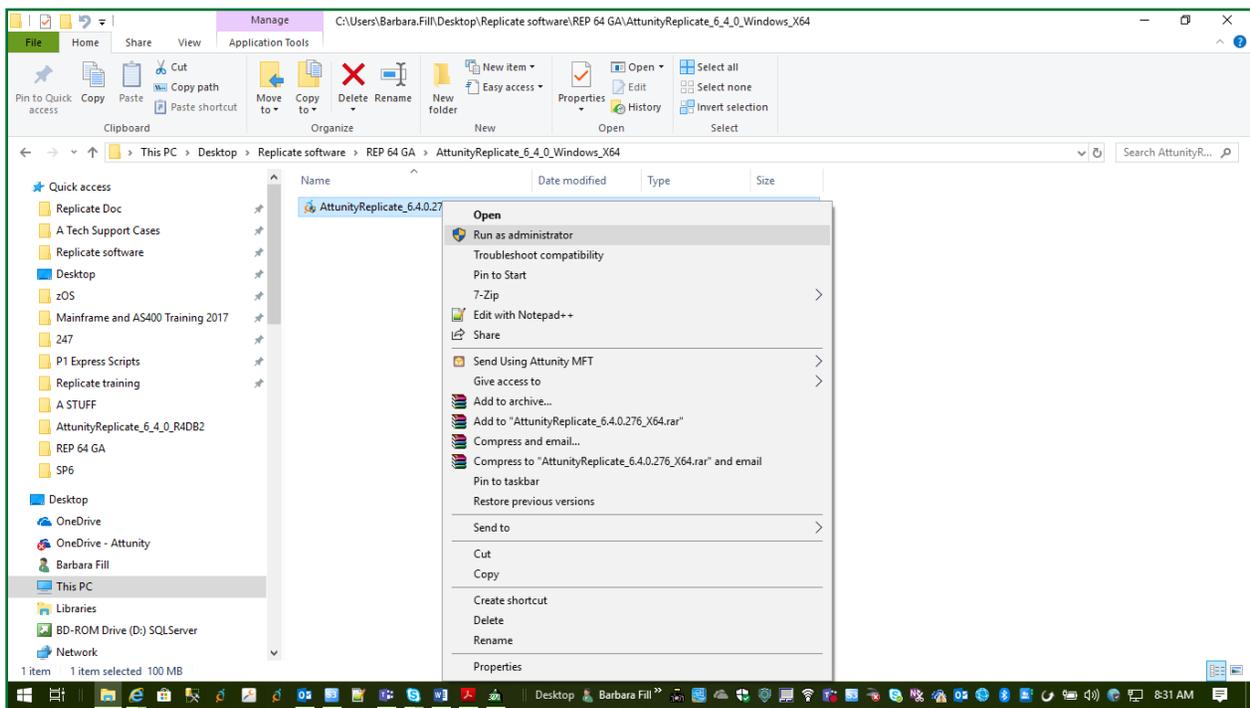
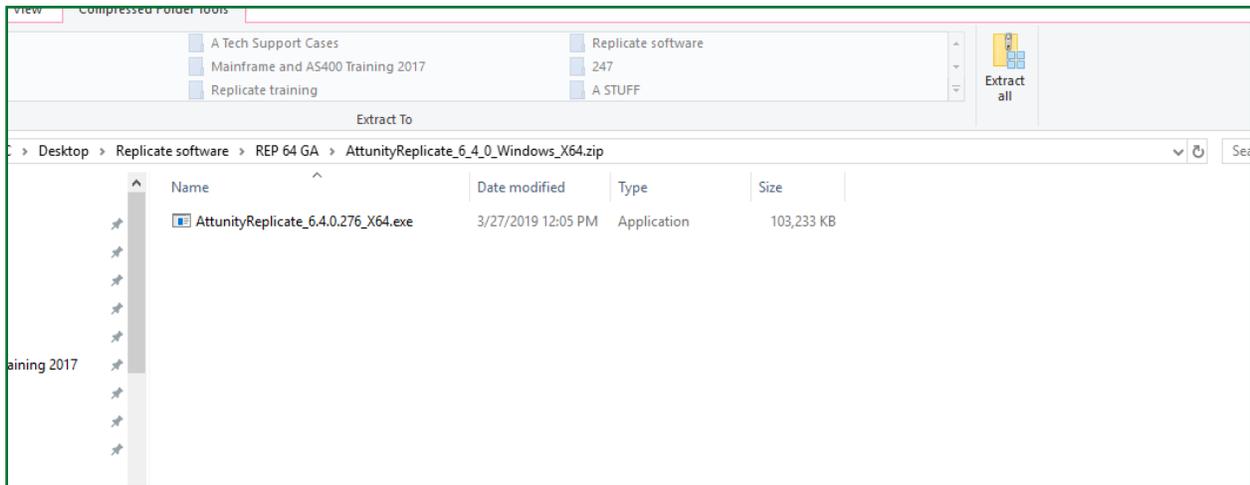
>>>> (for alternate data directories use the syntax) <<<<<

```
repctl -d YOUR DATA DIRECOTRY PATH exportrepository
```

