

Install and Configure CA CABI (Report) Server

The steps below cover the [installation and integration of the CABI Report Server as shown in the CA Identity Manager 14.2 Installation Guide](#), adjusted to use the CA Identity Suite Virtual Appliance form factor.

Install and configure the following CA CABI components on each CA Report Server:

[Pre-requisite Tomcat Installation](#)

[Install CA CABI \(Report\) Server](#)

[Post-Installation Configuration](#)

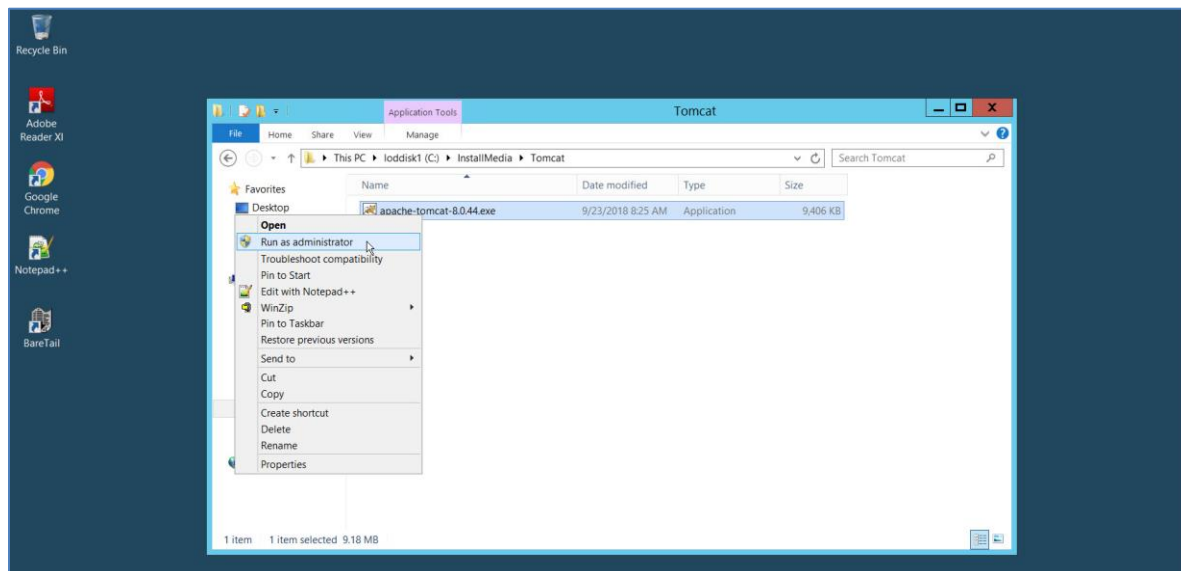
[Complete the Identity Manager Integration](#)

[Verify Installation](#)

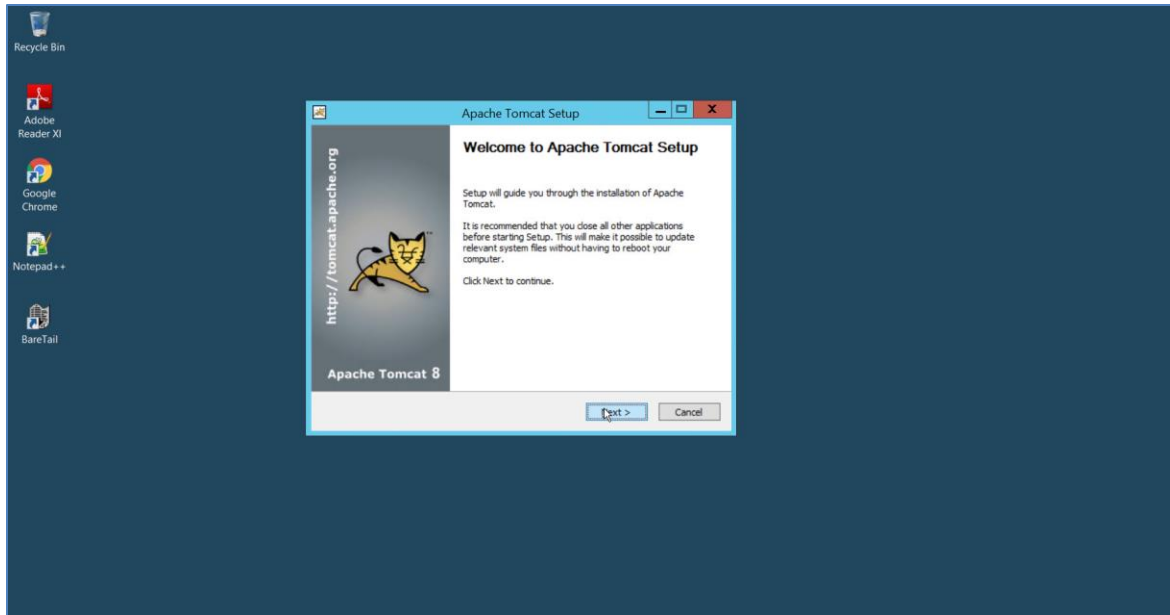
Pre-requisite Tomcat Installation

Go to the location where Tomcat install software is available.

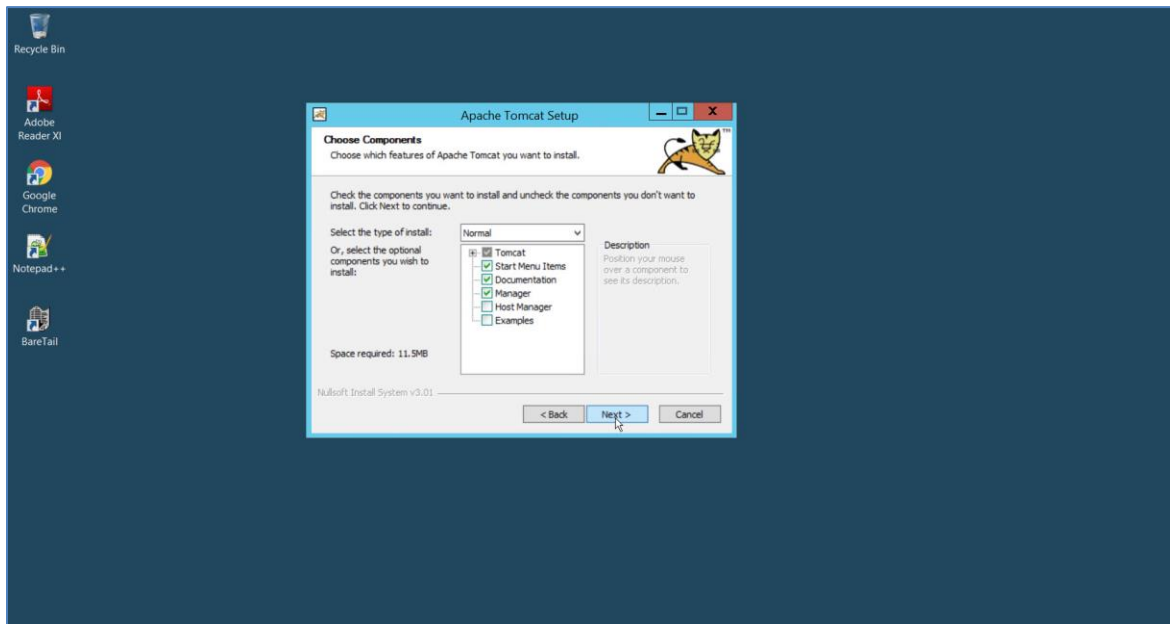
Select **apache-tomcat-8.0.44.exe**, then run as administrator.



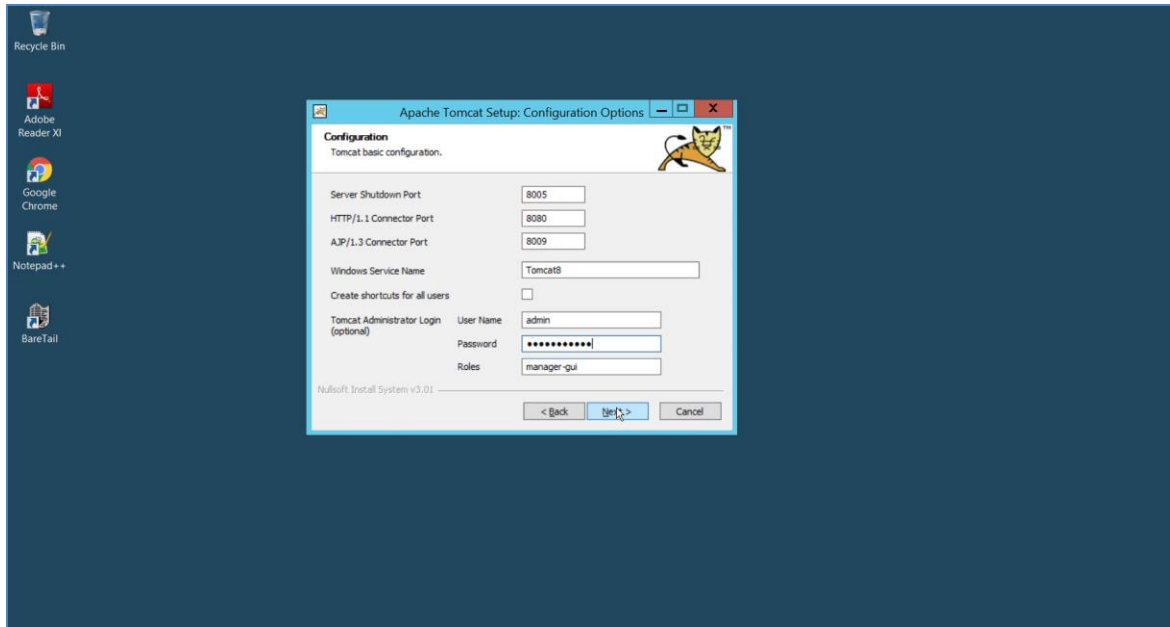
The **Apache Tomcat Setup** starts, displaying the **Welcome** screen. Click **Next** to continue.



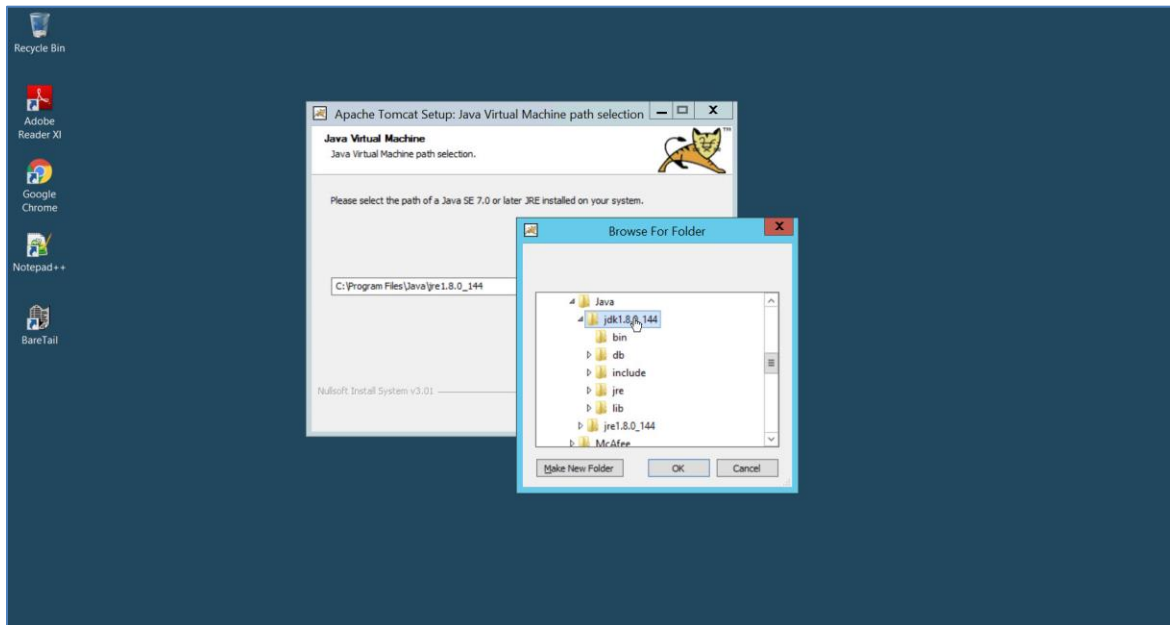
The **License Agreement** page is displayed. Click **I Agree** to continue. The **Choose Components** page is displayed. Use the default selected components and click **Next** to continue.



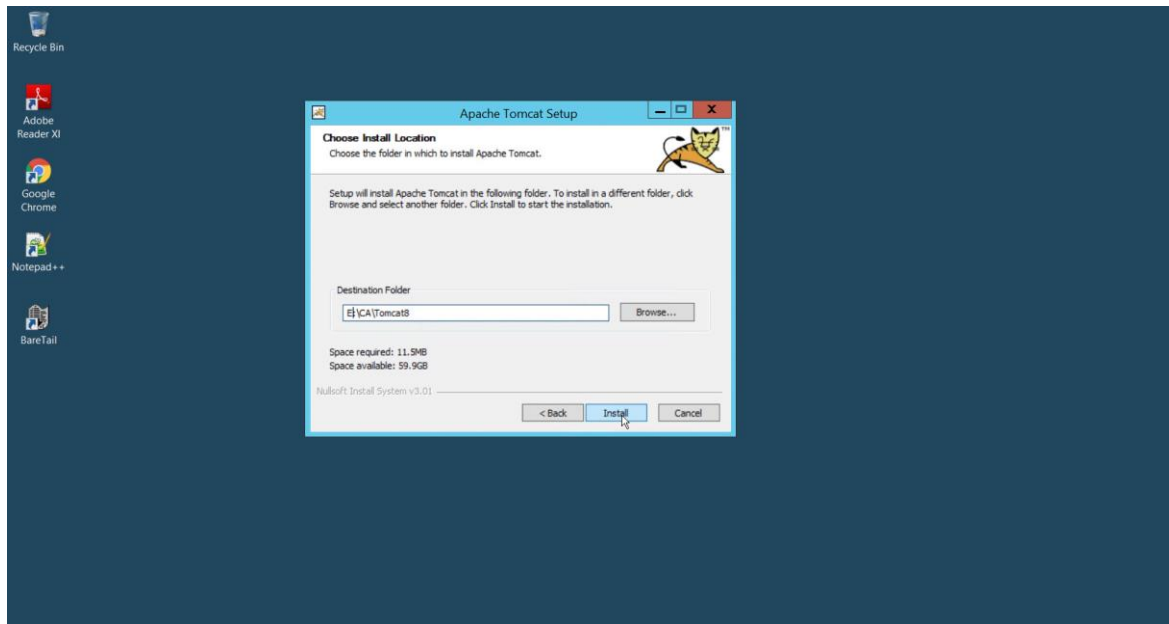
The **Configuration Options** screen is displayed, with **default ports** assigned to a standalone server and **Windows Service Name**. Provide Username of **admin** for the Tomcat Administrator Login and a somewhat complex password, like **P@ssword01!**. Be sure to document the password for future use. Click **Next** to continue.



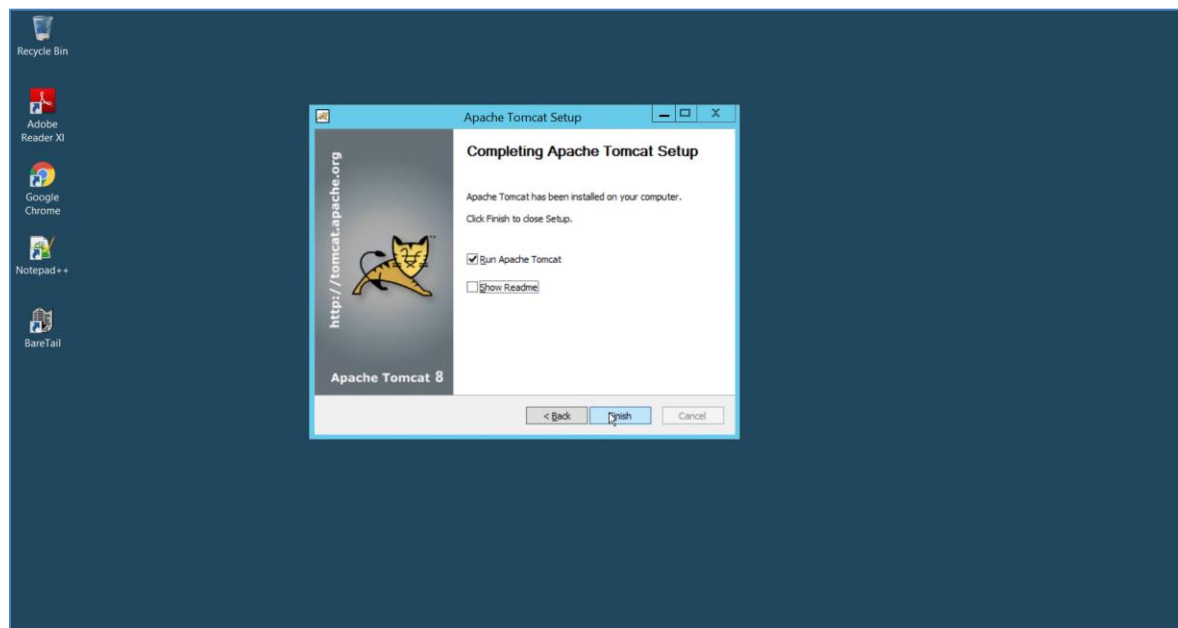
The **Java Virtual Machine** path selection screen displays. The installer shows the Java Runtime Environment path selected by default. Change the path to the Java SDK installation folder as the path to the required JRE, using the **Browse** button to open the Windows Explorer.



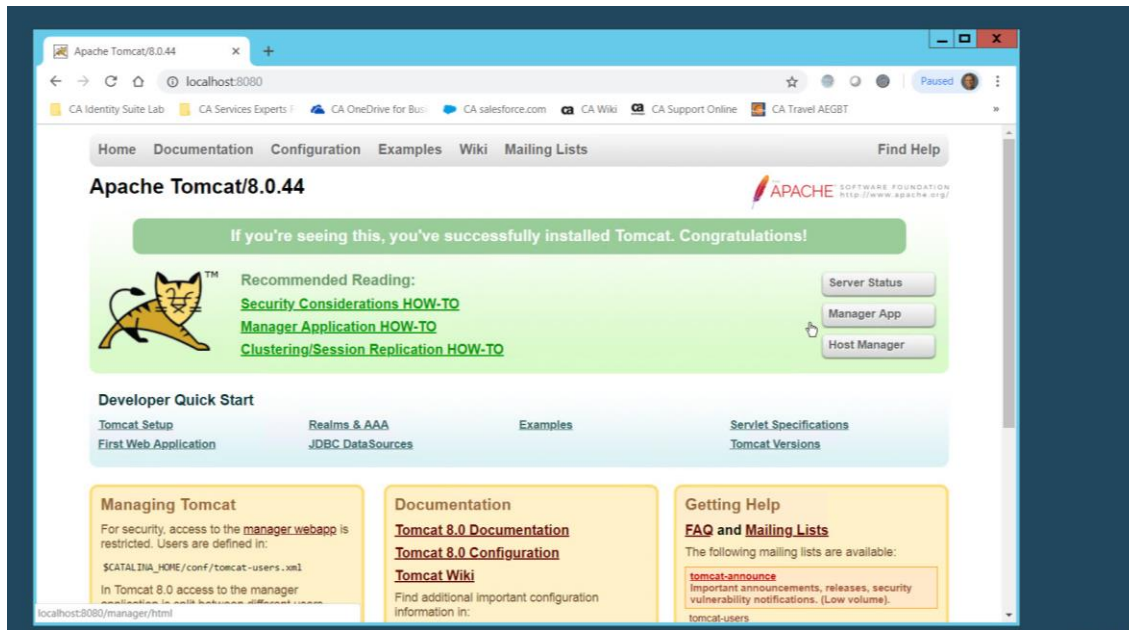
Change the install location to drive on the Windows Server used to install the CA software. The E: drive is shown in the example below. Click **Install** to continue.



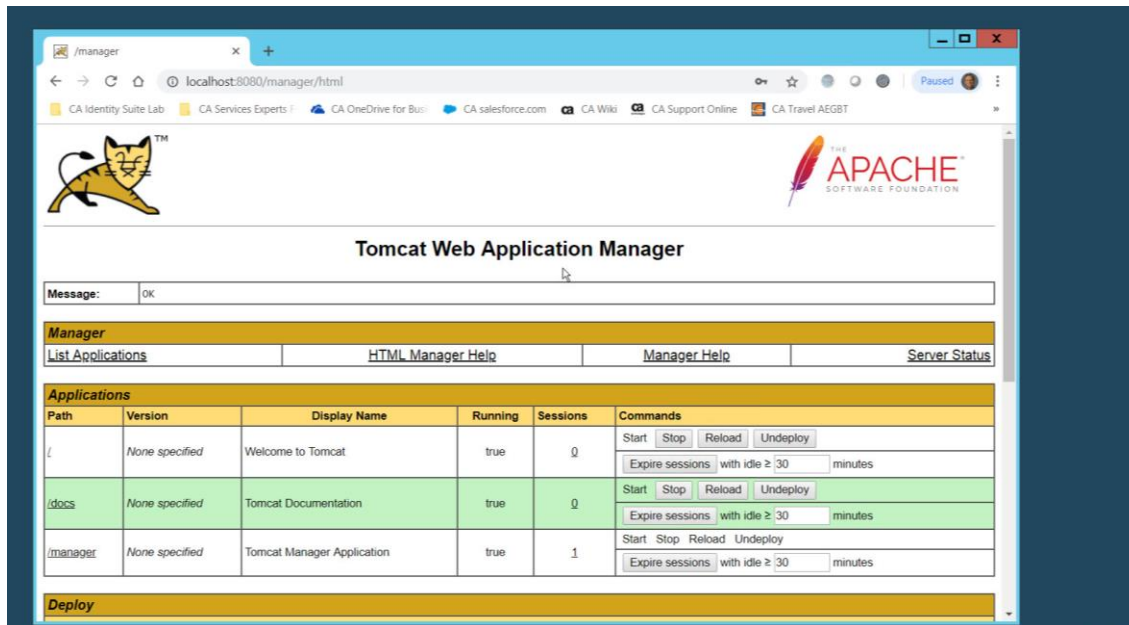
The Completing Apache Tomcat Setup screen displays when the installation finishes. Uncheck the **Show Readme** box unless you wish to read the file contents. Leave **Run Apache Tomcat** checked so you can validate the installation. Click **Finish** to exit the installer.



The **Apache Tomcat local home** page opens in your default browser. Choose the Manager App button to login to the **Web Application Manager** app. Use **admin** and the specified password to login using the Basic Authentication Form opened by your default browser.



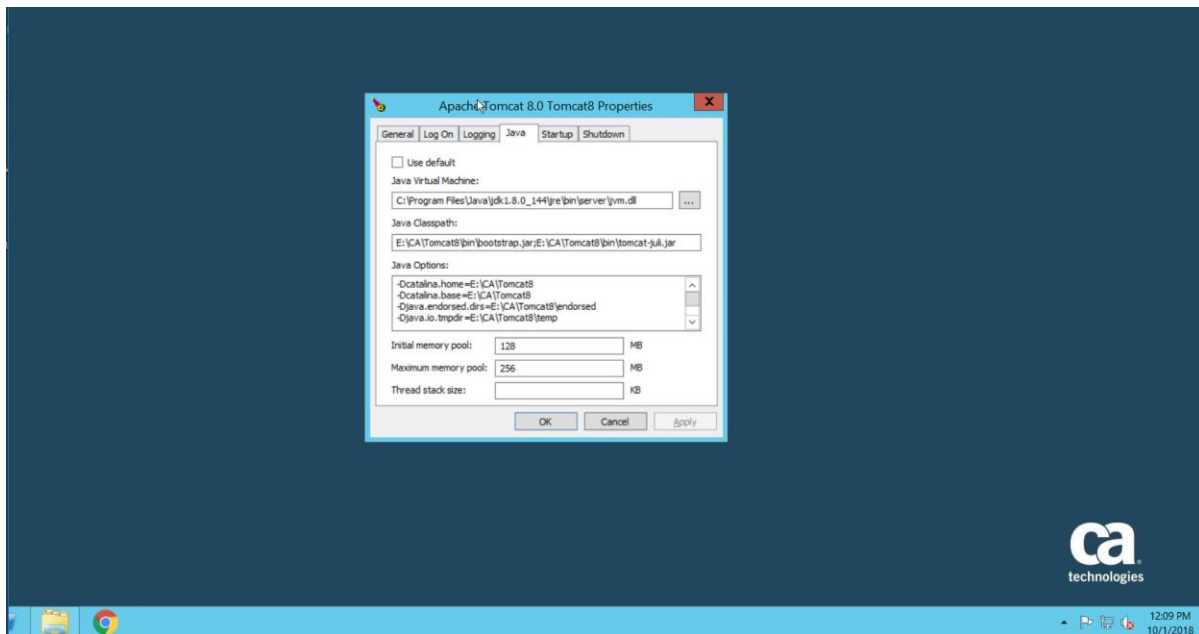
The **Apache Web Application Manager** page should display, validating the Tomcat Server installation. Close the browser window.



Use the Tomcat Configuration Manager widget in the Quick Launch Tray to stop the Tomcat Service before you proceed to install the CABI software.



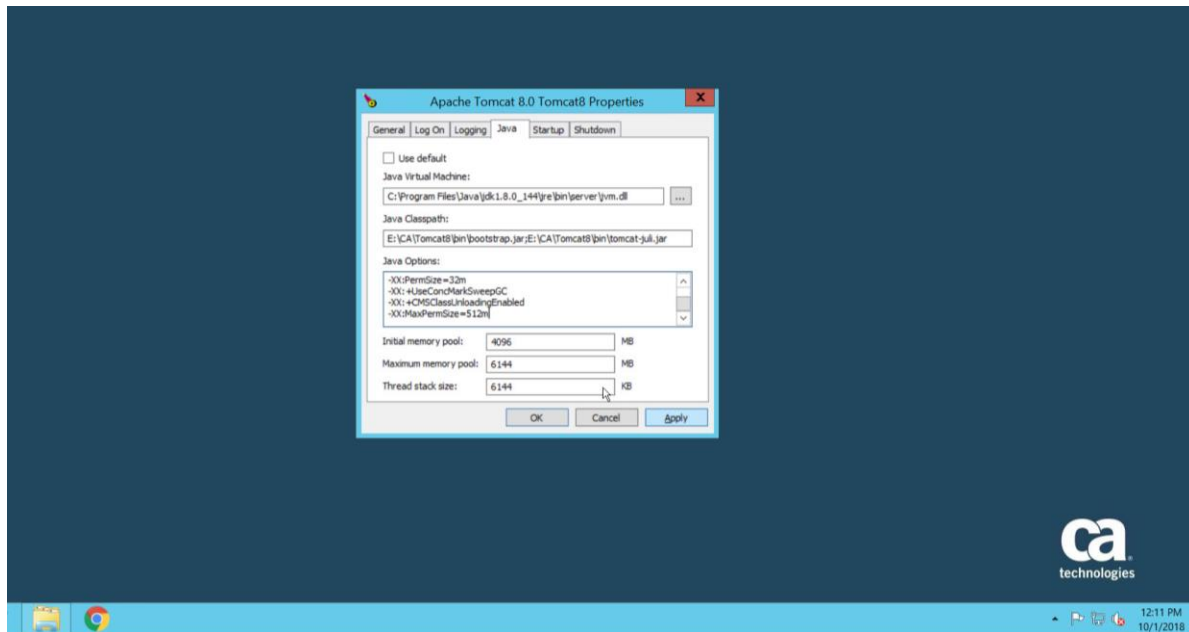
Configure Tomcat JVM Options before installing the Report Server. Open the Tomcat Configuration widget and select the Java tab.



Change the memory pool and thread stack to reflect: initial memory pool = 4096 MB; maximum memory pool = 6144 MB; and thread stack size = 6144 KB. Add the following Java Options to the end of the displayed values:

```
-XX:PermSize=32m
-XX:+UseConcMarkSweepGC
-XX:+CMSClassUnloadingEnabled
-XX:MaxPermSize=512m
```

The resulting Tomcat Properties panel should resemble the screen shot below:



Install CA CABI (Report) Server

Login to Windows server with service account provided for Jasper Reports Server. Set JAVA_HOME system environment variable; and add "%JAVA_HOME%\bin;" to the system PATH variable. The following steps are copied from the Installing CABI Jasper Reports Server section in the CABI 6.3 documentation.

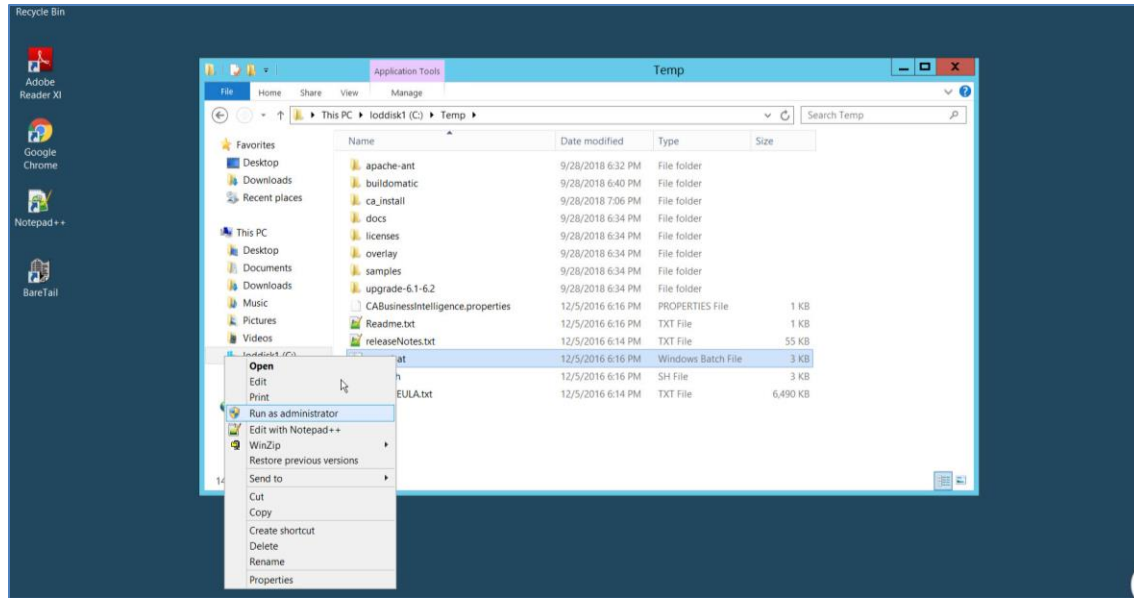
1. Right-click My Computer and select Properties.
2. Within Advanced tab, select Environment Variables.
3. Create a System variable that is named **JAVA_HOME** (or edit existing) and reference where the JDK software is located, for example:
C:\Program Files\Java\jdk1.8.0_73
4. Select **Path** from the list of system variables, and click the Edit button and append %JAVA_HOME%\bin to the list of paths (be sure to separate with ';')
5. Click OK.

One additional update is required to use a remote server hosting MS SQL Server. This update is covered in the Silent Install topics of the named CABI 6.3 documentation. The update is required when using the GUI or silent install processes.

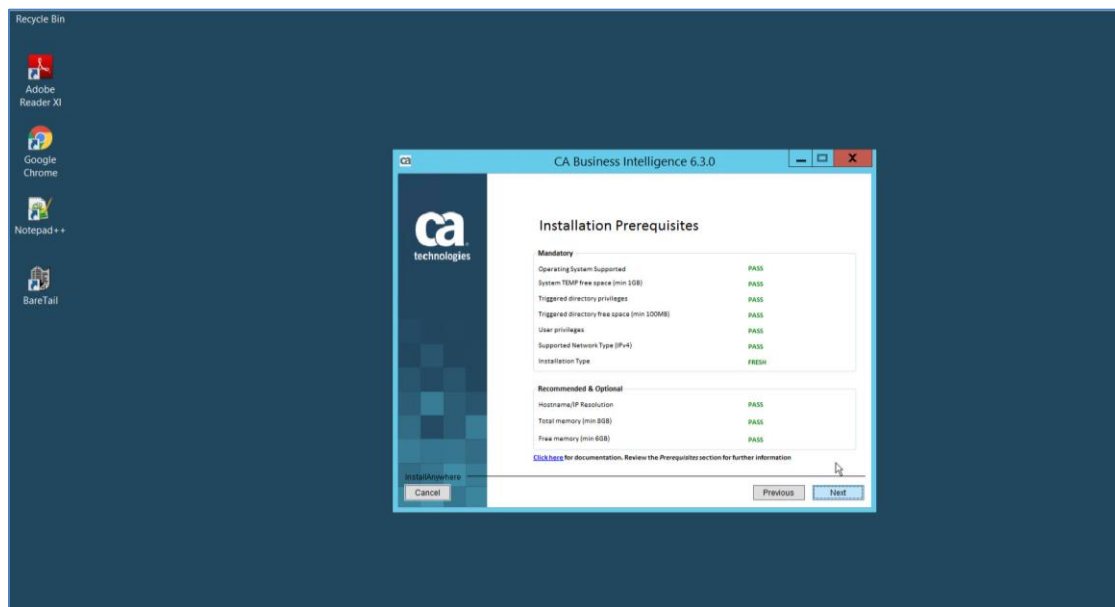
1. Update the hosts file (%windir%\System32\drivers\etc\hosts) in Windows to insure the MS SQL Server hostname is resolvable. For example: xxx.xxx.xxx.xxx host.domain.com hostname. Here xxx.xxx.xxx.xxx is the ipv4 address of host name.
2. Ensure that the etc/host entries are correct.

Unzip the install software GEN500000000000081.zip to temporary folder on the Report Server host. Run the GUI Installer, setup.bat, as the local administrator (as shown below).

Run **setup.bat** as administrator ...

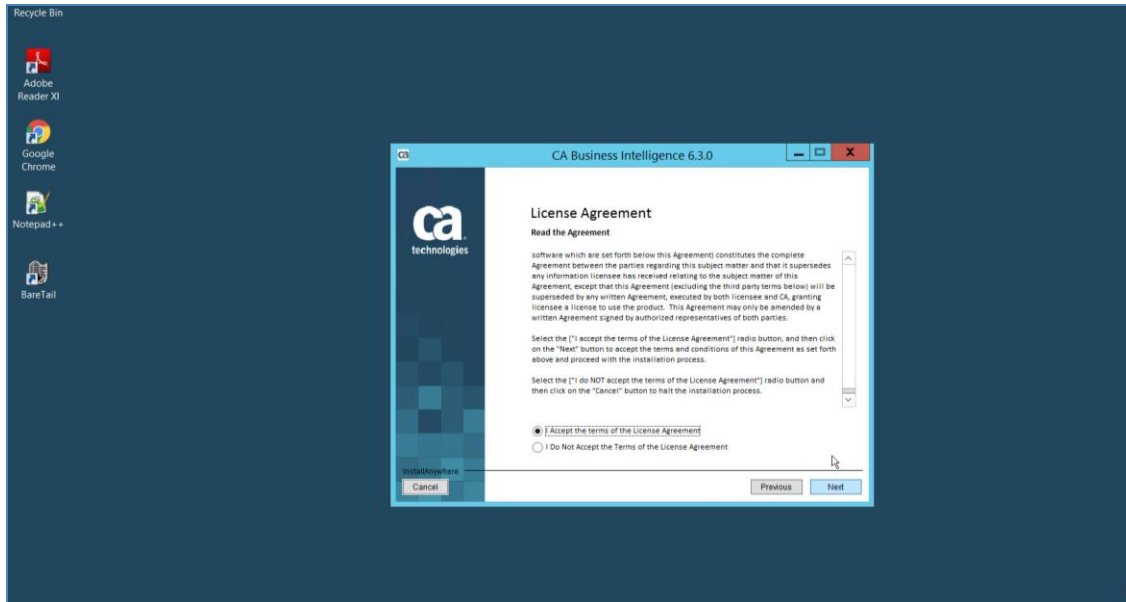


The CABI installation binary (InstallAnywhere) launches, preparing the installation package for execution. The **Language** selection screen opens for the installer. Use the default of **English** and click **Next** to continue. The **Installation Prerequisites** checks are executed, and the results are displayed (as shown below).

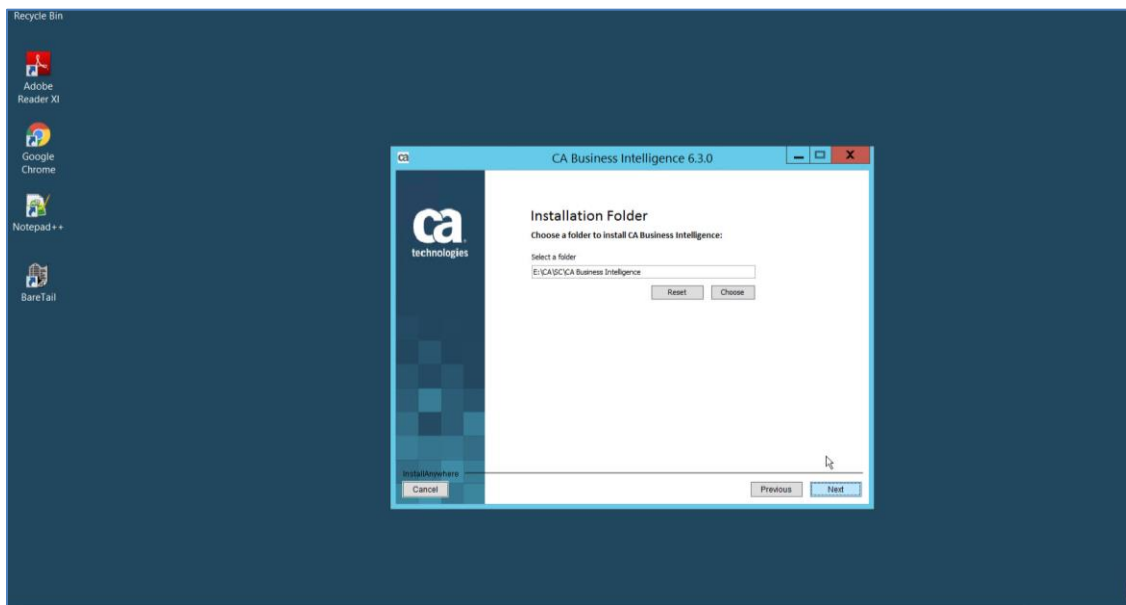


The **Introduction** screen displays. Click **Next** to continue the installation.

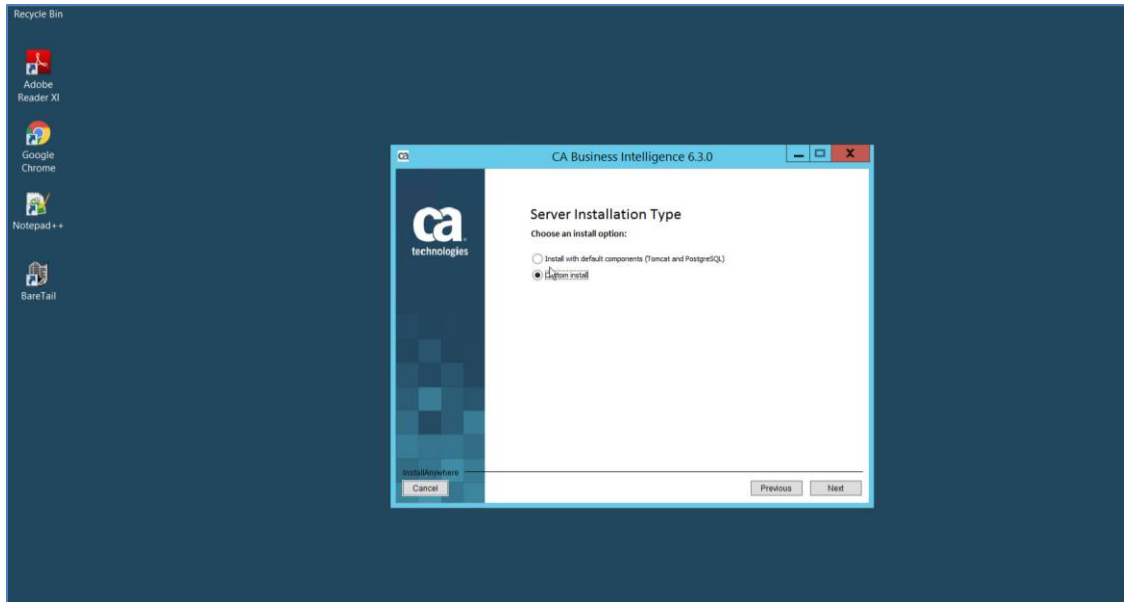
Use the scroll bar to review the **License Agreement** and activate the **I Accept** radio button. Select **I Accept** option and click **Next** to continue.



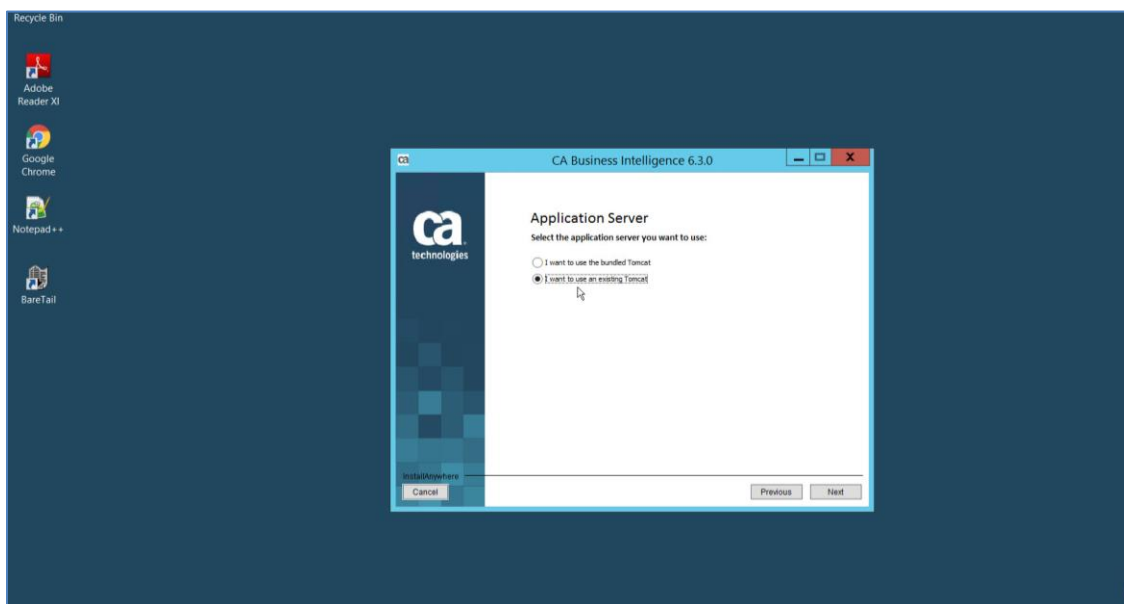
Choose the **Installation Folder** in the specified location for the install. The example below uses the **E:\CA** as the root path for the installation.



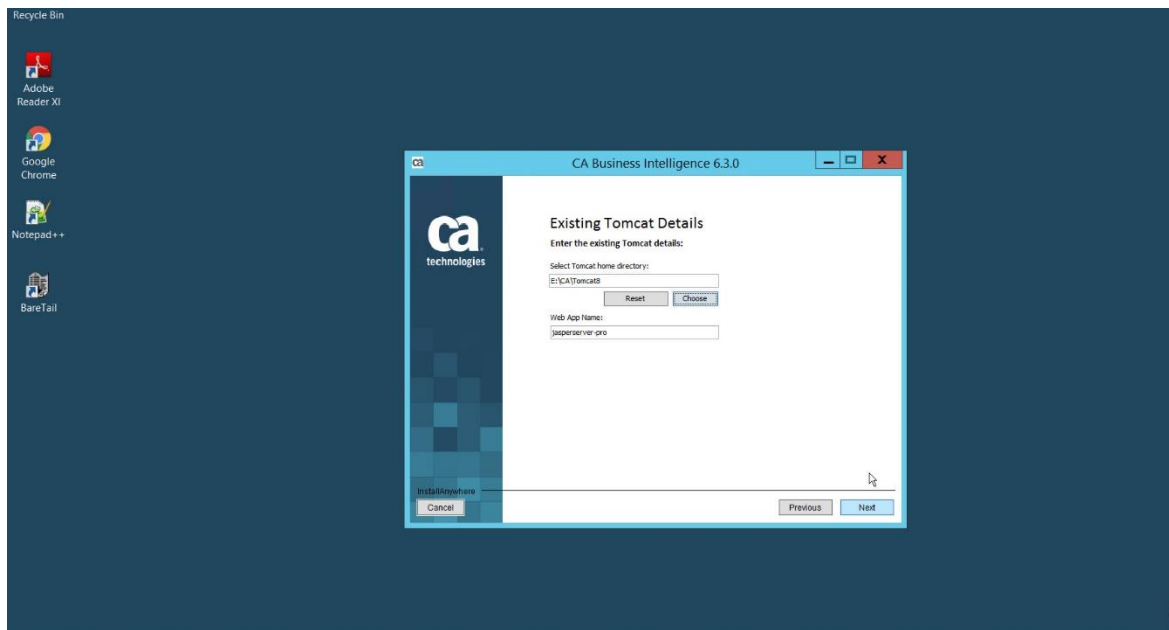
Select **Custom install** radio button on **Server Installation Type** screen.



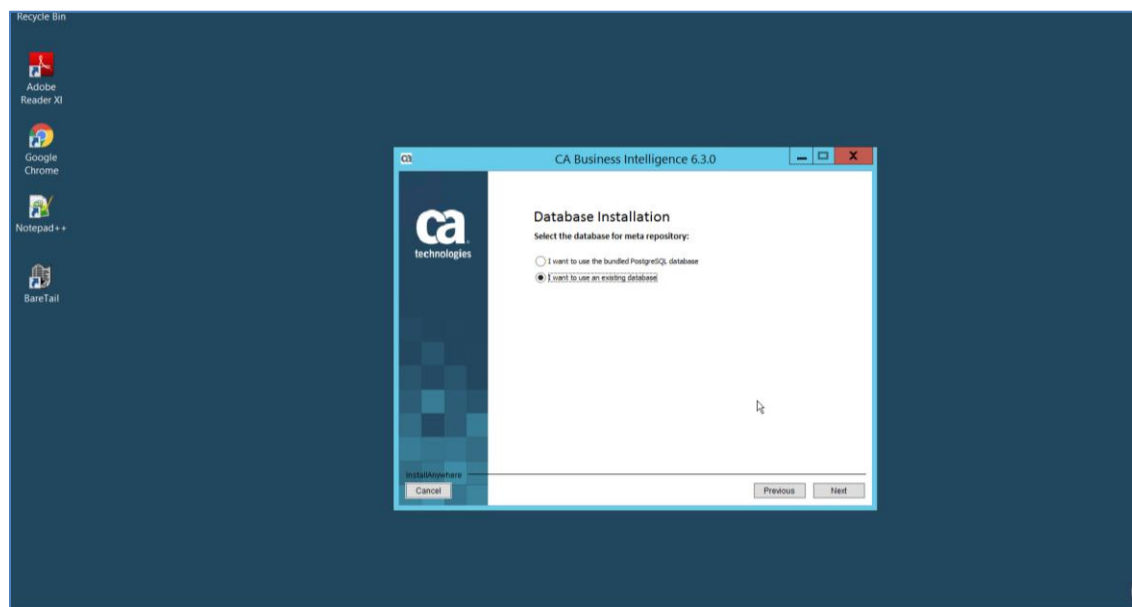
Select **I want to use an existing Tomcat** option on **Application Server** screen.



After selecting the Tomcat location on the **Existing Tomcat Details** screen, use the default name for Web App name, **jasperserver-pro**. Click **Next** to continue.