It becomes the REPLICATION\_DEFINITION.JSON and you will want to keep this!

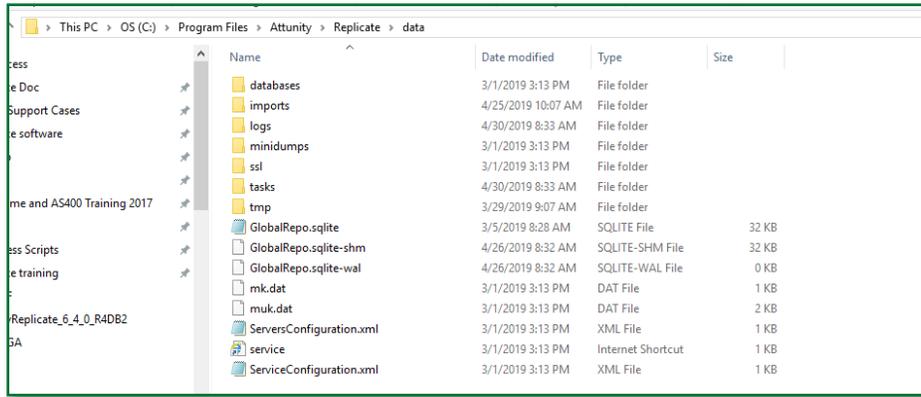
6. After extracting the \_\_X64.zip into the .exe. Right Mouse Click on the .exe

7. Run As Administrator when running the installation or upgrade.



8. Follow the prompts to install Replicate into the path of your choice and to locate the \DATA folder of your choice of location.