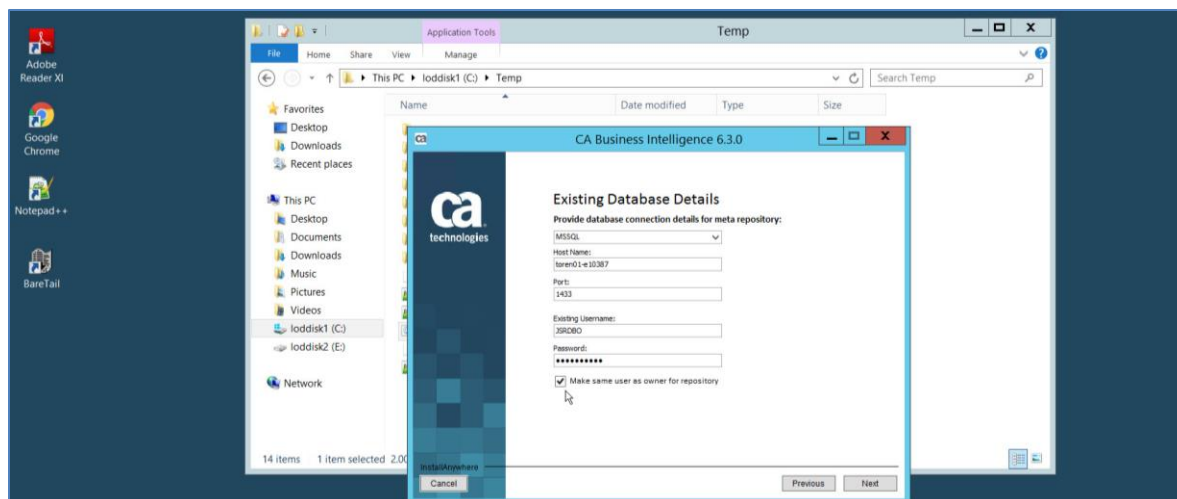


Select **I want to use an existing database** option on **Database Installation** screen. Click **Next** to continue.

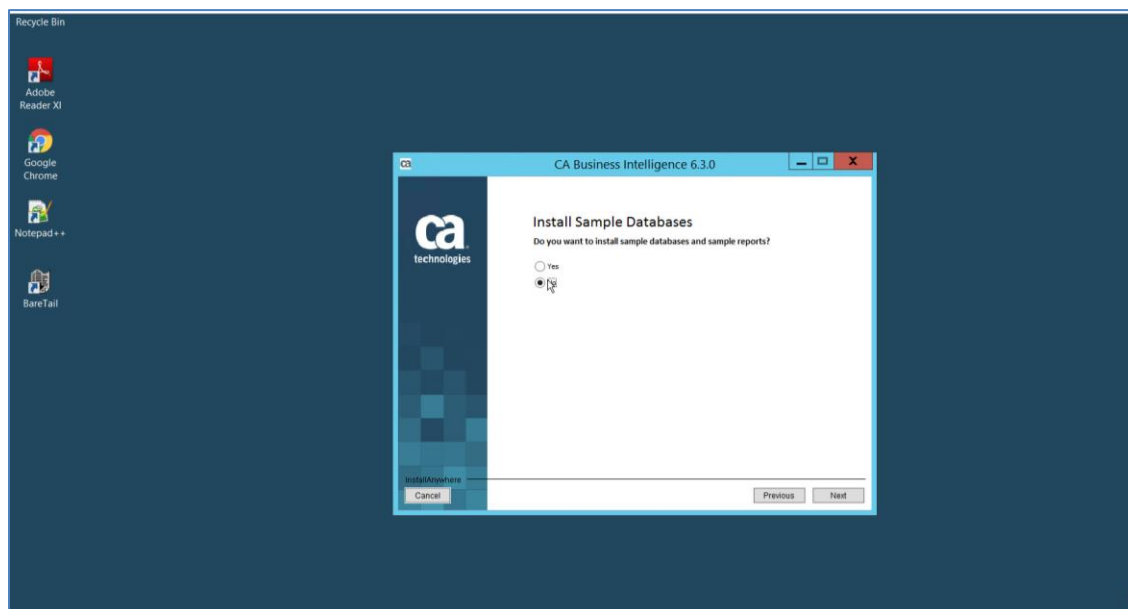


Select MSSQL and provide the database details.

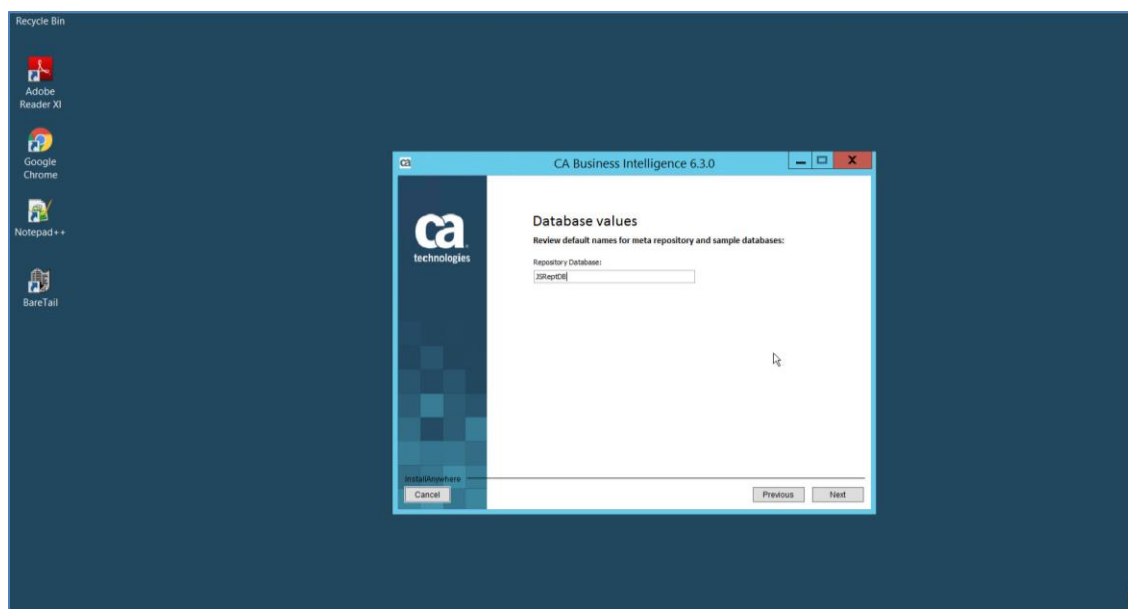
Select the check box “Make same user as Owner for repository”. Click Next



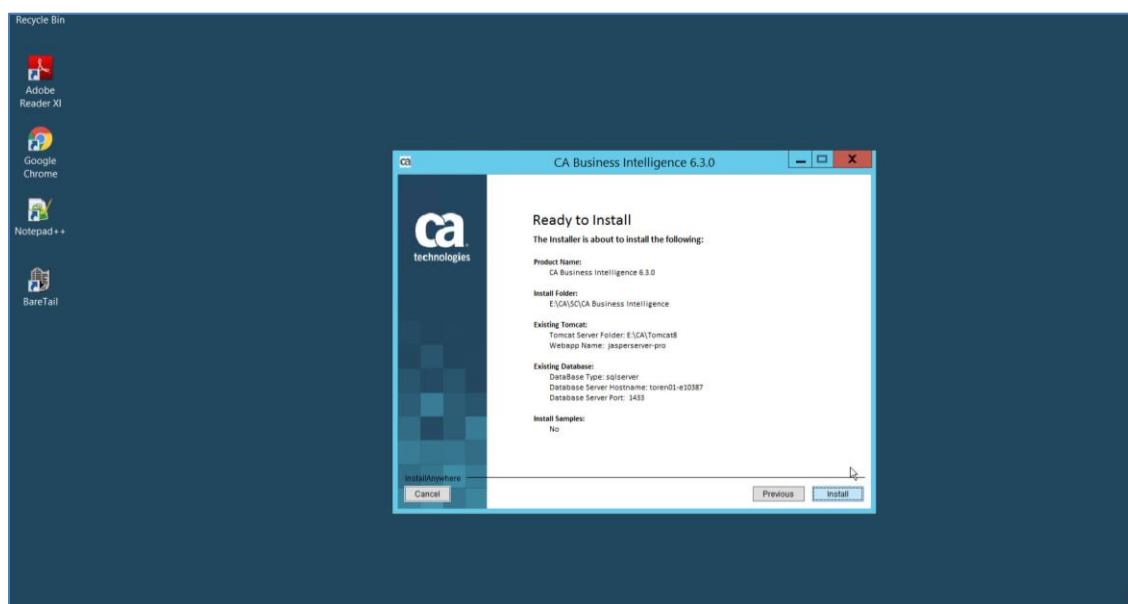
Select **No** on **Install Sample Databases** screen. Click **Next** to continue.



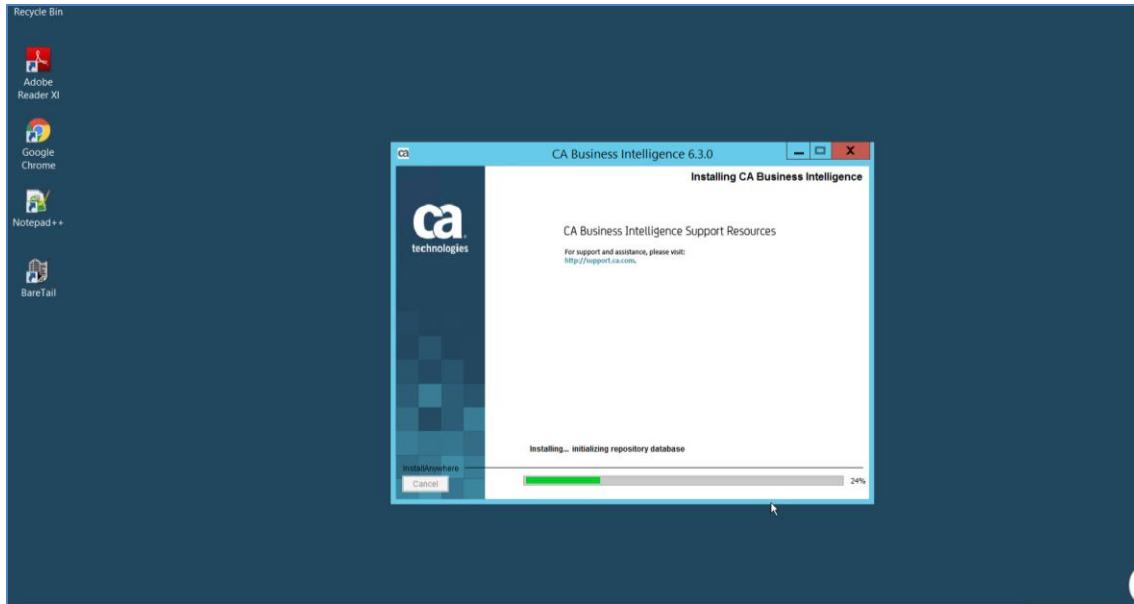
Set the **Repository Database** name to the specified, or **JSReptDB** as shown in the example below. Click **Next** to continue.



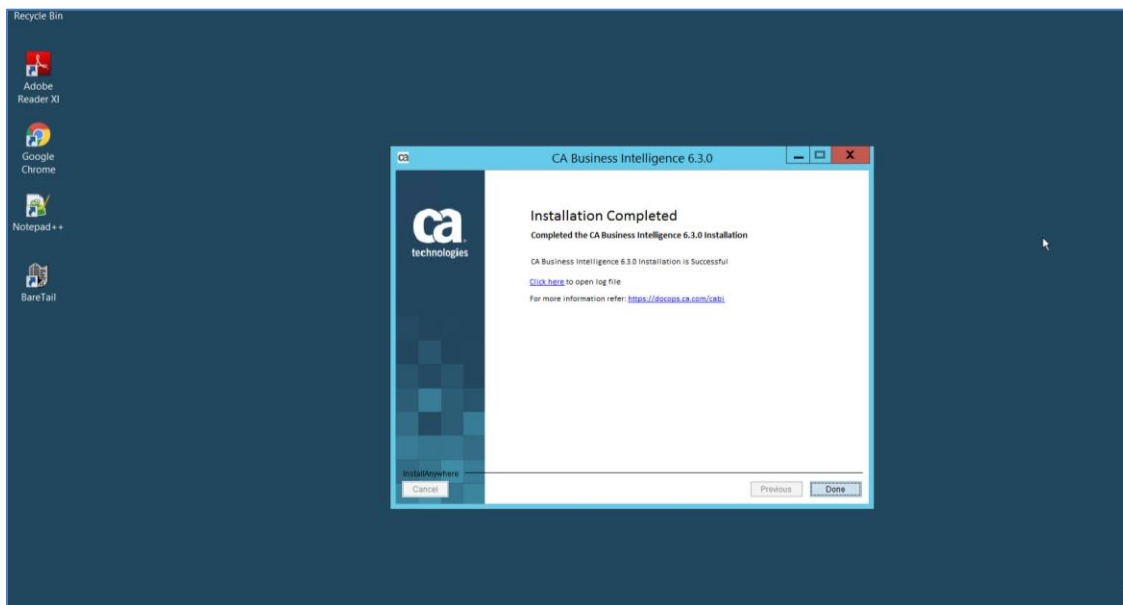
The Ready to Install screen displays to allow review of the installation parameters. Click **Install** to begin the installation or select **Previous** to return to an earlier screen to make a change.



The installation takes few minutes, between five and twenty depending on the virtual data center services. Various Installing screens display to advise you of the installation progress.



The **Installation Completed** screen displays, showing the final status of the installation. The following example shows a successful installation. Click **Done** to exit the installer.



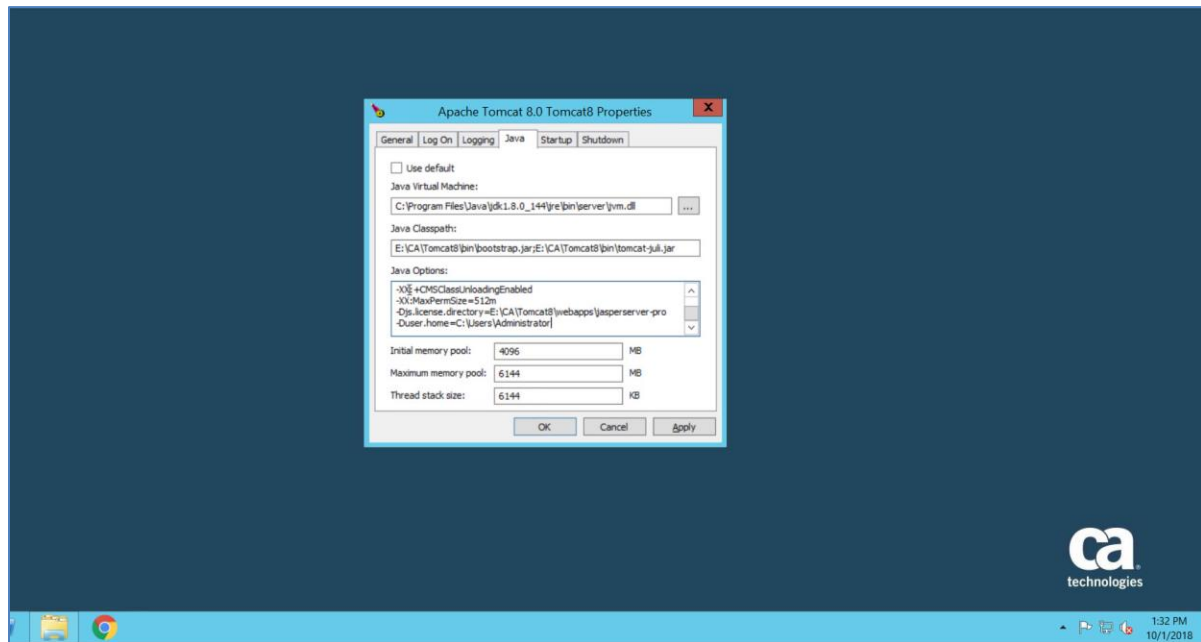
Post-Installation Configuration

Two additional updates to the Tomcat Java Options are required before starting the Tomcat service to validate the installation.

Update the License Directory path to the Jasper Report Server installation path, -
 Djs.license.directory=<Tomcatfolder>\webapps\<webappname>, replacing Tomcatfolder and webappname with the actual values. Remember webappname used the default value jasperserver-pro in this example.

If you are using Encryption=yes, the default for the GUI installation, set -Duser.home=C:\Users\Administrator, or the current user used to connect to the server.

Use the Tomcat Configuration widget to update the Java Options in the Java tab as shown below. Click **Apply** and **OK** to save the updates and close the Configuration tool.

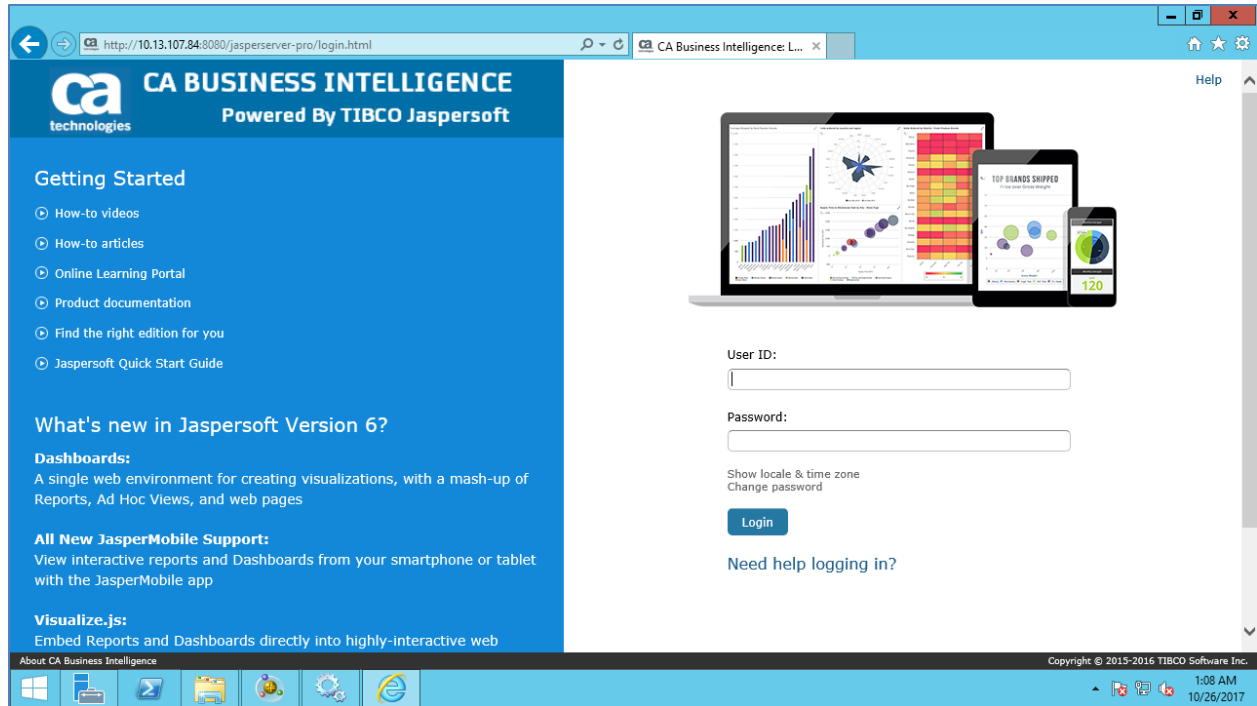


Start Tomcat using the same Tomcat Configuration Manager.

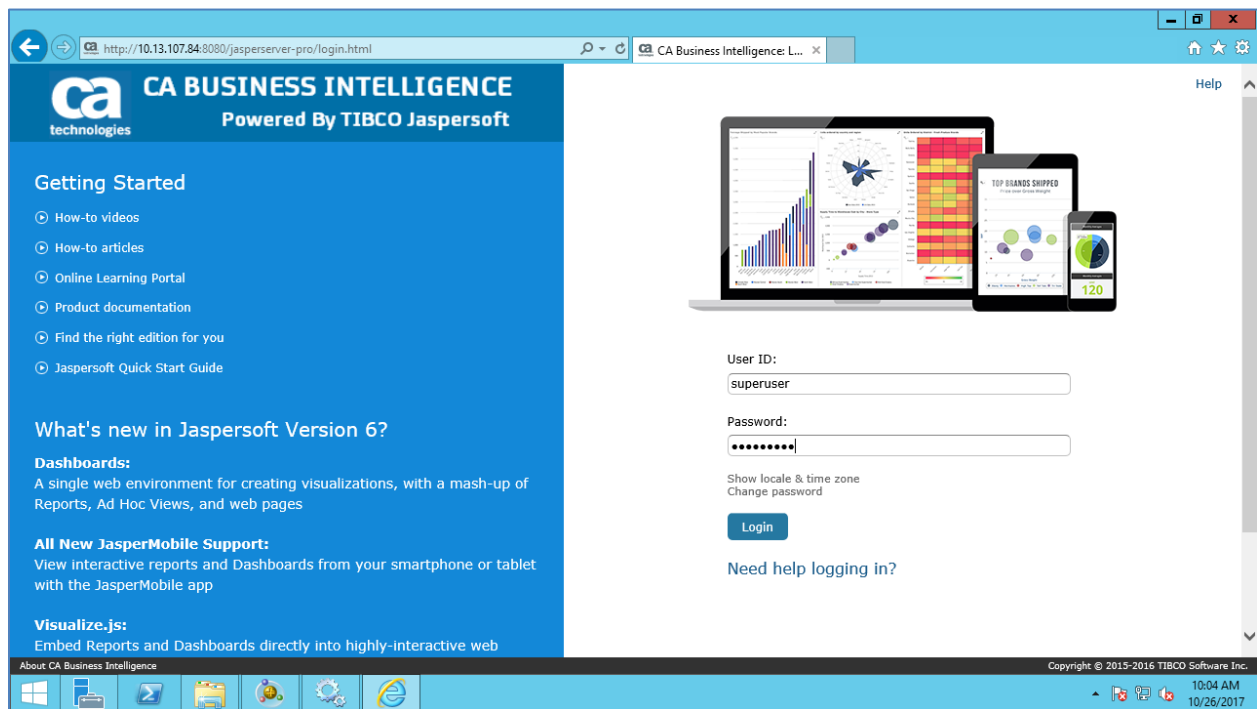


Open browser and access the below URL, replacing tomcat-hostname with the name of the server hosting the Jasper Report Server.

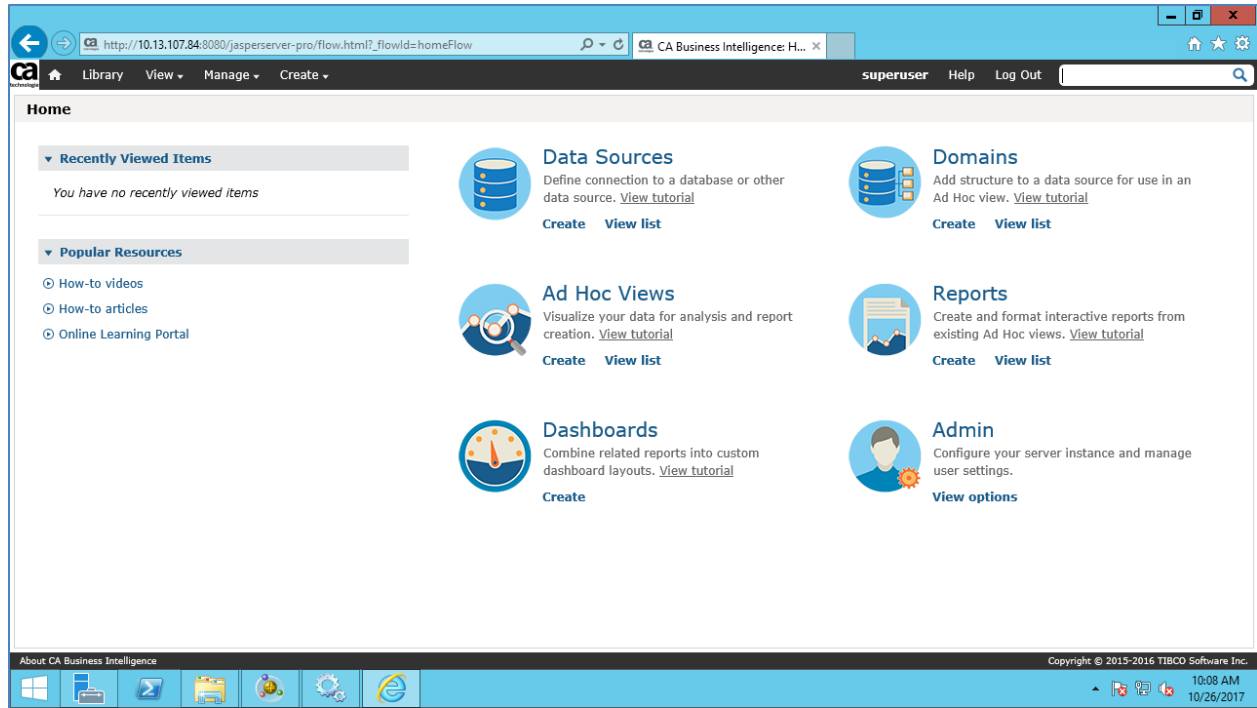
<http://tomcat-hostname:8080/jasperserver-pro/>



Enter username and password as superuser



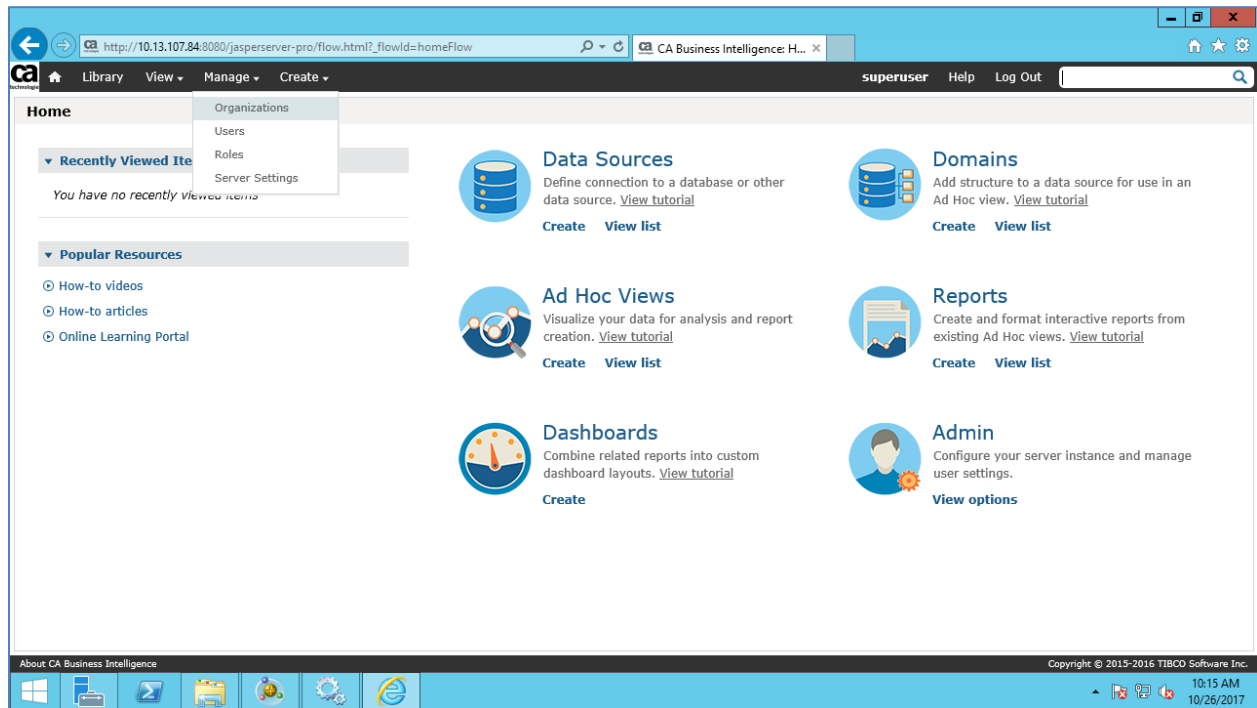
The below screen is displayed after successful login.



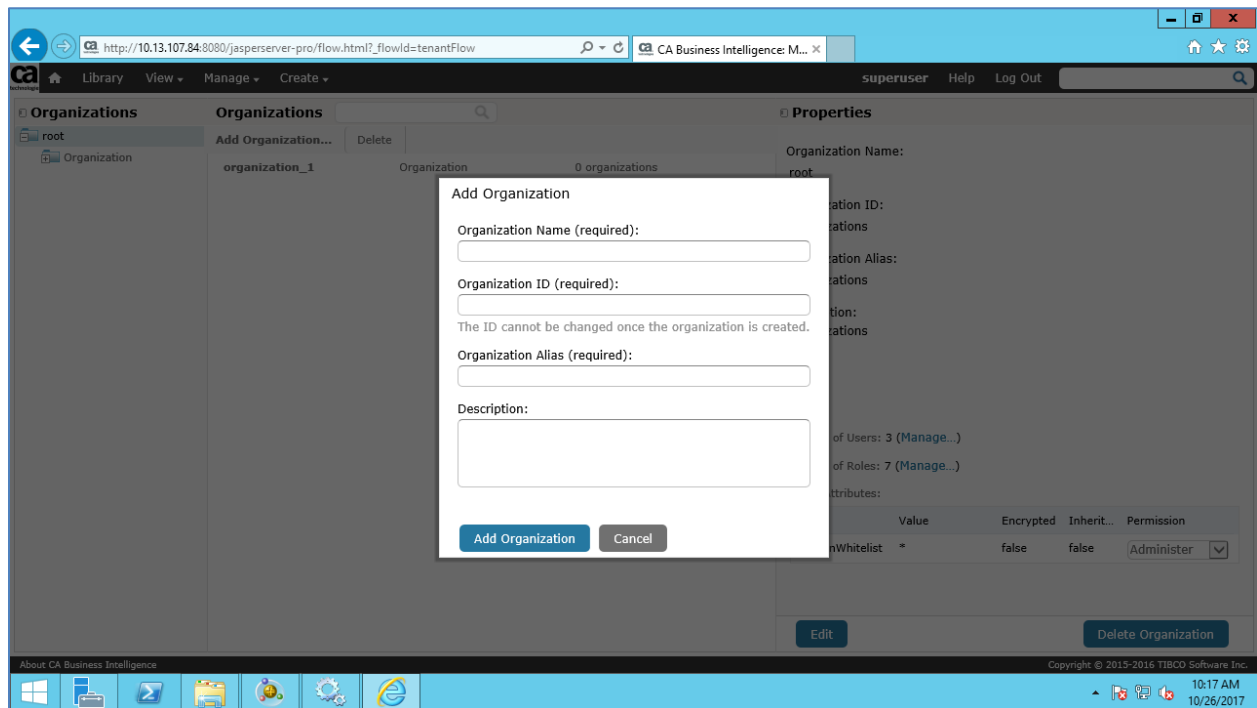
Create New Organization “IAM” by following the below steps.

Complete the Identity Manager Integration

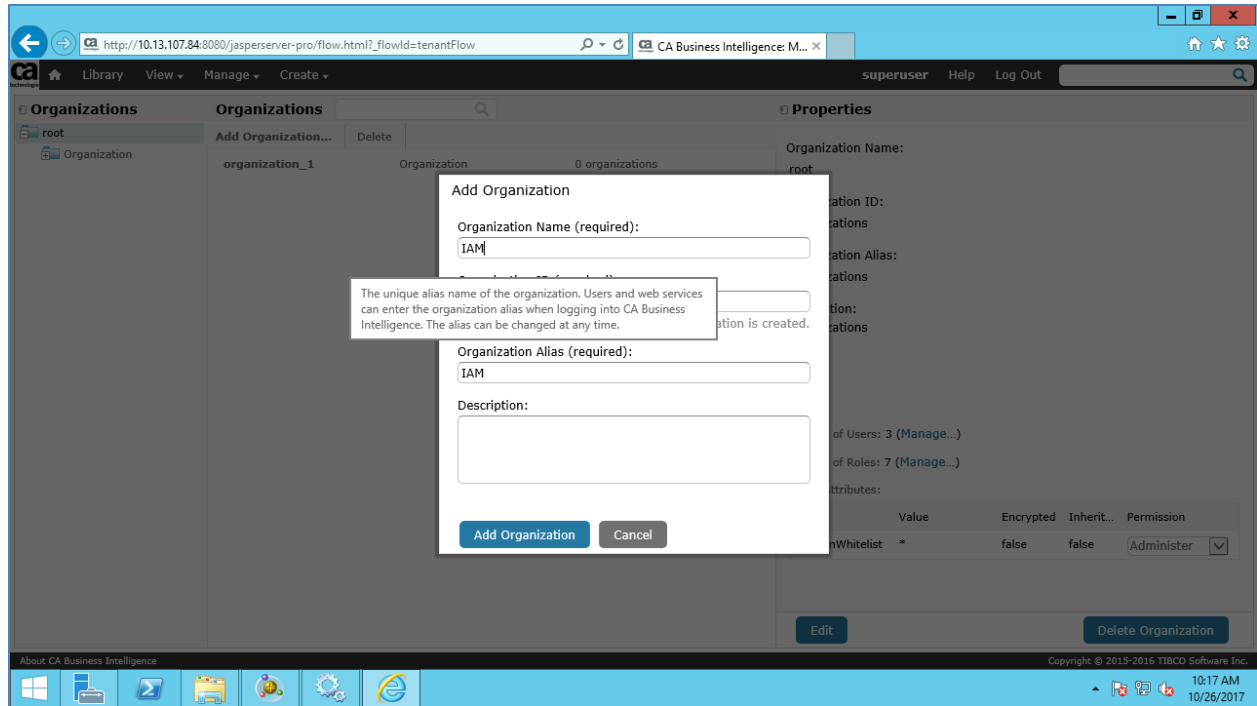
Click on Manage tab and select organizations.



Click on Add Organization



Provide the organization details as below, specifying **IAM** as the required **Organization Name**.

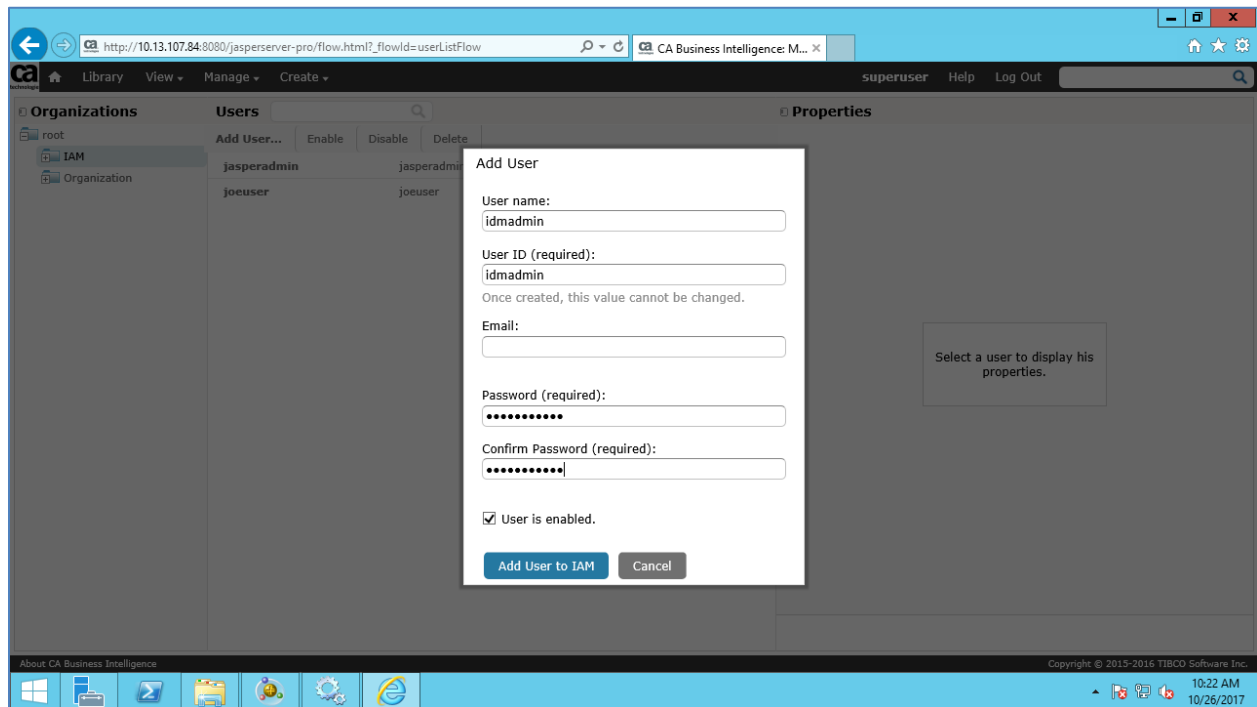


..

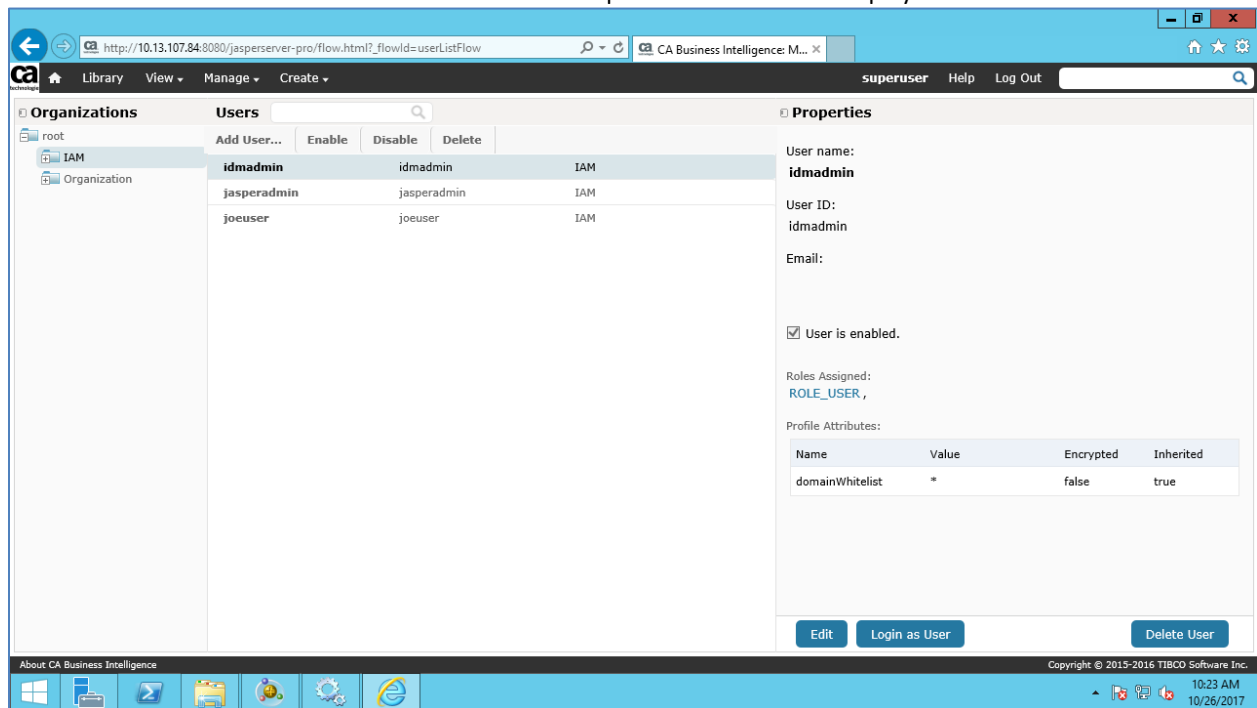
Create a new user, **idmadmin**, in the IAM Organization by following the below steps.

Click on Manage and select users. Click on **Add User**.

Complete the user details as shown below. Document the password provided in the above screen for future use.

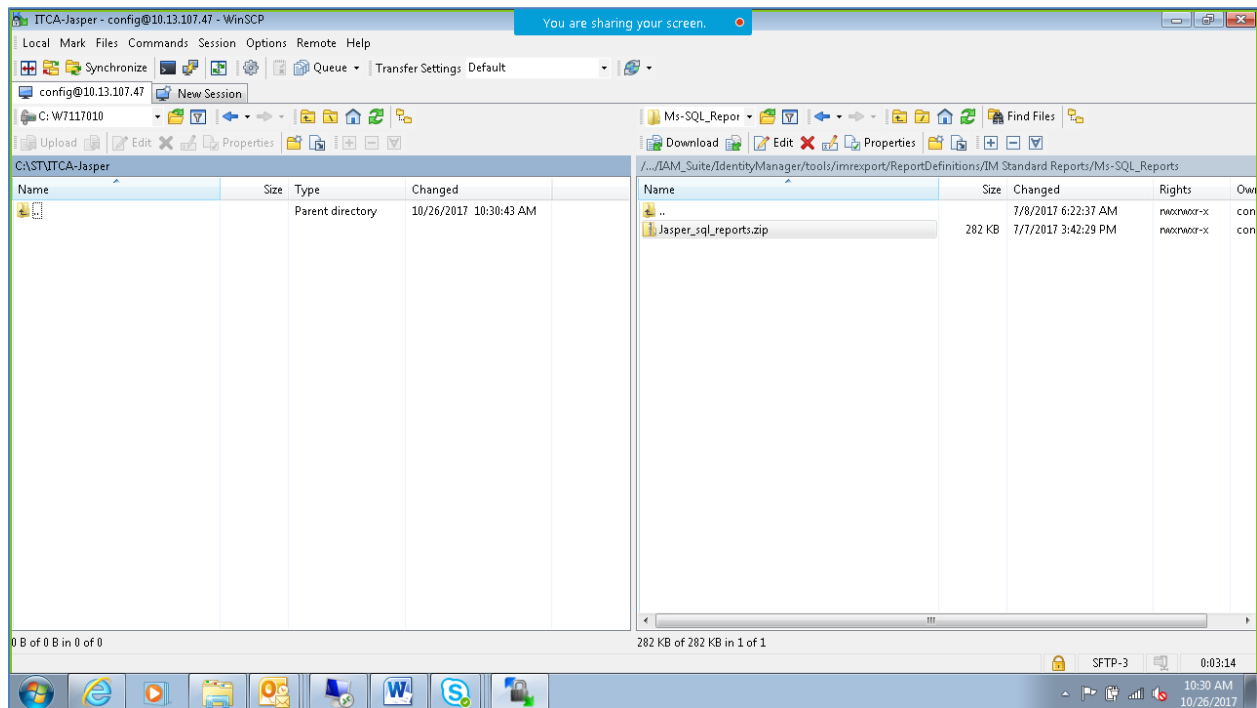


Click on “Add User to IAM” the below screen with the updates list of users is displayed.

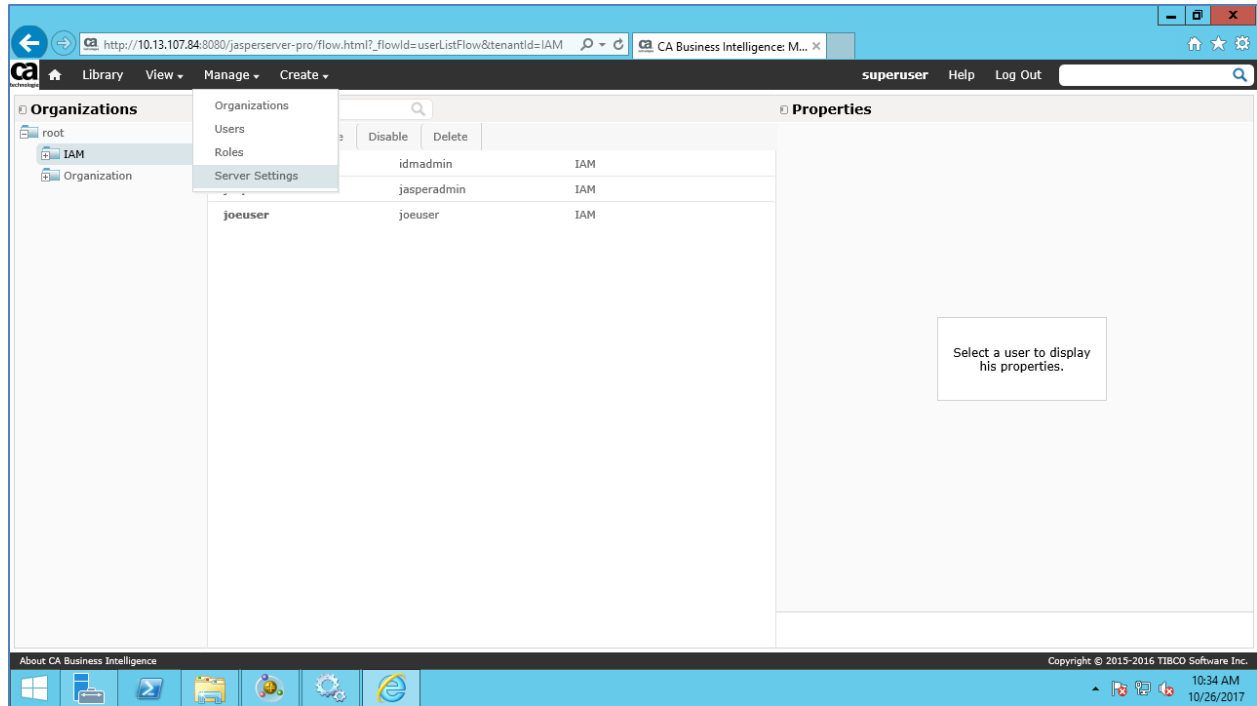


Retrieve jasper_sql_reports.zip from the deployment IDS vApp server at the following location:

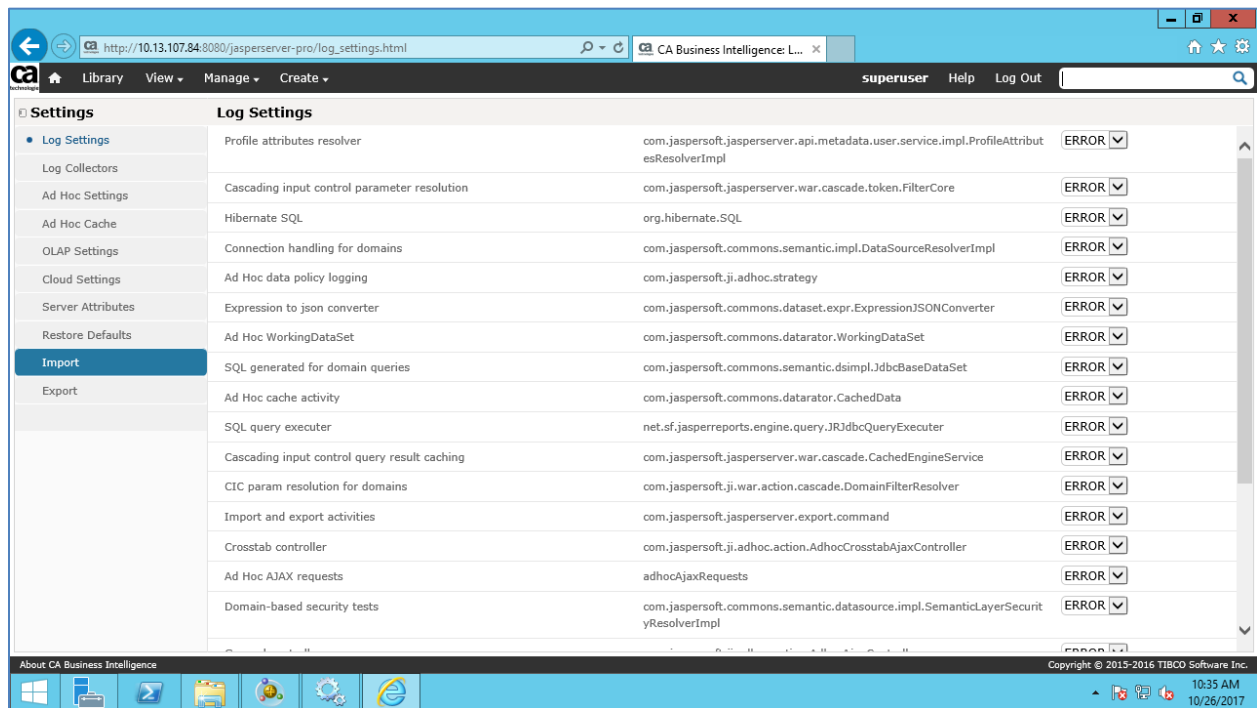
/opt/CA/IdentityManager/IAM_Suite/IdentityManager/tools/imreexport/ReportDefinitions/IM Standard Reports/Ms-SQL_Reports