**Note:** Write down where you have the \DATA folder located when you install.

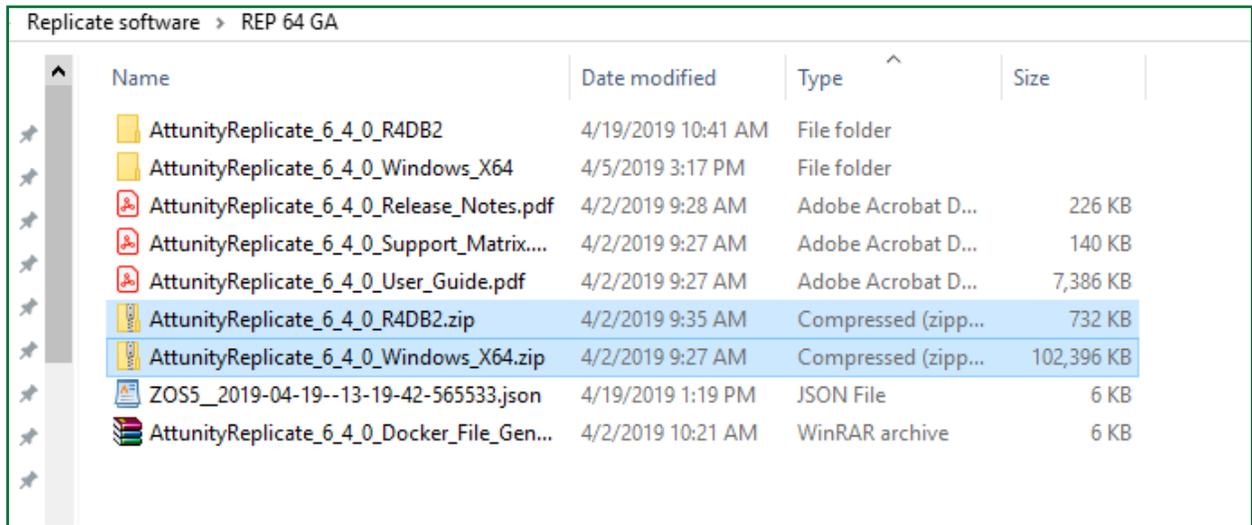


End of Replicate Windows Install/Upgrade.

# MAINFRAME

## R4Z mainframe installation steps

1. First Extract the R4DB2.ZIP file to a folder of your choosing:



2. Upload to the mainframe:

a. Use whatever method of FTP you choose to upload to the mainframe.

----- OR -----

Create a .bat file that will upload the 2 XMIT files to the mainframe easily. Use these statements below to put into the .bat file:

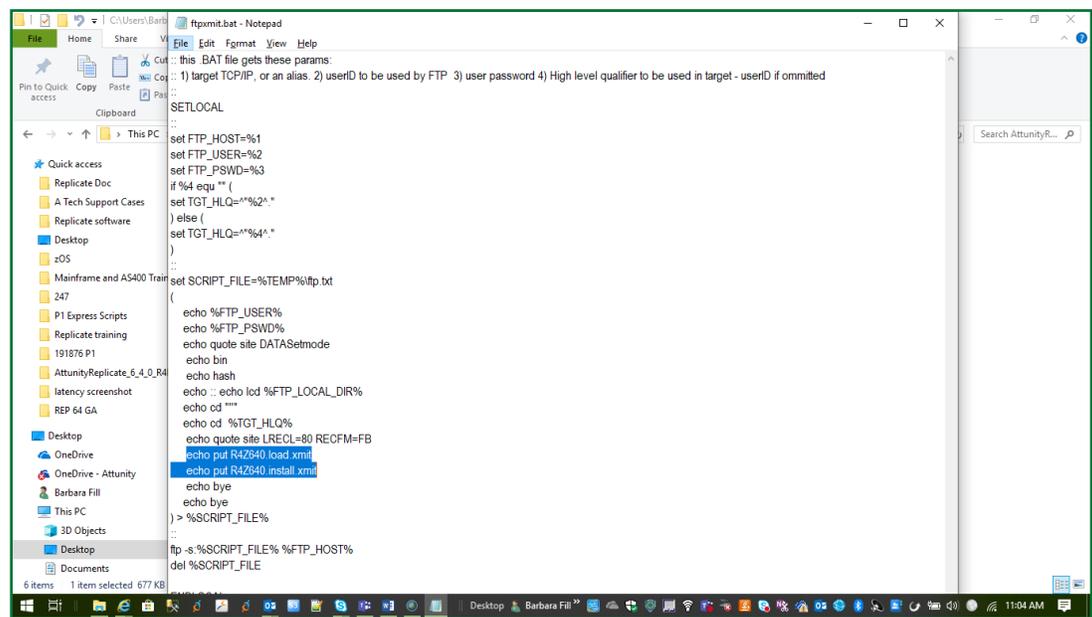
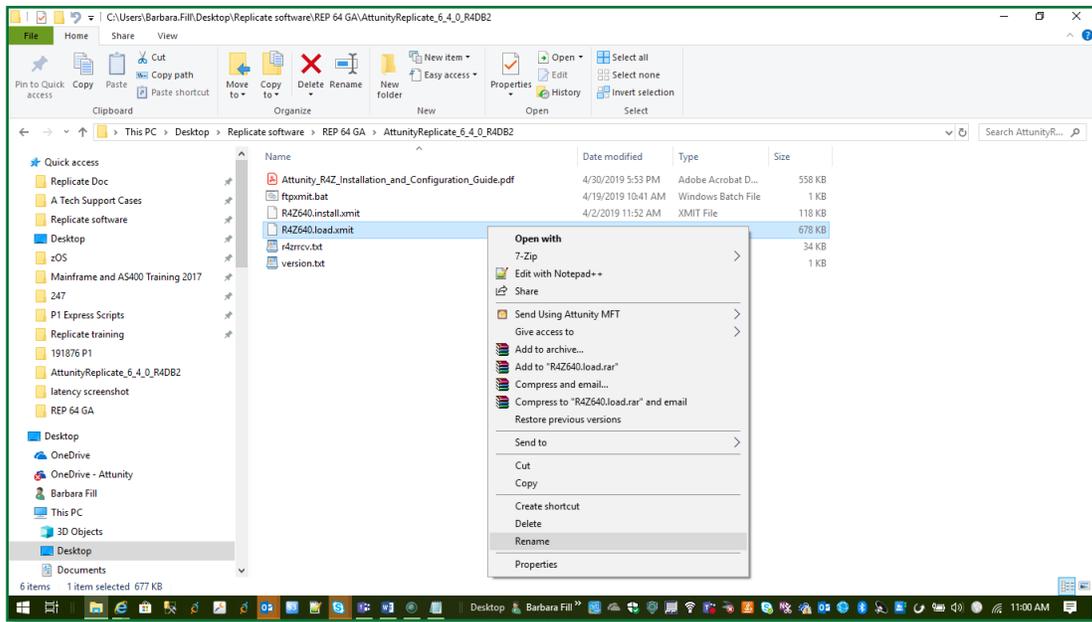
b. You can leave the naming convention as is (r4z.v6r5.sp0.install.xmit and r4z.v6r5.sp0.load.xmit), in order to follow the “R4Z Mainframe Installation Guide” PDF. or you can follow the steps below:

**Note:** For an easier way in example below, I renamed the original names (r4z.v6r5.sp0.install.xmit and r4z.v6r5.sp0.load.xmit) to be a shorter naming convention to arrive on the mainframe, when FTP'd. Make sure the 2 XMIT files listed, match the same names located inside the .bat file. In example below, I renamed the original names to have a shortened middle nodename called R4Z640 ( instead of r4z.v6r5.sp0.install.xmit and r4z.v6r5.sp0.load.xmit as delivered) because it will have a shorter naming convention on the mainframe: MYUSERID.R4Z640.LOAD.XMIT and MYUSERID.R4Z640.LOAD.XMIT

```

:: this .BAT file gets these params:
:: 1) target TCP/IP, or an alias. 2) userID to be used by FTP 3) user
password 4) High level qualifier to be used in target - userID if
ommitted
::
SETLOCAL
::
set FTP_HOST=%1
set FTP_USER=%2
set FTP_PSWD=%3
if %4 equ "" (
set TGT_HLQ=^"%2^."
) else (
set TGT_HLQ=^"%4^."
)
::
set SCRIPT_FILE=%TEMP%\ftp.txt
(
echo %FTP_USER%
echo %FTP_PSWD%
echo quote site DATASetmode
echo bin
echo hash
echo :: echo lcd %FTP_LOCAL_DIR%
echo cd ""
echo cd %TGT_HLQ%
echo quote site LRECL=80 RECFM=FB
echo put R4Z640.load.xmit
echo put R4Z640.install.xmit
echo bye
echo bye
) > %SCRIPT_FILE%
::
ftp -s:%SCRIPT_FILE% %FTP_HOST%
del %SCRIPT_FILE
ENDLOCAL

```



3. Run the FTPXMIT.BAT that you just edited

```
C:\Attunity\R4z\ FTPXMIT.bat Host TSOID Password HLVLNODE
```

It will transfer the files to the mainframe with the following name, for example:

```
HLVLNODE.R4Z640.LOAD.XMIT
```