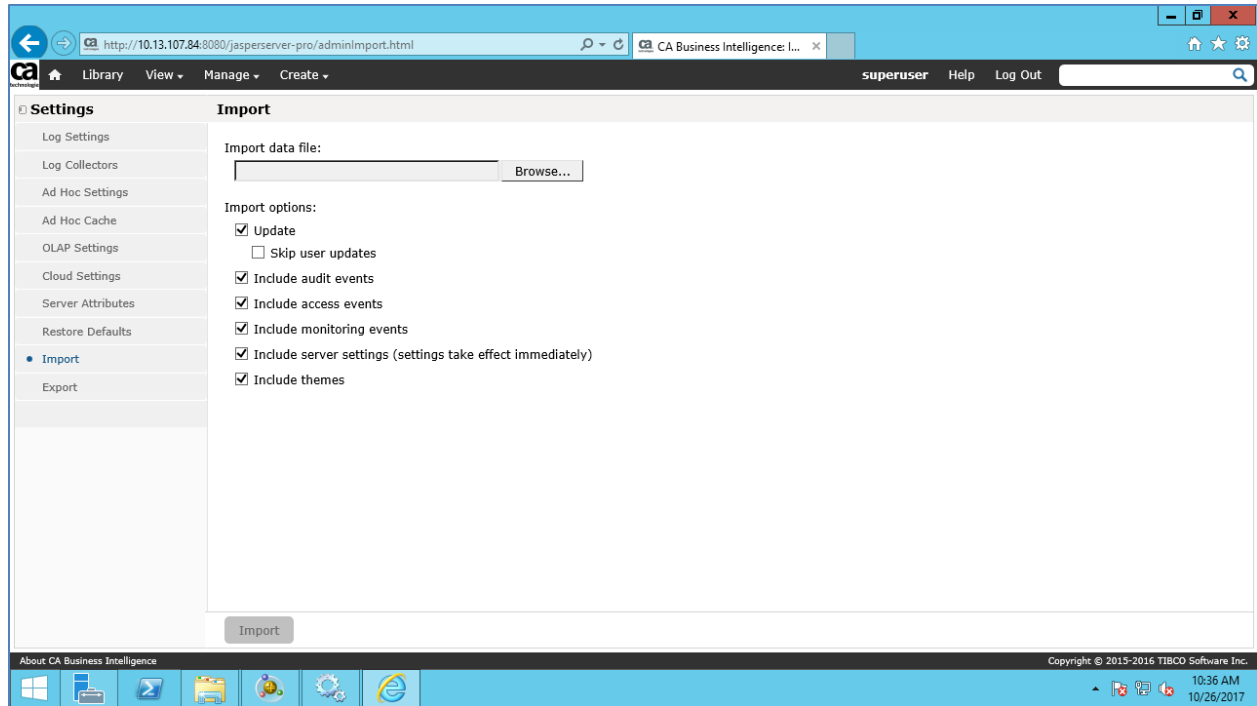
Go to Server Settings



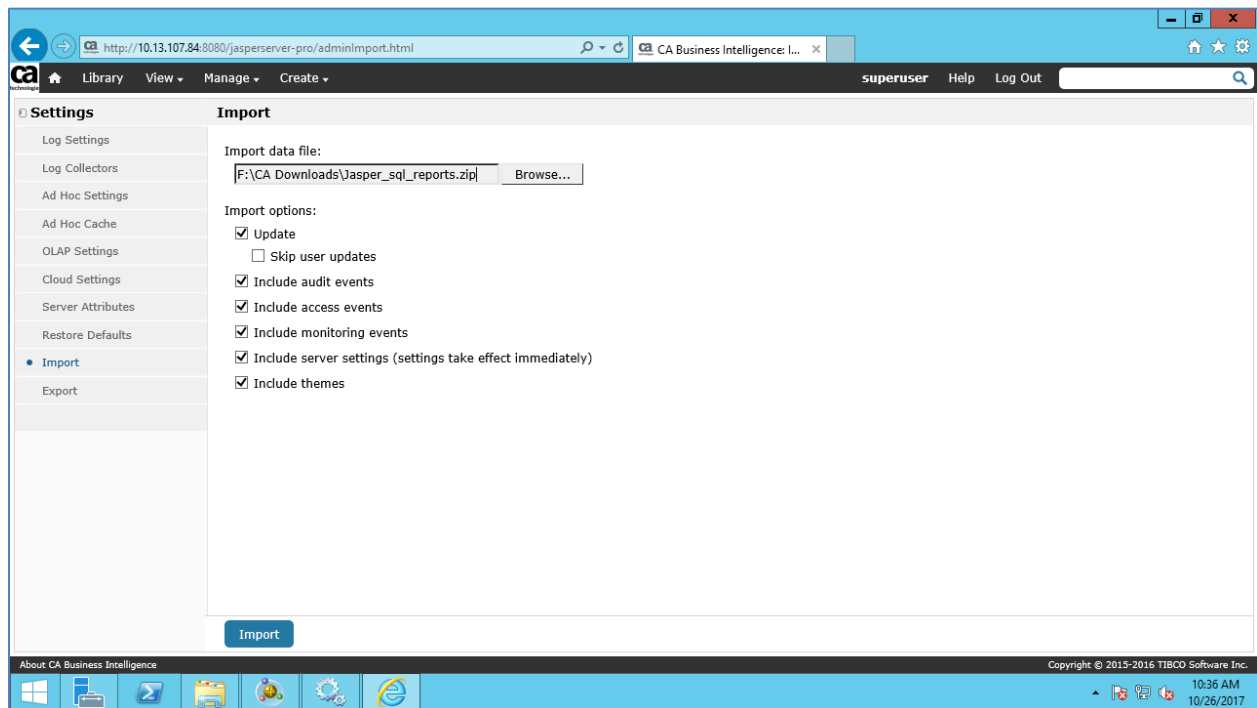
Click on Import



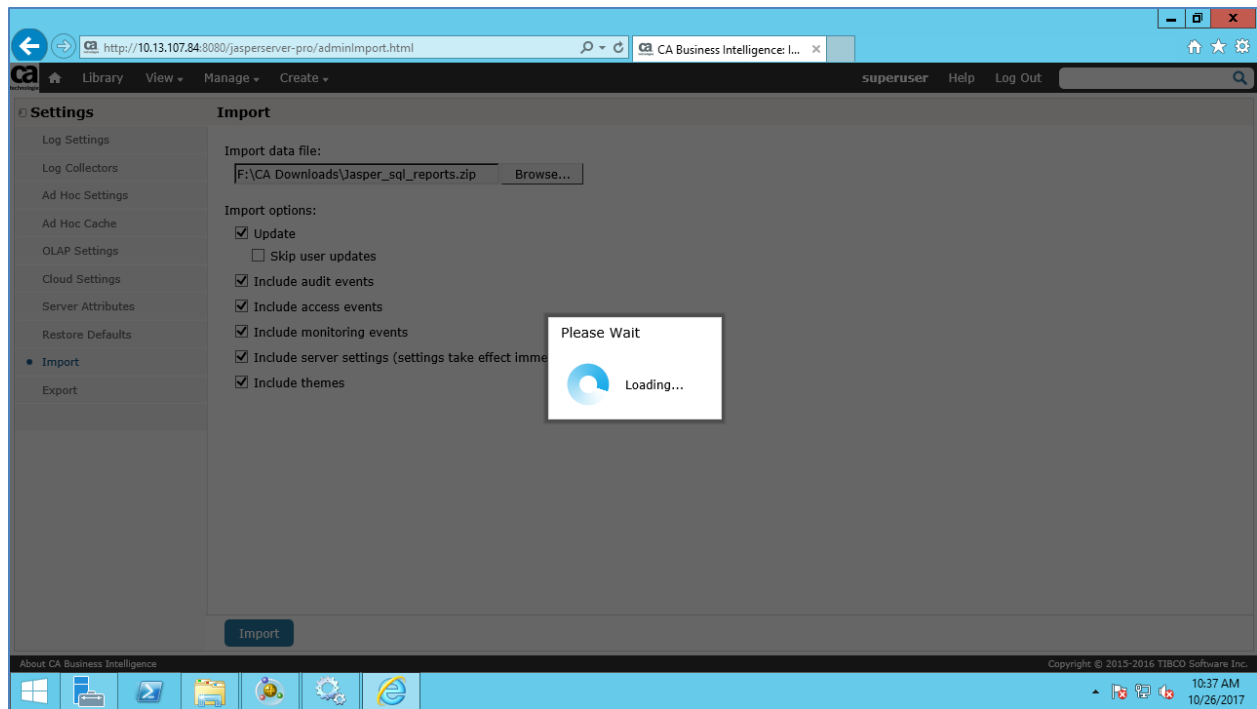
Click browse to choose the location of Jasper_sql_reports.zip



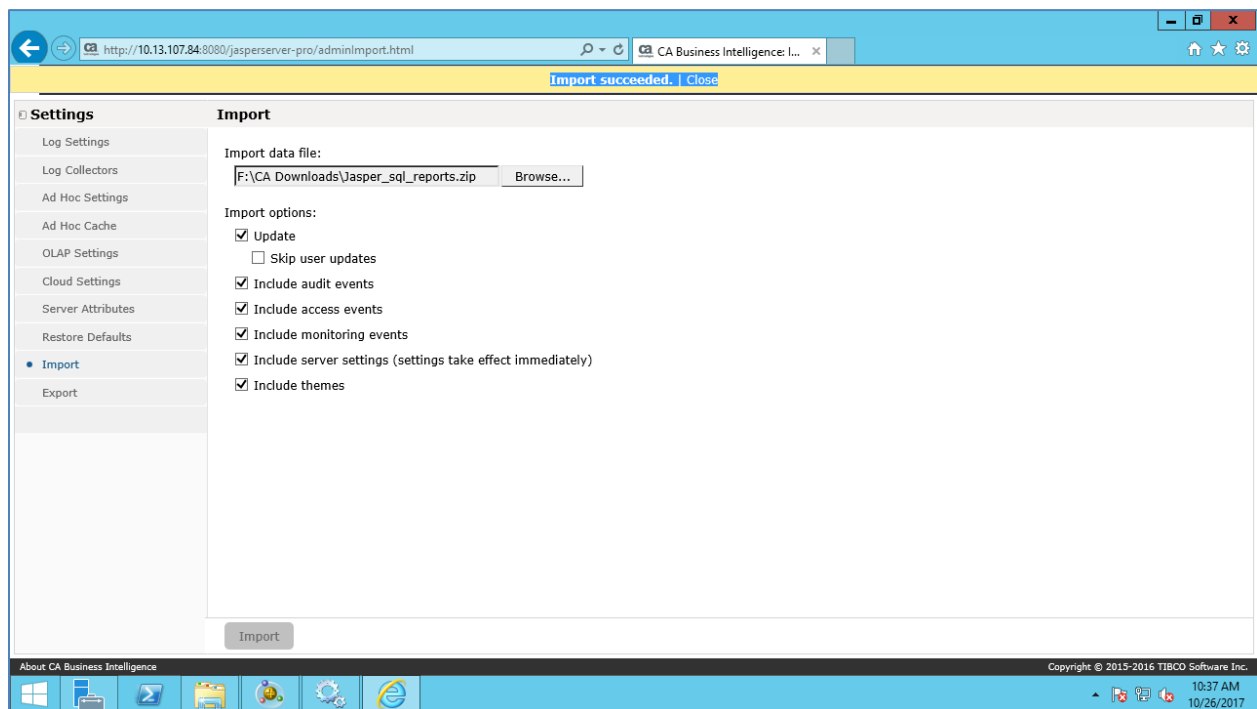
Click Import after choosing the file.



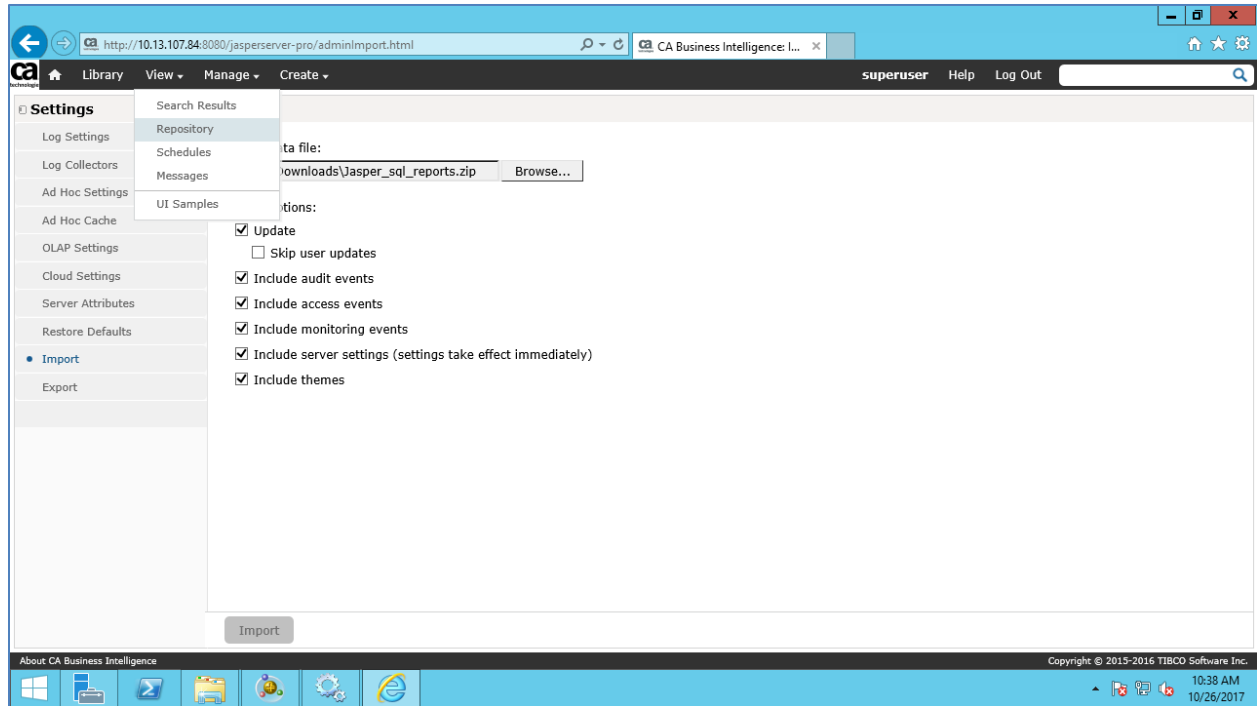
The below intermediate screen is displayed. Wait for few minutes.



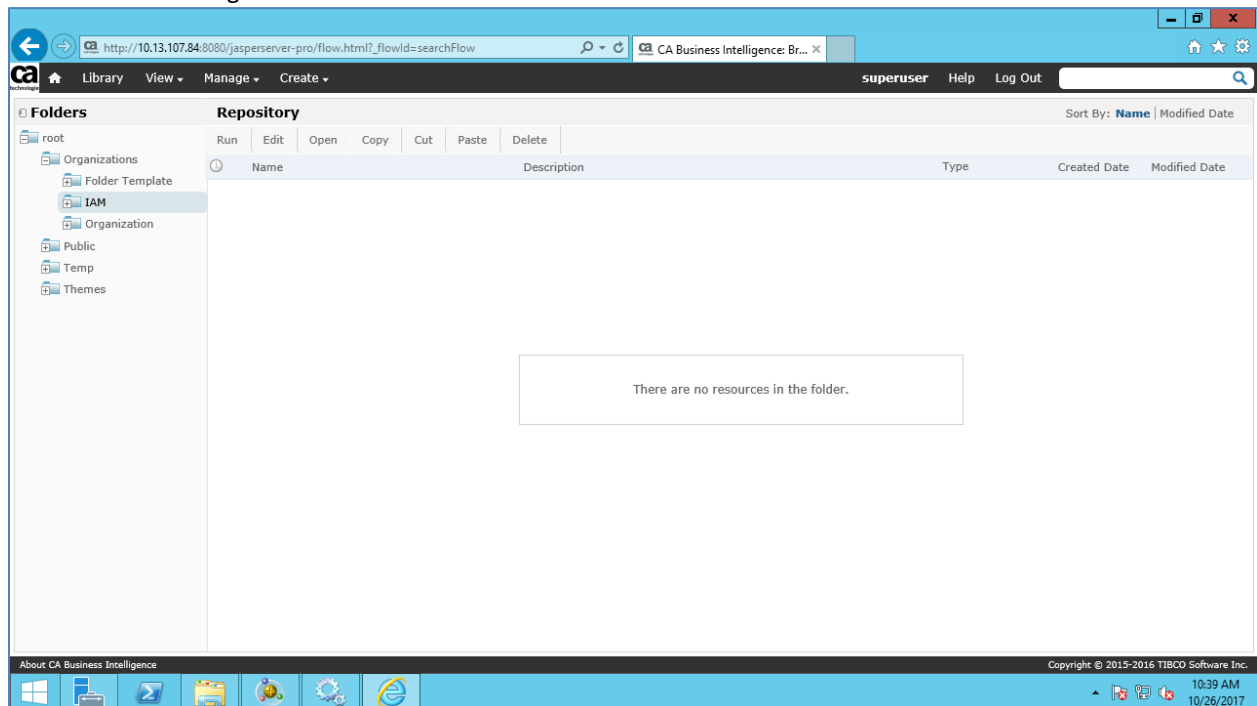
The below screen with “Import Succeeded” message is displayed.



Go to View – Repository

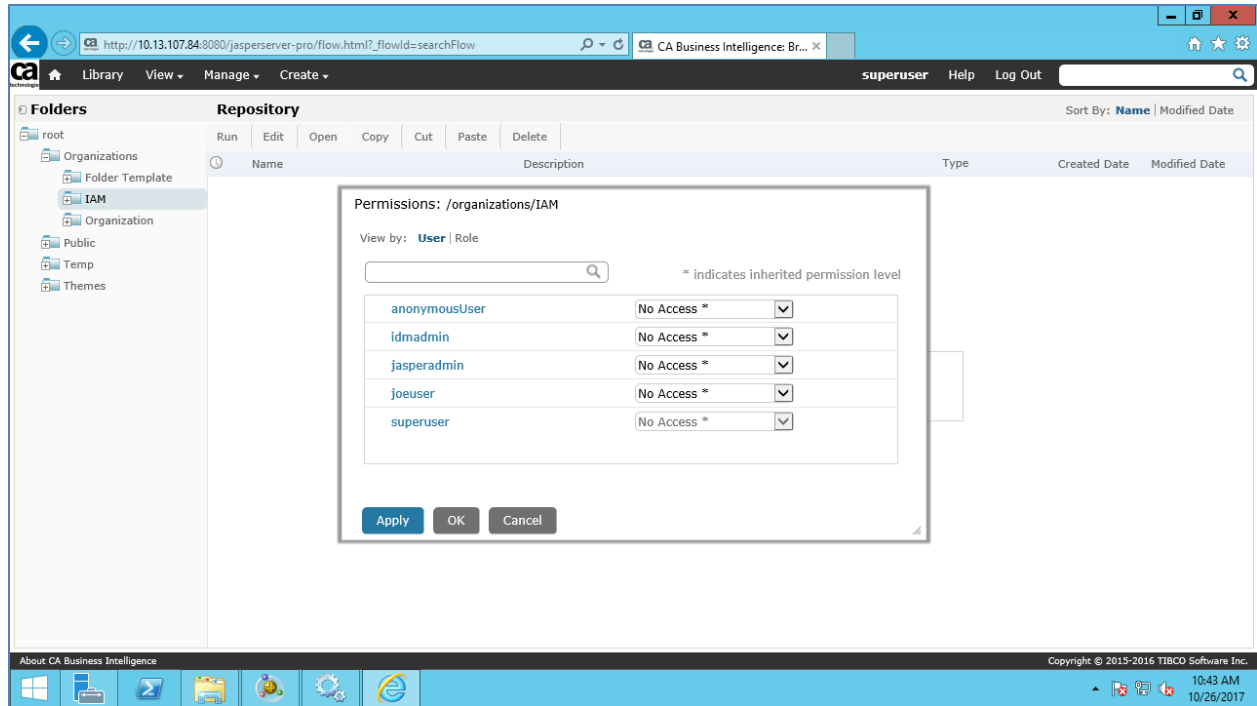


Select IAM under Organization

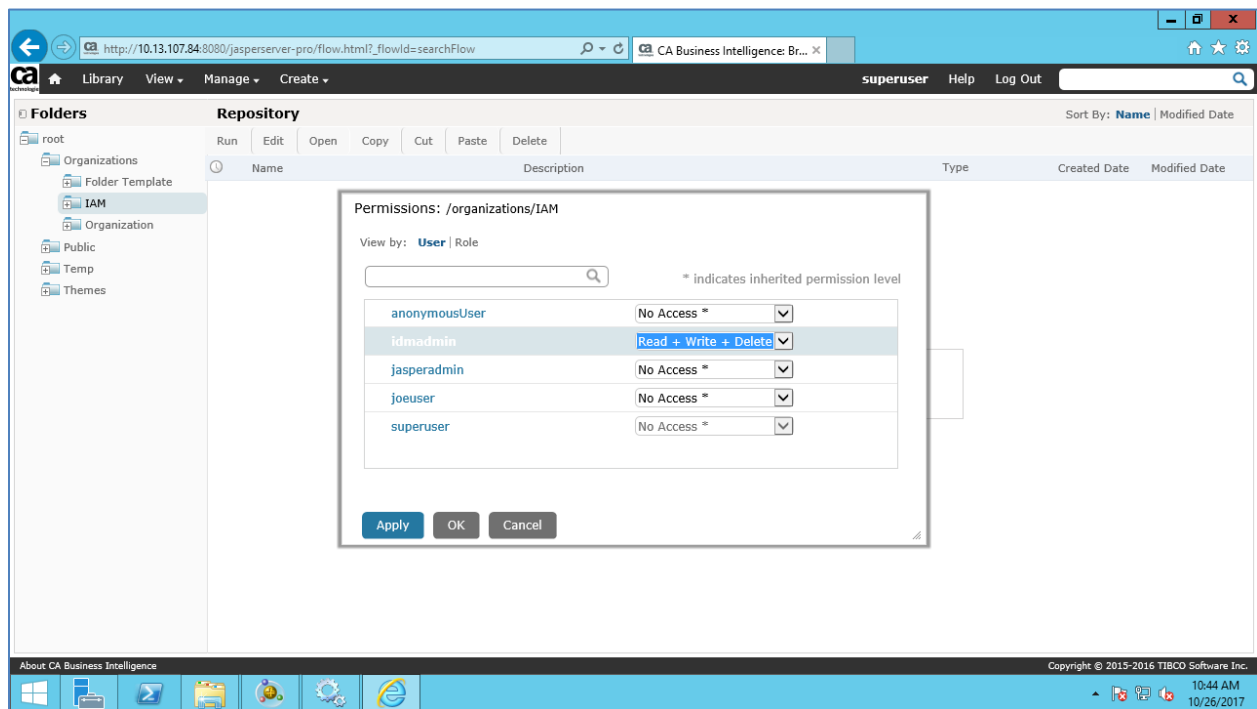


Right click on IAM and select permissions

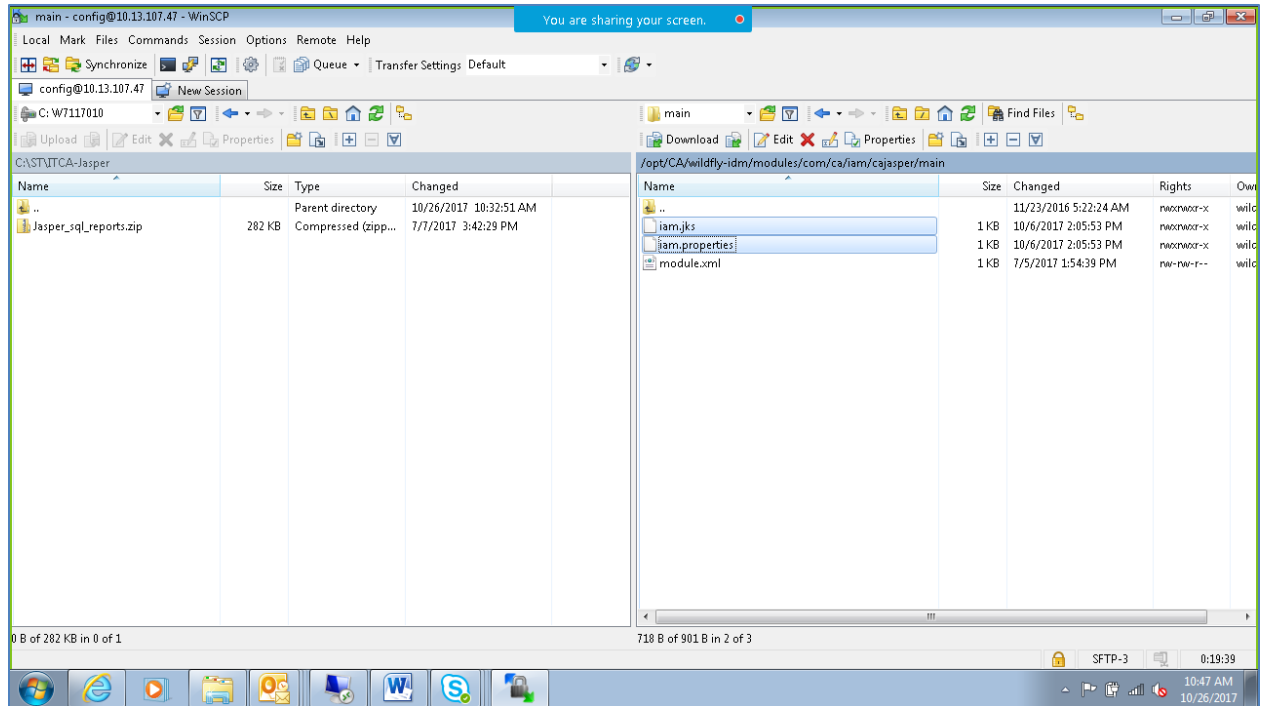
Click on User



Select Read+Write+Delete permissions as shown in the below screen.



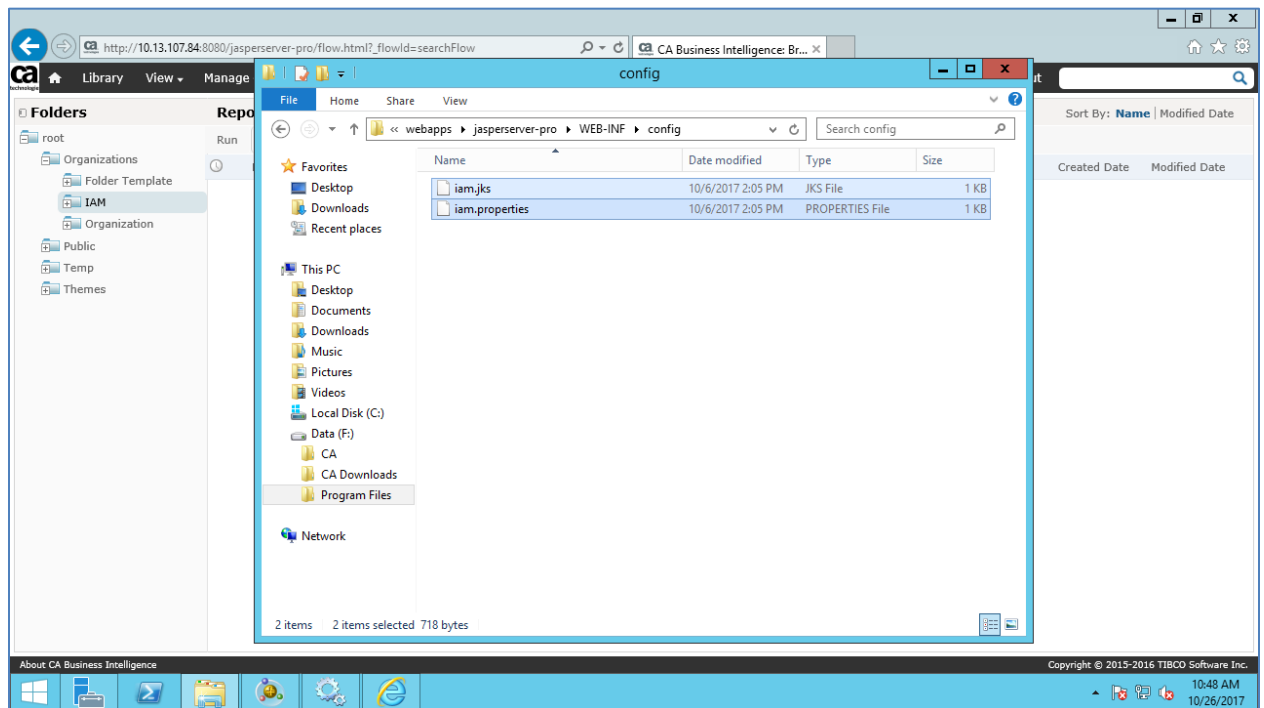
Copy the key files from App Server VApp from the below location
 /opt/CA/wildfly-idm/modules/com/ca/iam/cajasper/main



..

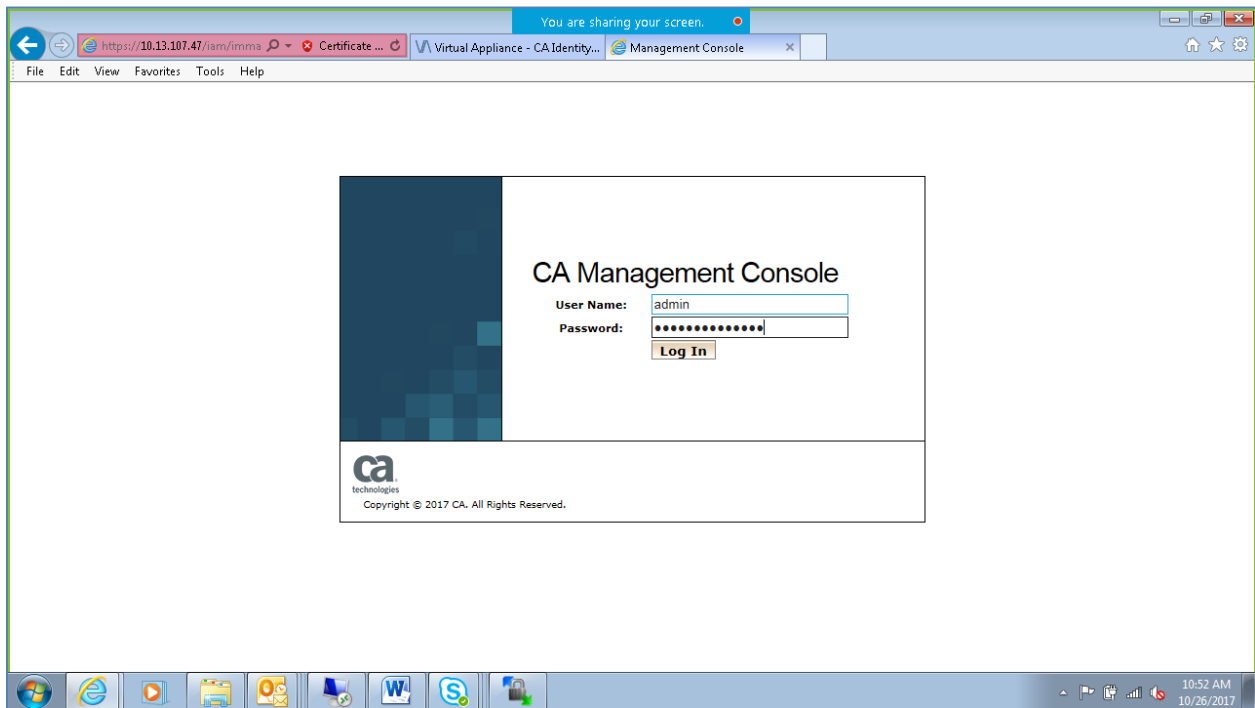
Copy the files to

F:\Program Files\Apache Software Foundation\Tomcat 8.0\webapps\jasperserver-pro\WEB-INF\config

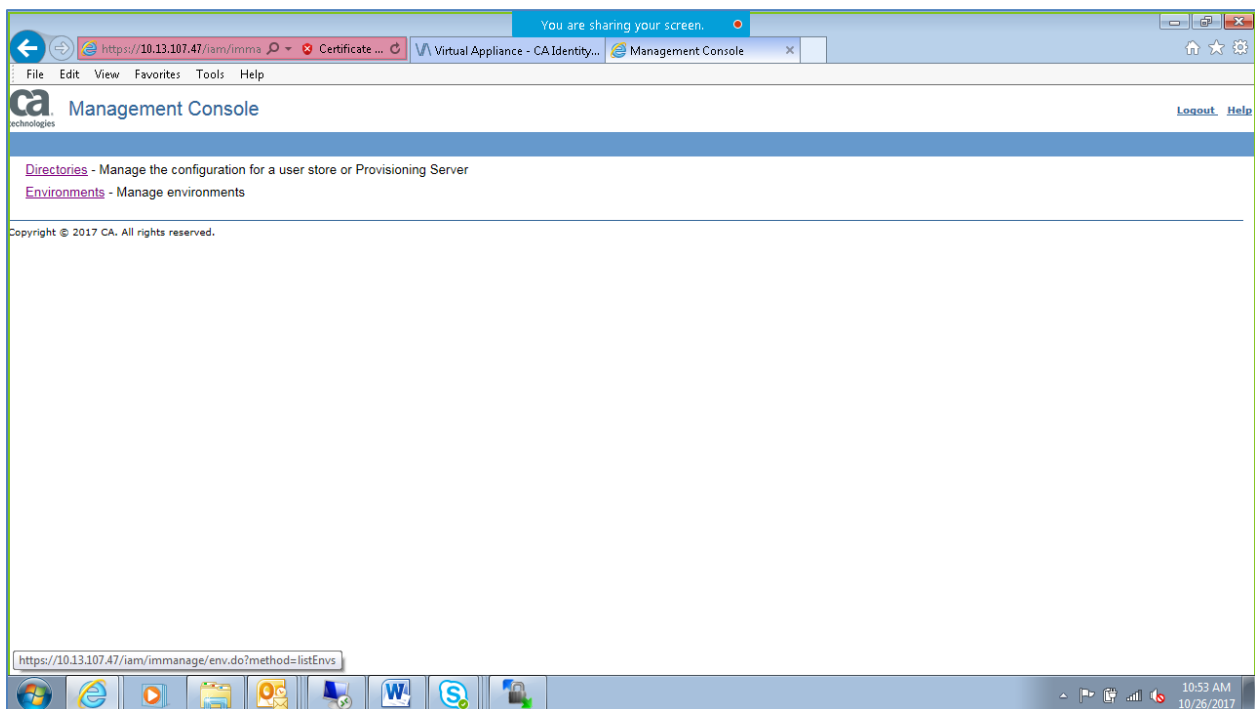


Restart Tomcat after copying the above files.

Login IM Management Console.



Click on Environments



Click on identityEnv

The screenshot shows the CA Identity Management Console interface. The browser address bar displays <https://10.13.107.47/iam/imma>. The page title is "Management Console". The breadcrumb navigation shows "Home > Environments". A table lists the environments:

Name	Description	Version	Directory
<input type="checkbox"/> identityEnv	identityEnv Environment	14.1.0.0.347	UserStore

Buttons for "Delete", "Import...", and "Export..." are visible. A note states: "Note: CA Identity Suite Virtual Appliance supports only the default IME 'identityEnv'. There is no support for custom or multiple IMEs. **Reset IME to factory settings** - A factory reset permanently erases the information and settings on the Identity Manager IME. To perform a reset, please **delete** the 'identityEnv' default IME and **restart** the appliance."

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The address bar shows the URL: <https://10.13.107.47/iam/immanage/env.do?method=editEnv&envoid=1>.

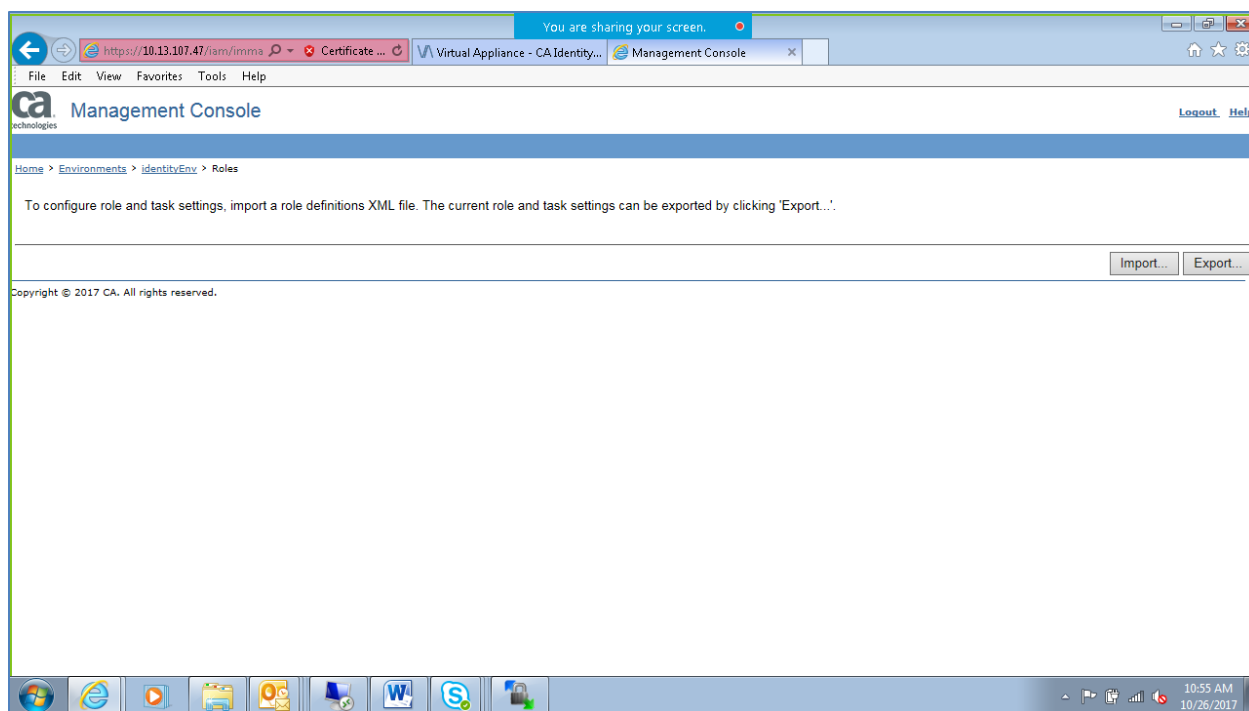
Click on Role and Task settings

The screenshot shows the "Role and Task Settings" page for the "identityEnv" environment. The page title is "Management Console". The breadcrumb navigation shows "Home > Environments". The settings are displayed in a table:

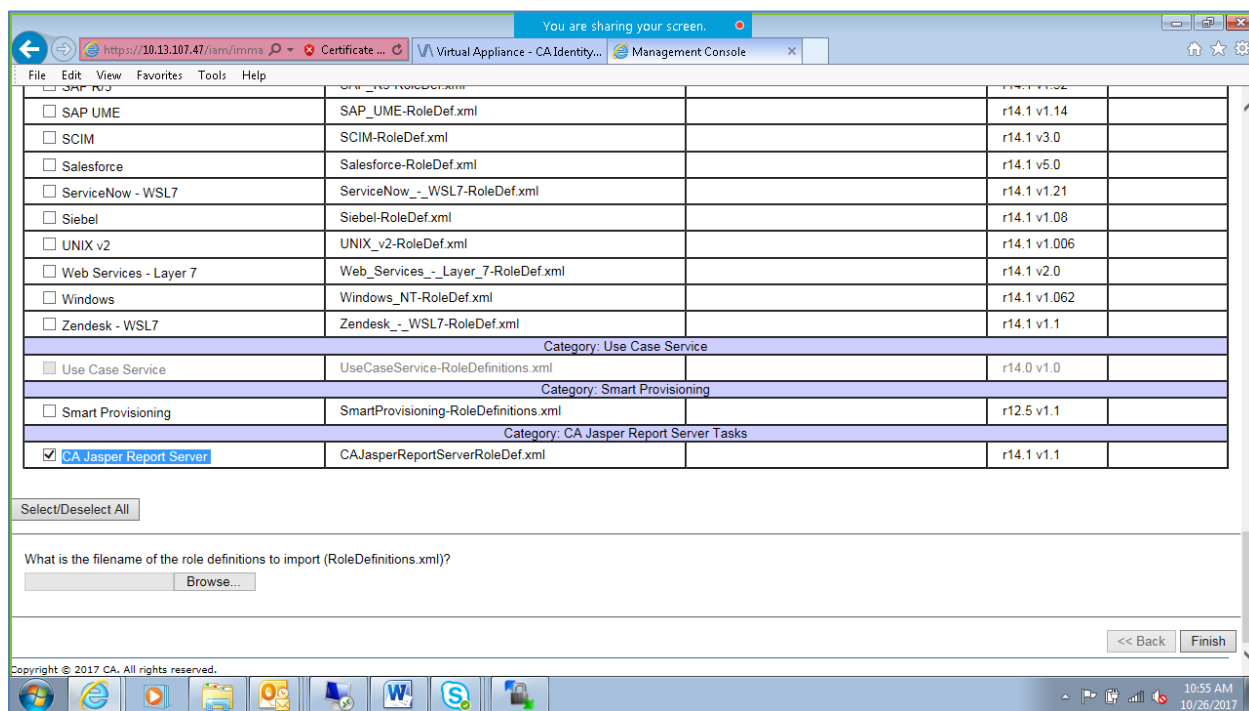
OID	1
Name	identityEnv
Description	identityEnv Environment
Directory	UserStore
Enable Verbose Log Output (Slows deployment)	<input type="checkbox"/>
Temporary Output Stream Folder	User working directory
Provisioning Server	ProvStore
Version	14.1.0.0.347
Base URL	http://10.13.107.47:8080/
Protected Alias	identityEnv
Public Alias	pubidentityEnv
Public User	<input type="text"/> <input type="button" value="Validate"/>
	Unique Name: uid=publicuser,ou=people,ou=im,ou=ca,o=com
Job Timeout	User Console
Status	Running <input type="button" value="Restart Environment"/> <input type="button" value="Stop"/>
Restart 'In Progress' Events	<input type="button" value="Post Events"/>

Links for "Advanced Settings", "Role and Task Settings", and "System Manager" are visible. A "Save" button is at the bottom right. The address bar shows the URL: <https://10.13.107.47/iam/immanage/env.do?method=editRoles&envoid=1&envname=identityEnv>.

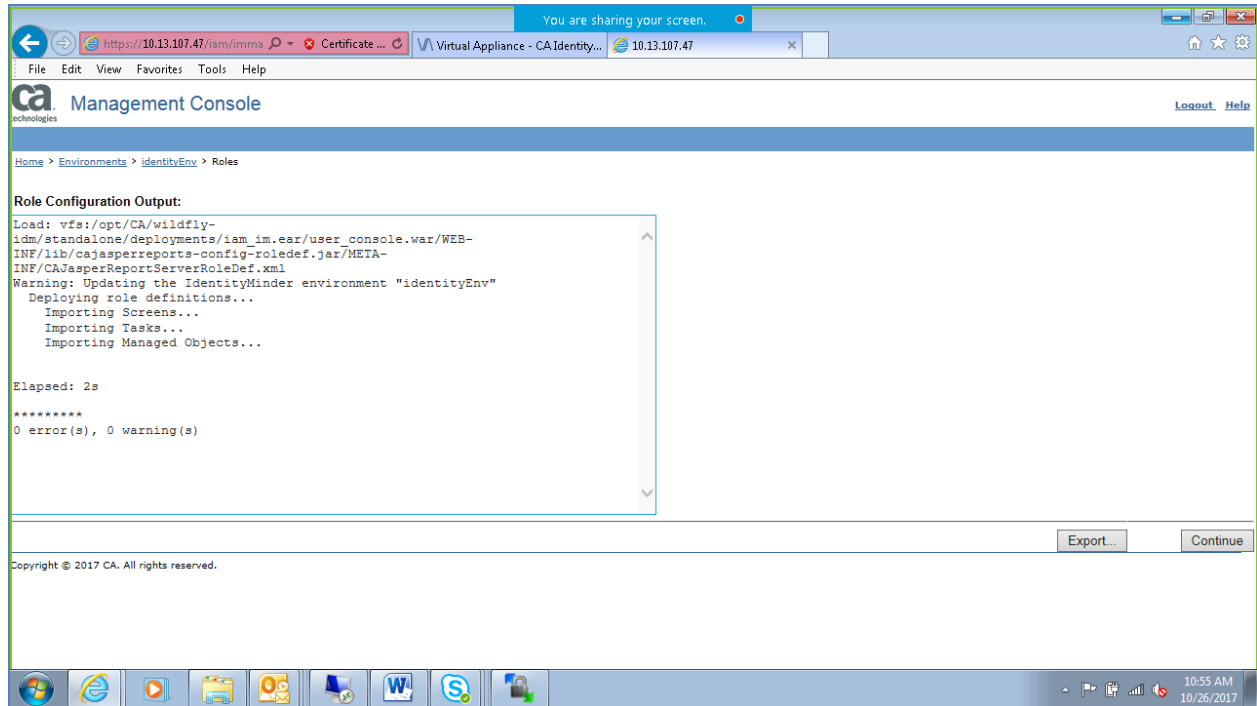
Click on Import



Select “CA Jasper Report Server”



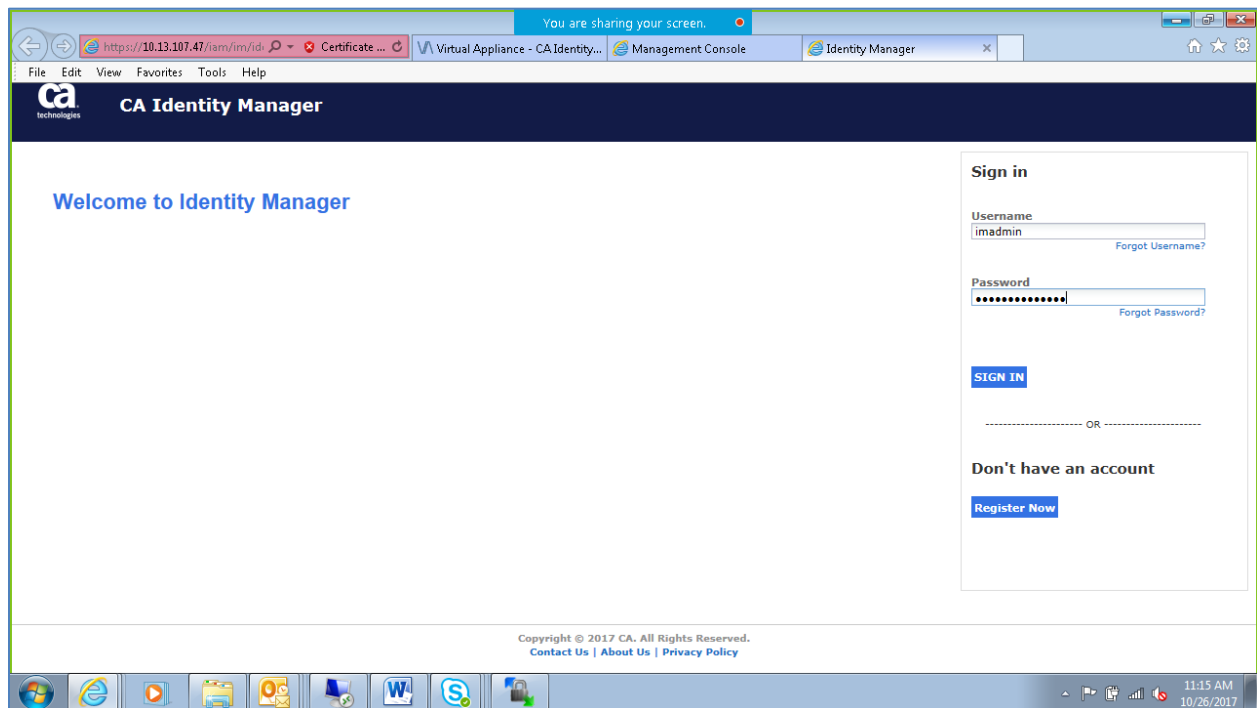
Click Finish



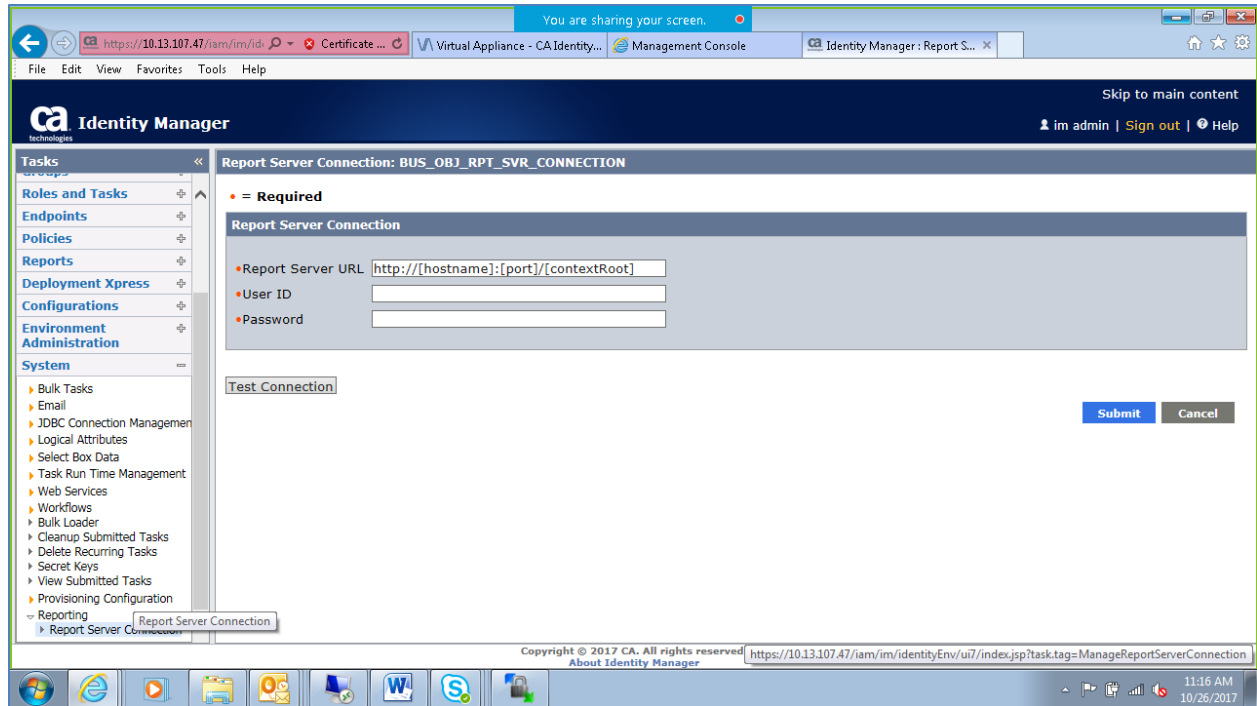
..