## HLVLNODE.R4Z640.INSTALL.XMIT

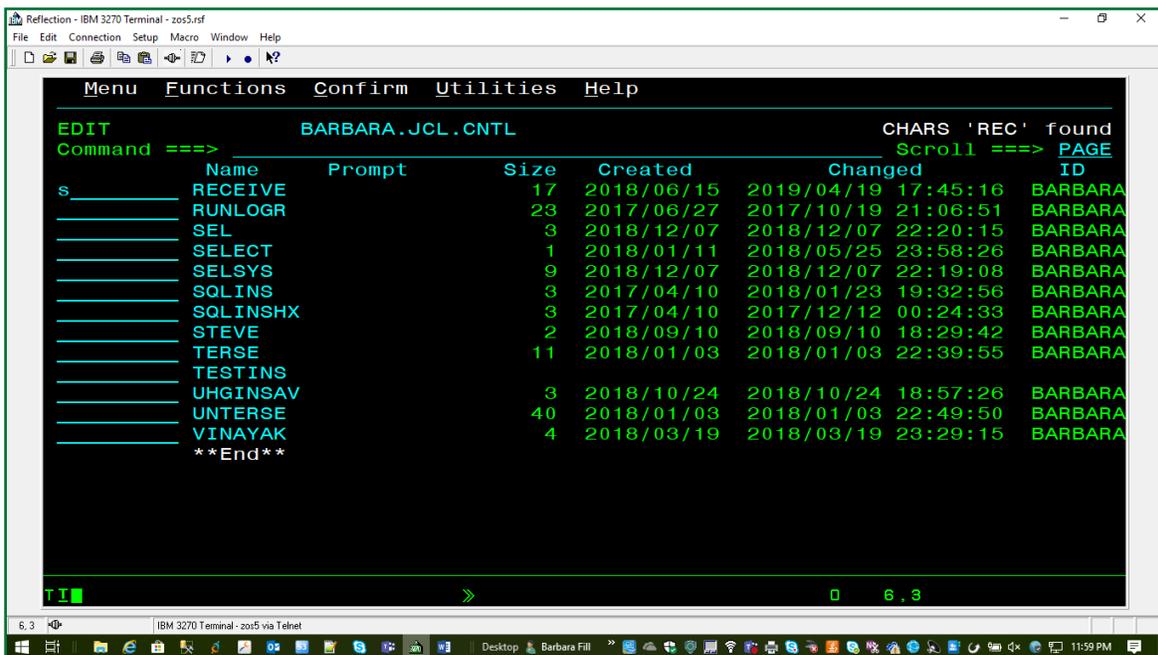
### 4. Perform the RECEIVE.

- a. Logon to the mainframe and create a member in your personal or team JCL library called RECEIVE and add the following JCL statement to do the final RECEIVE.

#### Sample Job

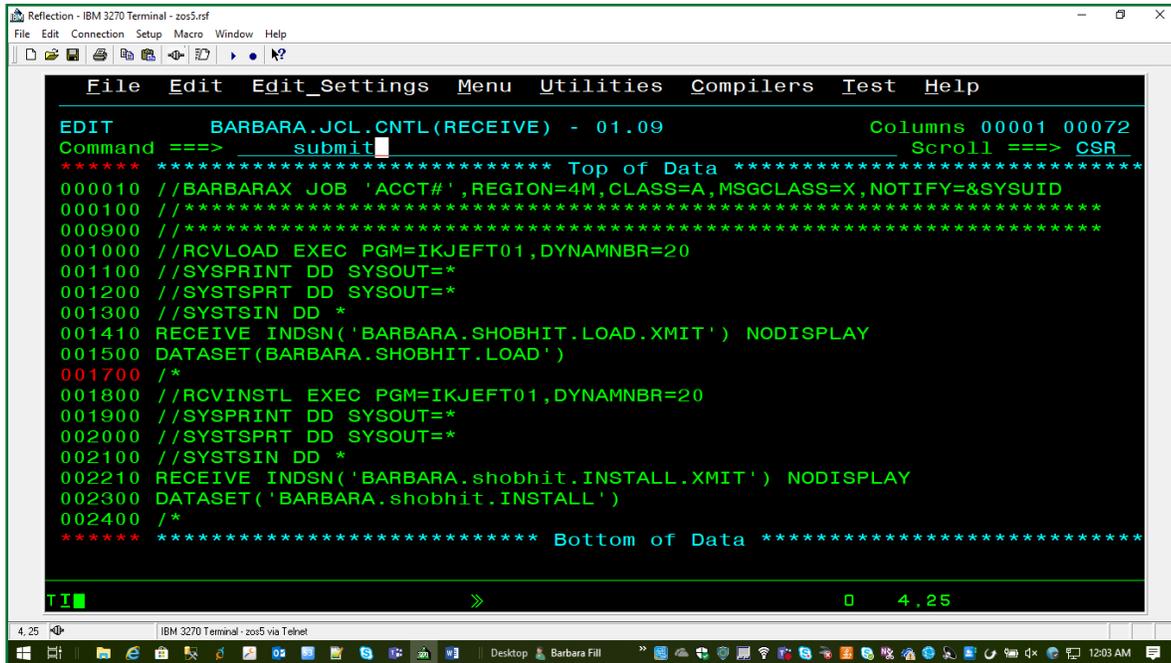
Below is a sample RECEIVE job. For non-SMS datasets, change <volser> to a valid volume serial number. For SMS datasets, delete **UNIT** and **VOLUME**.

```
//RECEIVE JOB NOTIFY=&SYSUID
//RECEIVE1 EXEC PGM=IKJEFT01,DYNAMNBR=11
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
RECEIVE INDSNAME (<xmit-HLQ>.INSTALL')
DSNAME ('<r4z-vnd-HLQ>.INSTALL') UNIT(3390) VOLUME (<volser>)
RECEIVE INDSNAME ('<xmit-HLQ>.LOAD')
DSNAME ('<r4z-vnd-HLQ>.LOAD') UNIT(3390) VOLUME (<volser>)
```



- b. Edit the RECEIVE JCL. It is in the Mainframe installation Guide (PDF)

c. Make necessary changes and Submit the job to run(execute):



```
Reflection - IBM 3270 Terminal - zos5.rsf
File Edit Connection Setup Macro Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT BARBARA.JCL.CNTL(RECEIVE) - 01.09 Columns 00001 00072
Command ==> submit Scroll ==> CSR
***** Top of Data *****
000010 //BARBARAX JOB 'ACCT#',REGION=4M,CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
000100 //*****
000900 //*****
001000 //RCVLOAD EXEC PGM=IKJEFT01,DYNAMNBR=20
001100 //SYSPRINT DD SYSOUT=*
001200 //SYSTSPRT DD SYSOUT=*
001300 //SYSTSIN DD *
001410 RECEIVE INDSN('BARBARA.SHOBHIT.LOAD.XMIT') NODISPLAY
001500 DATASET(BARBARA.SHOBHIT.LOAD')
001700 /*
001800 //RCVINSTL EXEC PGM=IKJEFT01,DYNAMNBR=20
001900 //SYSPRINT DD SYSOUT=*
002000 //SYSTSPRT DD SYSOUT=*
002100 //SYSTSIN DD *
002210 RECEIVE INDSN('BARBARA.shobhit.INSTALL.XMIT') NODISPLAY
002300 DATASET('BARBARA.shobhit.INSTALL')
002400 /*
***** Bottom of Data *****
TI 0 4.25
```

5. Following the Attunity\_R4Z\_Installation\_and\_Configuration\_Guide.pdf. The Installation and Load Libraries are now uploaded and expanded on the mainframe. **From this point forward, follow the steps in the Mainframe Installation guide.**



## About Qlik

Qlik's vision is a data-literate world, one where everyone can use data to improve decision-making and solve their most challenging problems. Only Qlik offers end-to-end, real-time data integration and analytics solutions that help organizations access and transform all their data into value. Qlik helps companies lead with data to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 50,000 customers around the world.

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