Click continue and Restart Environment

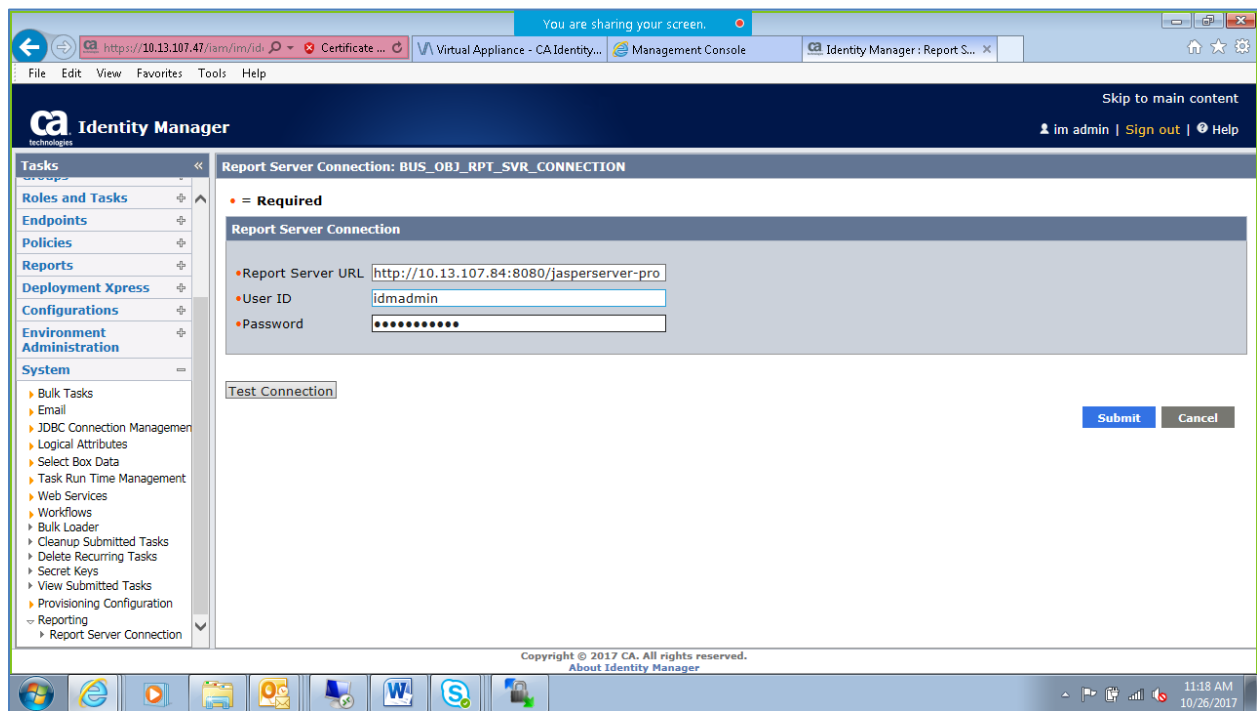
Login to IM User Console



System ->Reporting ->Report Server Connection



Provide the Report Server URL. Enter username as idmadmin and password.



..

Click on Test connection. The below Connection established successfully is displayed.

CA Identity Manager

Report Server Connection: BUS_OBJ_RPT_SVR_CONNECTION

Confirmation: Connection established successfully.

Required

Report Server Connection

Report Server URL: http://10.13.107.84:8080/jasperserver-pro

User ID: idmadmin

Password:

Test Connection

Submit Cancel

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About Identity Manager

11:02 AM
10/27/2017

Click on Submit.

Create a Snapshot Database Connection.

CA Identity Manager

Create Snapshot Database Connection: rptParamConn

Required

Connection Name: rptParamConn

Connection Type: Snapshot

Description: Derived From rptParamConn

Connection Details

Protocol Type: JDBC

JDBC Driver Class: com.microsoft.sqlserver.jdbc.SQLServerDriver

Database Name: lmreptdb

Host Name: 10.13.107.94

Port #: 1433

User ID: U4CISSQ4

Password:

JDBC Select Method(Cursor): Cursor

Default Connection: ☐

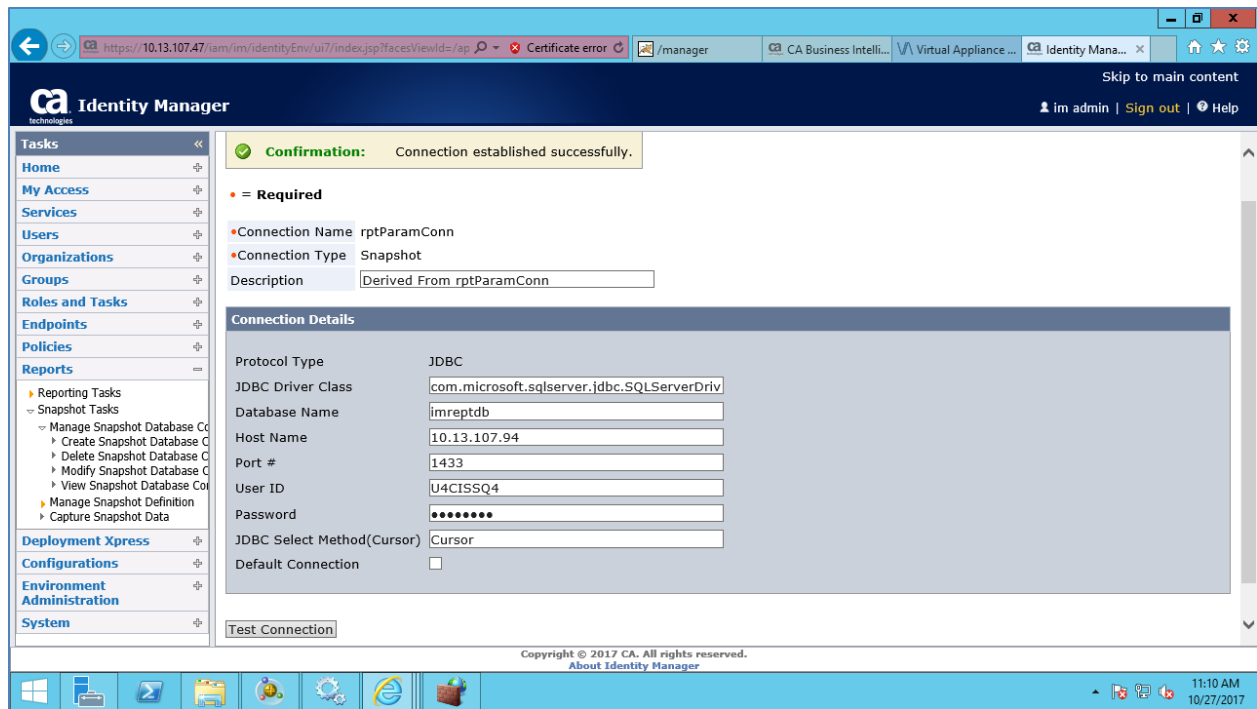
Test Connection

Submit Cancel

11:09 AM
10/27/2017

Enter password, then click on **Test Connection**.

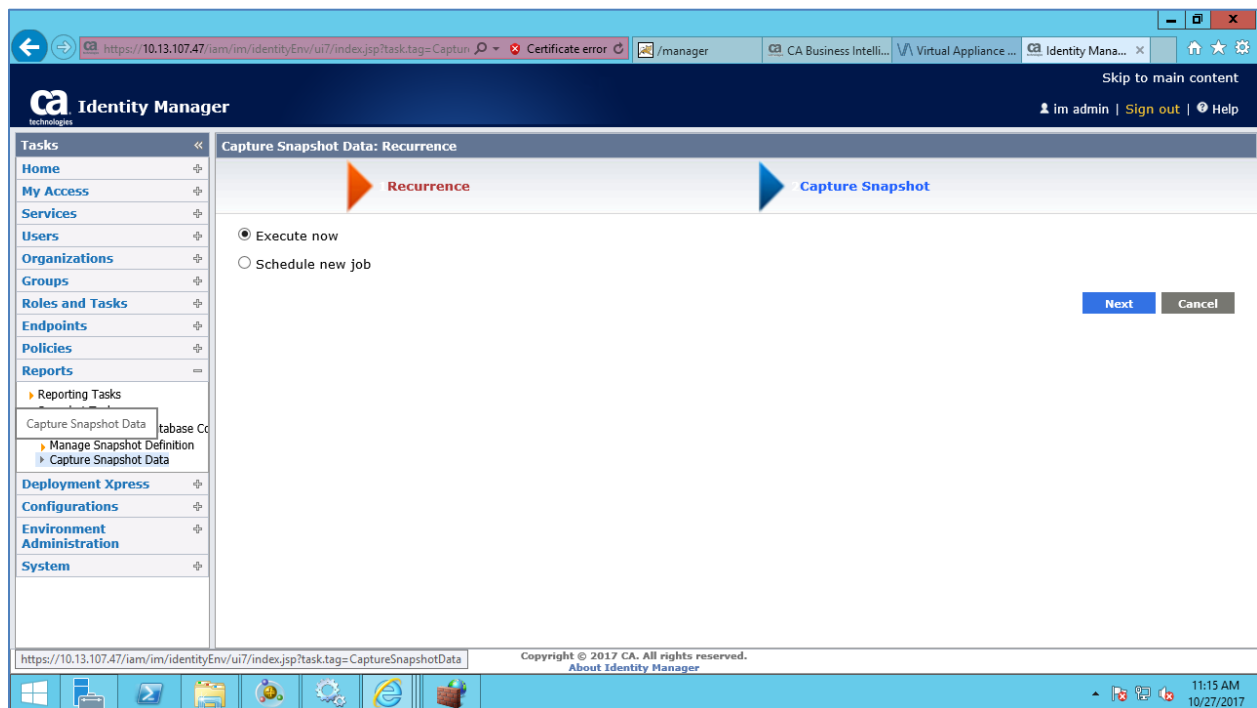
The below Connection established successfully message is displayed.



Click on **Submit**.

Verify Installation

Go to the IM User Console and navigate to Capture Snapshot Data shown in the below screen. Select Execute Now and click Next.



Select "Roles Report Snapshot" and click Finish.

CA Identity Manager

Tasks: Home, My Access, Services, Users, Organizations, Groups, Roles and Tasks, Endpoints, Policies, Reports (Reporting Tasks, Snapshot Tasks, Manage Snapshot Database Connection, Manage Snapshot Definition, Capture Snapshot Data), Deployment Xpress, Configurations, Environment Administration, System.

Capture Snapshot Data: Capture Snapshot

Recurrence

Required

Snapshot Definition

- Account Details Report Snapshot
- Role Administrators Report Snapshot
- Role Members Report Snapshot
- Role Owners Report Snapshot
- Roles Report Snapshot
- Task Roles Report Snapshot
- User Accounts Report Snapshot
- User Entitlements Report Snapshot
- User Policy Sync Status Report Snapshot
- User Profile Report Snapshot
- User Roles Report Snapshot
- Administration Report Snapshot
- Endpoint Accounts Report Snapshot
- Endpoint Details Report Snapshot
- Export All Sample Snapshot
- Non-Standards Accounts Report Snapshot
- Non-Standards Accounts Trend Report Snapshot
- Orphan Accounts Report Snapshot
- Policies Report Snapshot

Back Finish Cancel

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Make Sure Snapshot Completes in VST.

CA Identity Manager

Tasks: Home, My Access, Services, Users, Organizations, Groups, Roles and Tasks, Endpoints, Policies, Reports (Bulk Tasks, Email, JDBC Connection Management, Logical Attributes, Select Box Data, Task Run Time Management, Web Services, Workflows, Bulk Loader, Close Submitted Tasks), Deployment Xpress, Configurations, Environment Administration, System.

View Submitted Tasks

Description	Status	Priority	Initiated by	Submitted	Last Updated	Last Operation
Capture Snapshot Data task	Completed	Medium	imadmin	10/27/2017 11:14 AM	10/27/2017 11:16 AM	There was no workflow process mapped to this task.
Create Snapshot Database Connection task, Connection rptParamConn	Completed	Medium	imadmin	10/27/2017 11:07 AM	10/27/2017 11:10 AM	There was no workflow process mapped to this task.
Report Server Connection task, Connection BUS_OBJ_RPT_SVR_CONNECTION	Completed	Medium	imadmin	10/27/2017 11:00 AM	10/27/2017 11:06 AM	There was no workflow process mapped to this task.

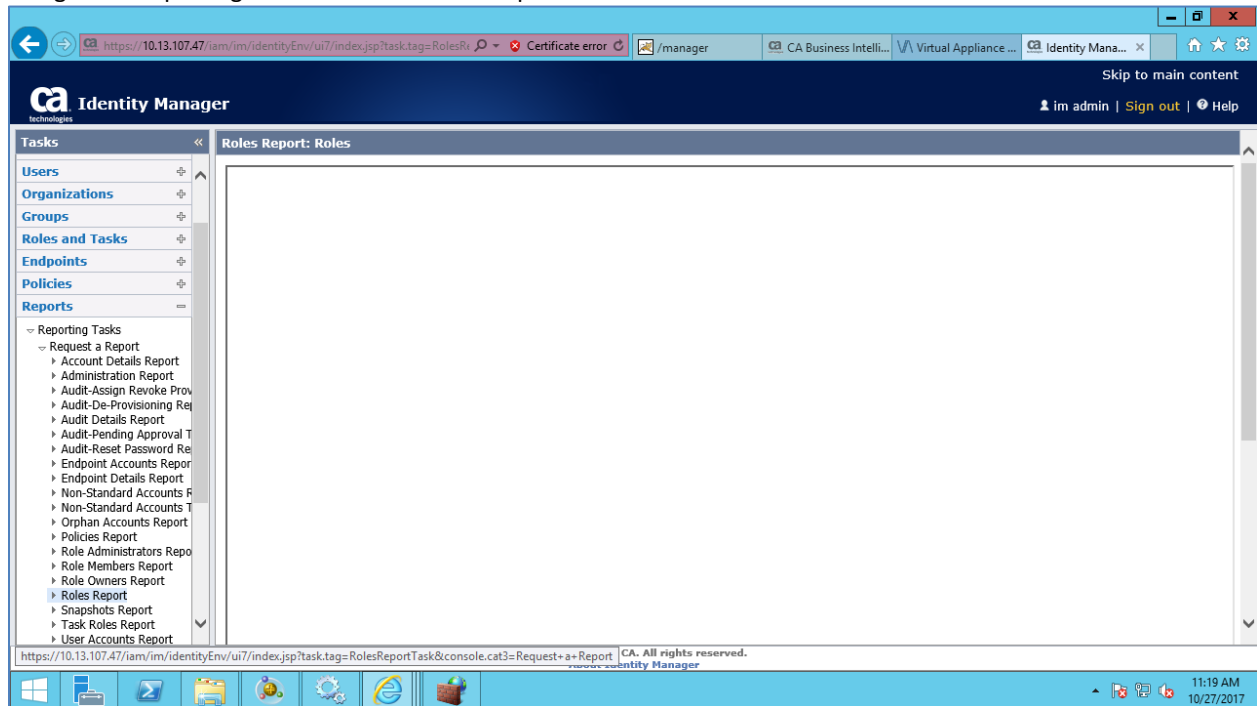
Search Tasks Refresh

Close

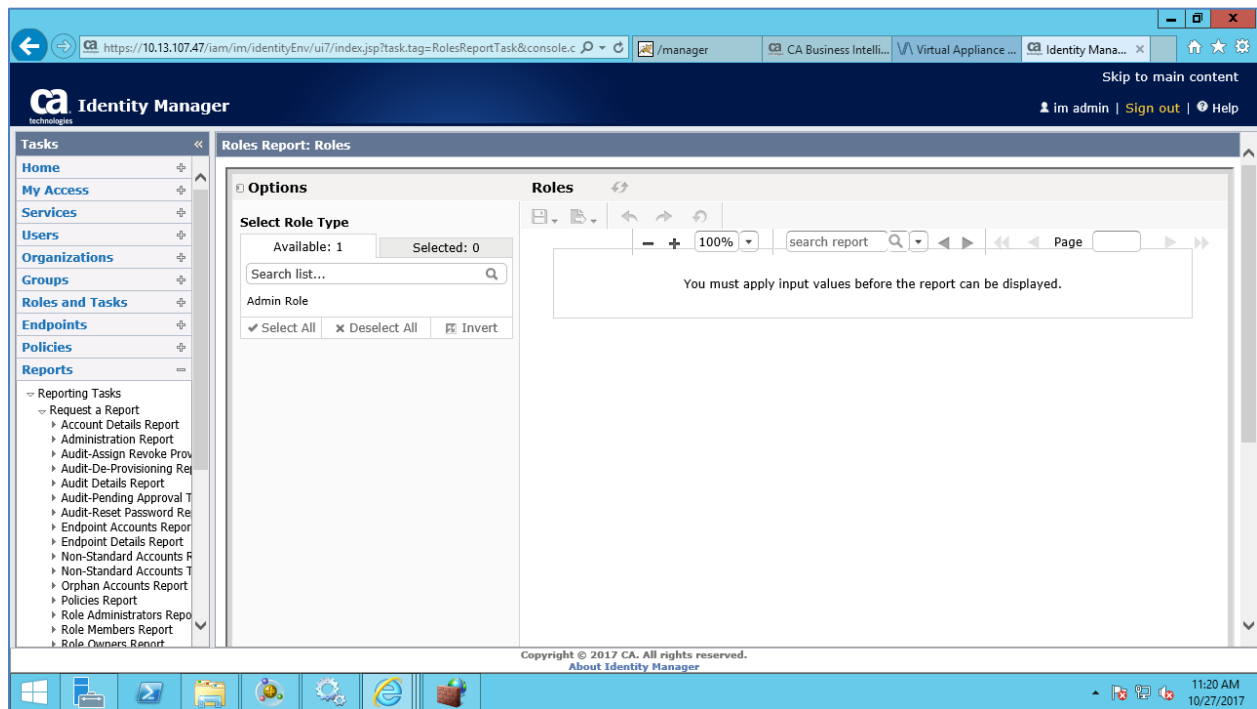
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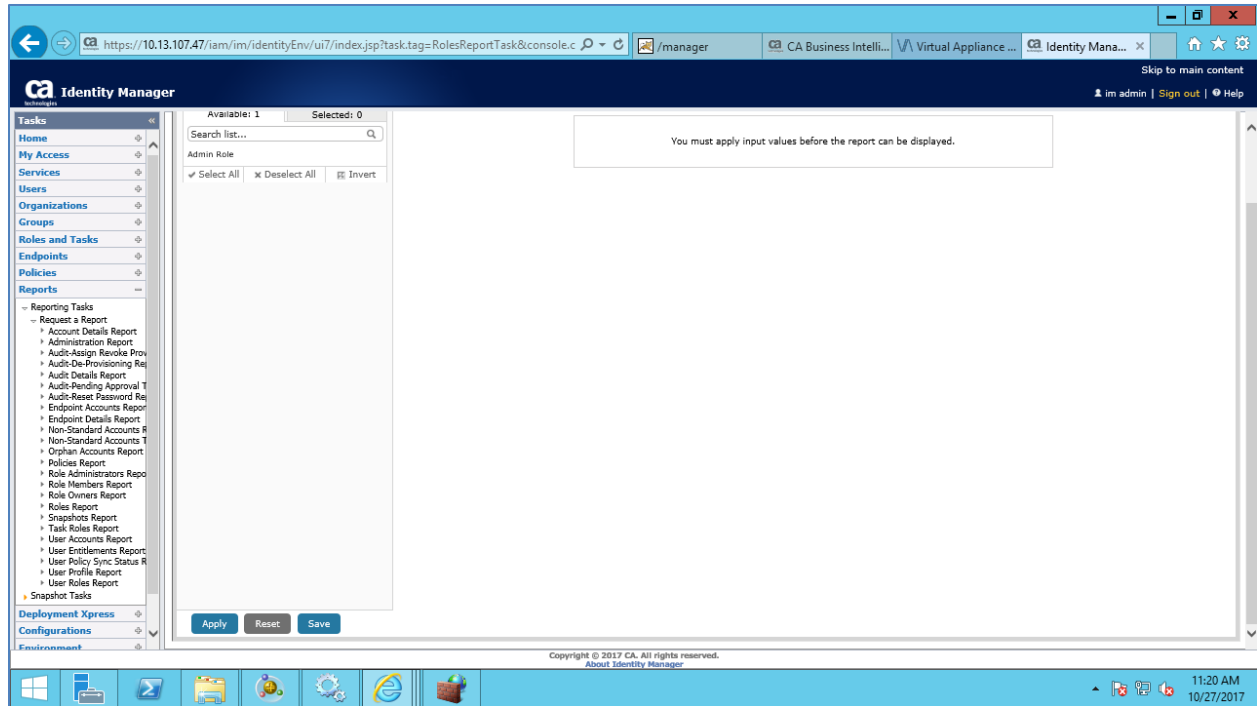
Navigate to Reporting Tasks and select Roles report.



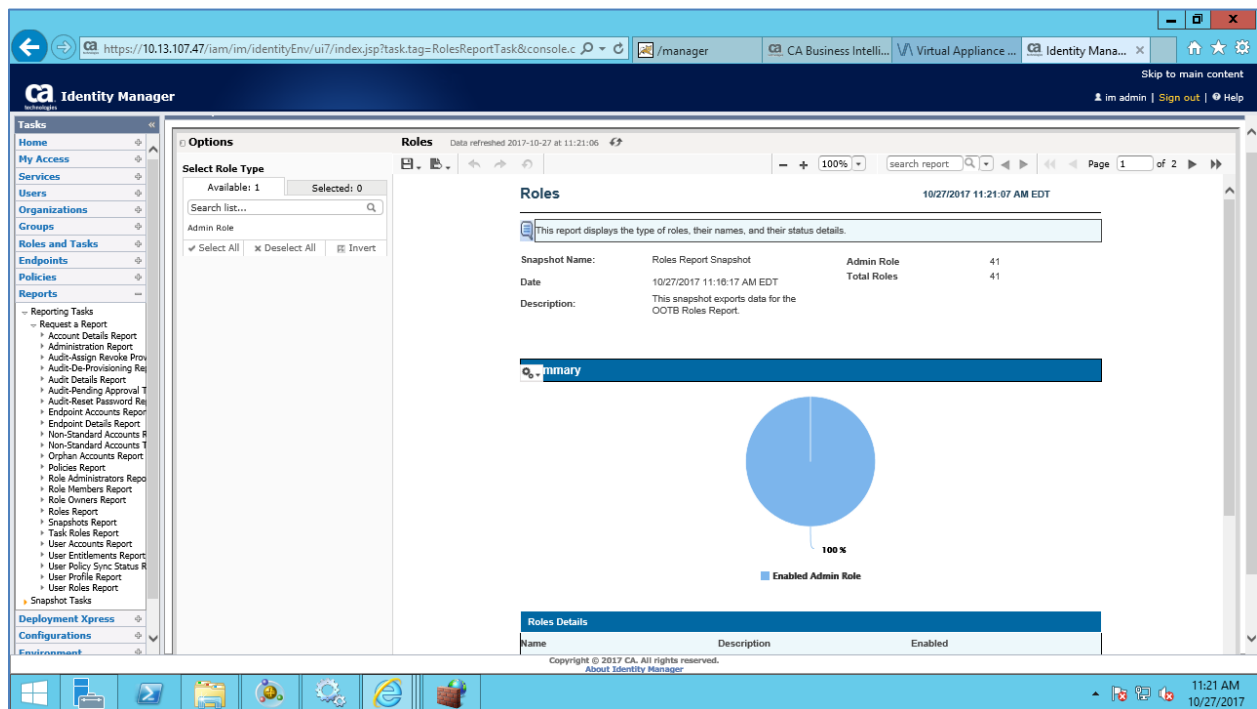
The below screen is displayed.



Click Apply to generate the report.



The below Report screen is displayed.



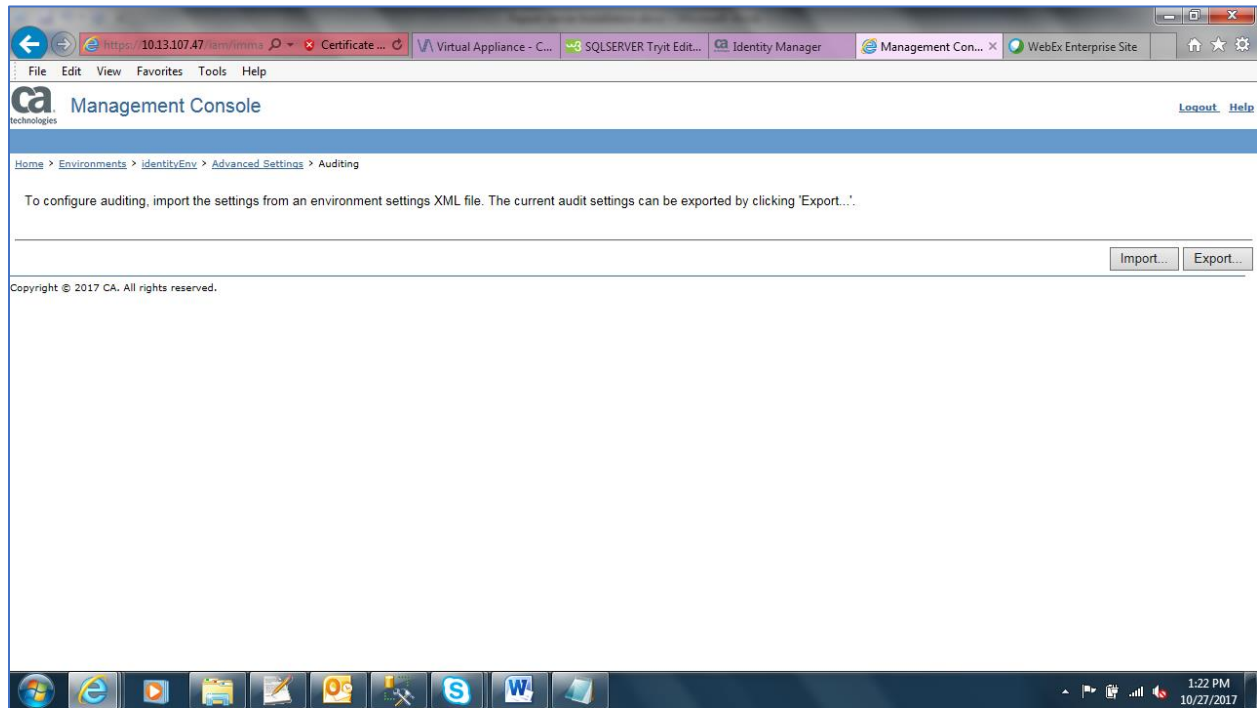
This completes the verification steps.

Enable Audit

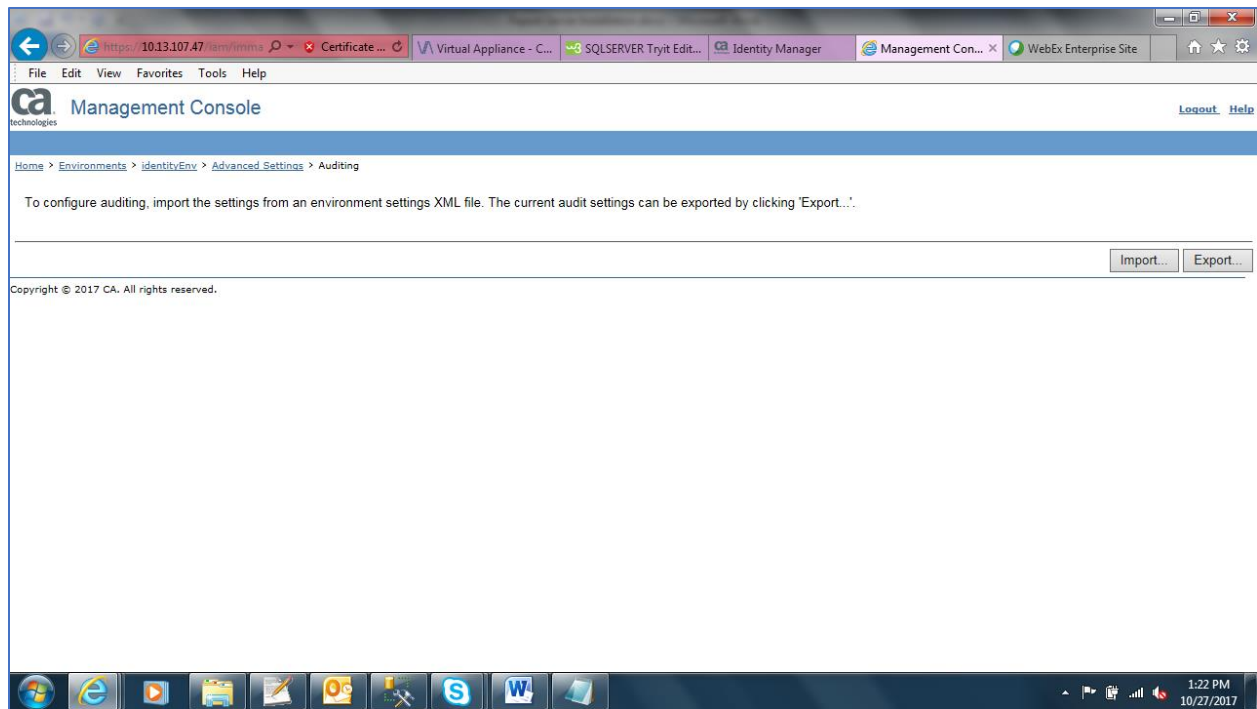
Information presented here such as URLs, Port numbers, Server names etc. are specific to Reference Architecture deployment. Please take care to include environment specific information when installing in other environments.

Enable Audit – Pre-requisites

Collection of events eligible for auditing must be configured in the IME Advanced Settings dialogue. To make the required changes, logon IM Management Console; and then navigate to Environments->identityEnv->Advanced Settings->Auditing

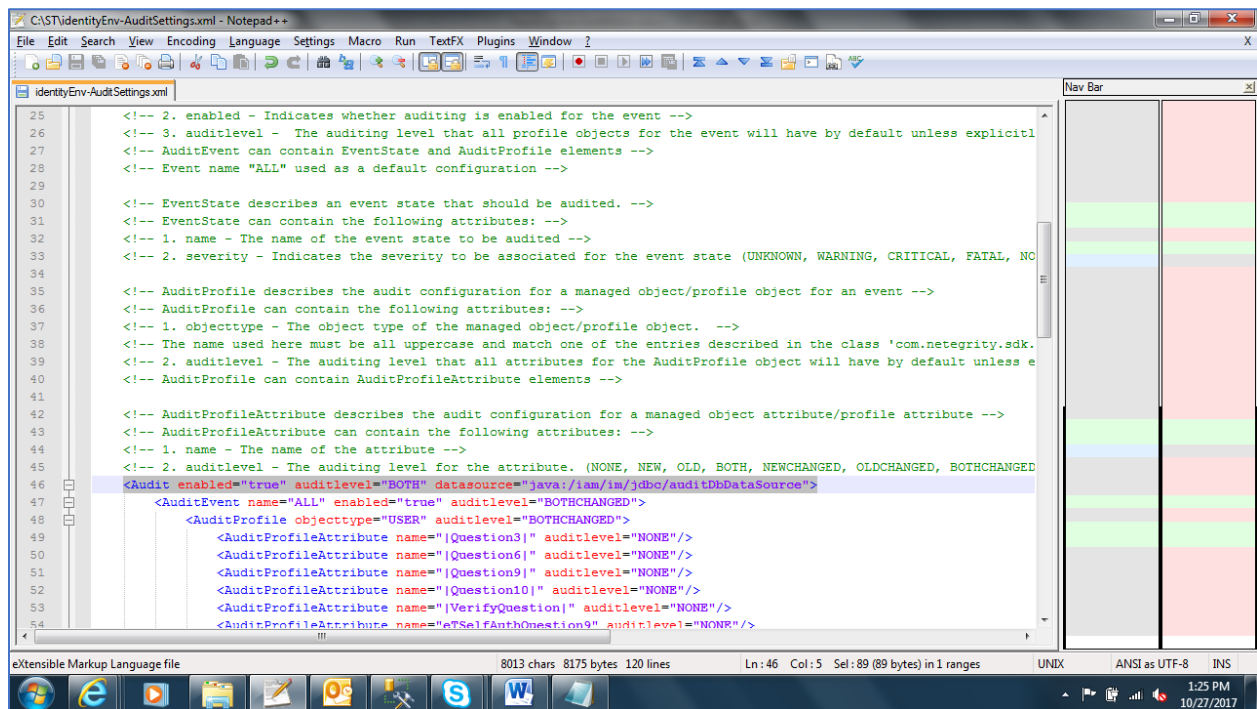


Export Audit Settings file.



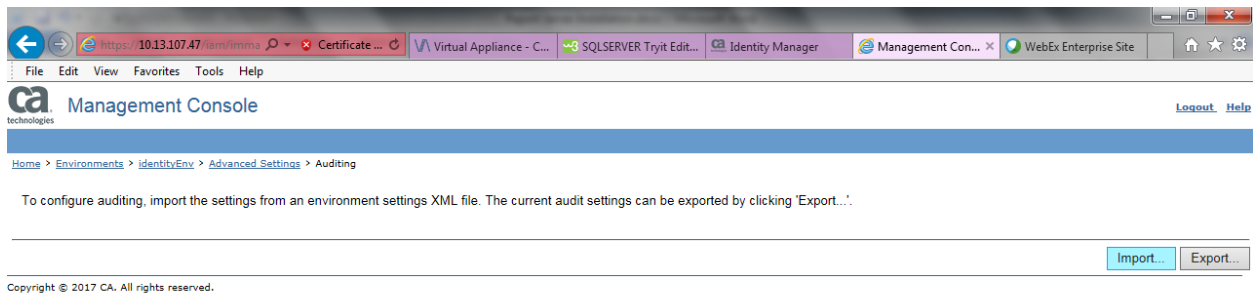
Save the file to local computer and edit the file.

Make the change as shown in the below screenshot, setting “enabled=true” and specifying the jndi-name for the Audit database parameter. Be sure you copy the jndi-name string from the standalone-full-ha.xml file exactly, aware of the case-sensitive nature of the string.

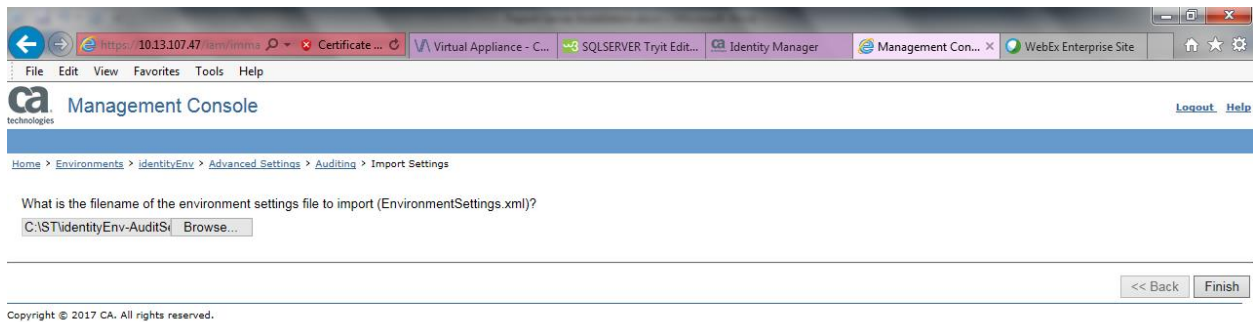


..

Import the updated file.

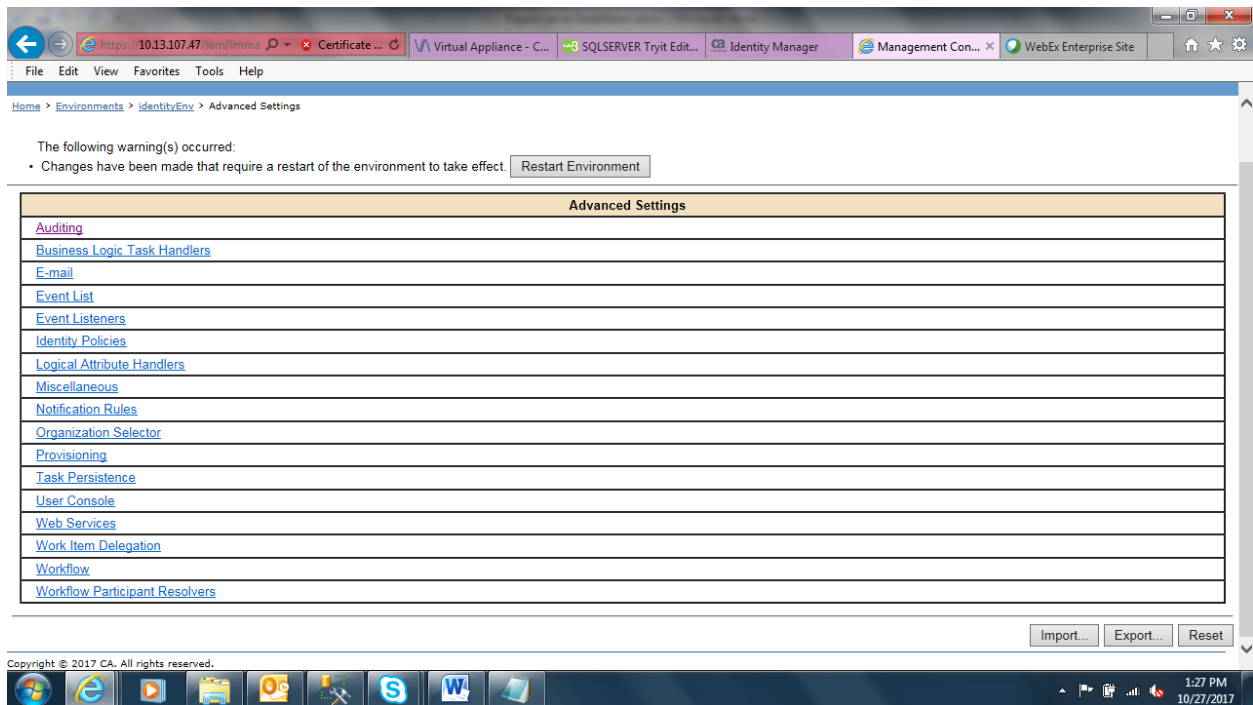


Browse and select the modified file.



..

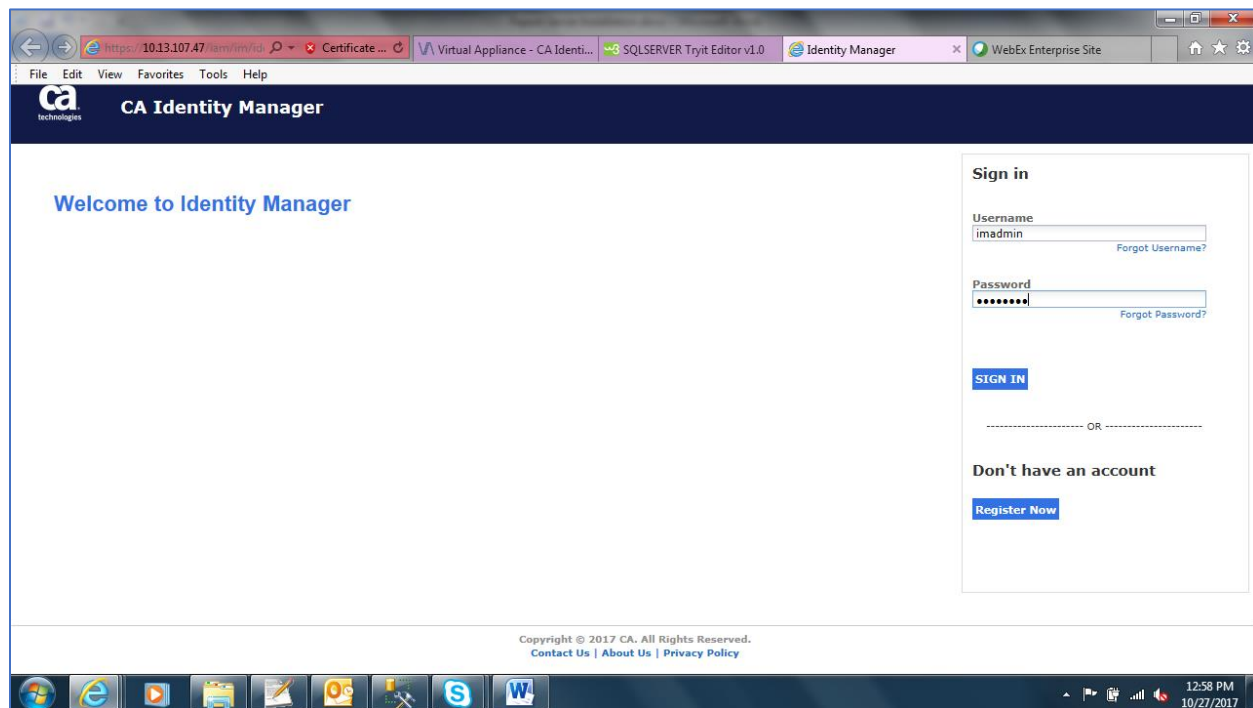
Click on finish and then Click on continue.



Restart the Environment.

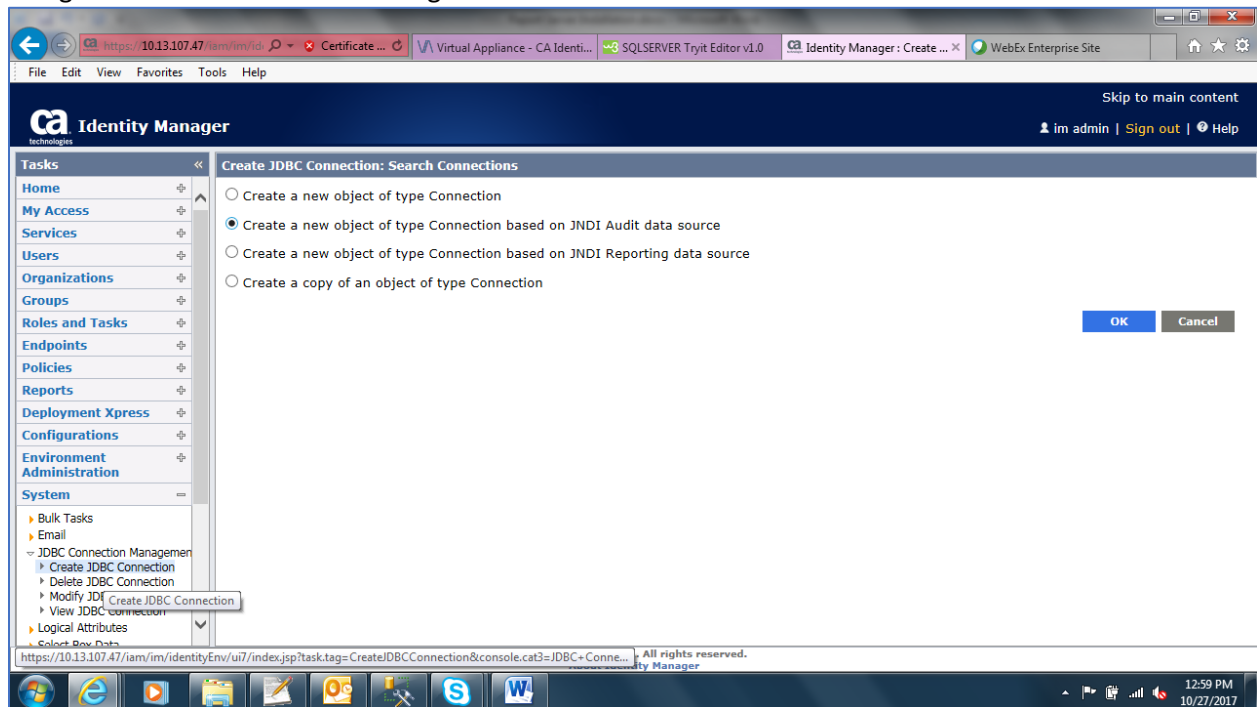
Enable Audit – Steps

Next you need to configure the JDBC connection to the Audit database. Follow the steps below, starting with the login to IM User Console.

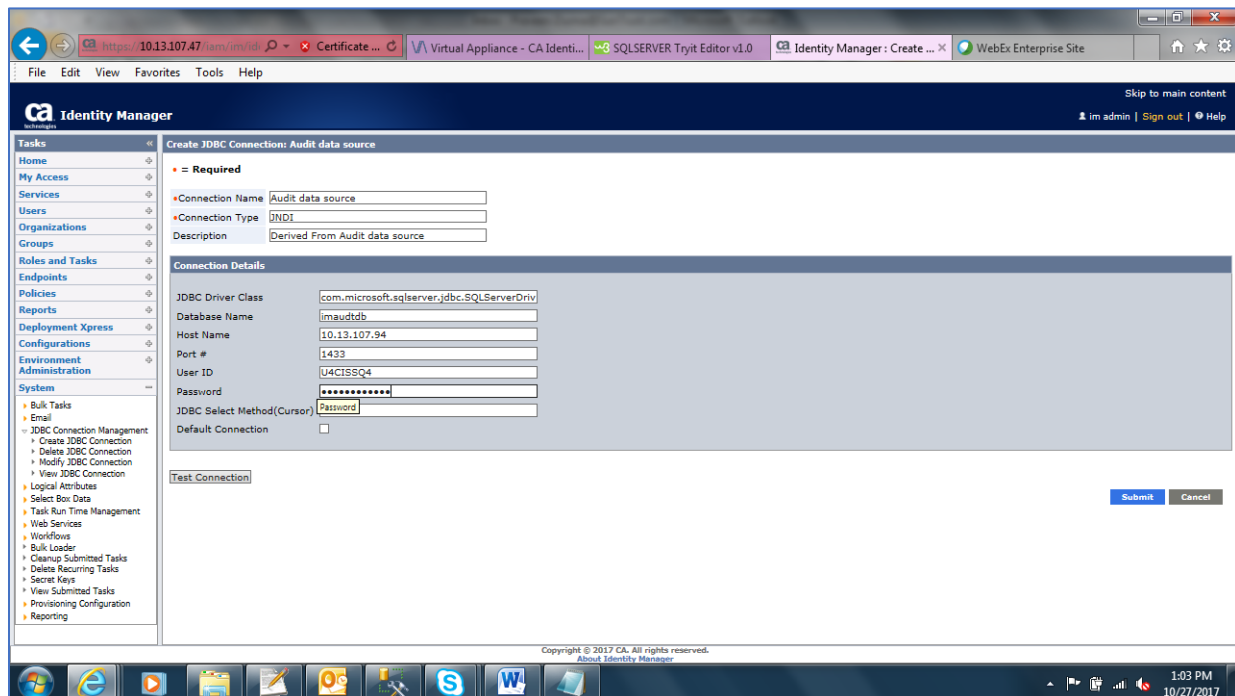


..

Navigate to JDBC Connection Management and select “Create JDBC connection”



Select the option “Create a new object of type connection based on JNDI Audit data source” and click OK.



Provide the Connection details.

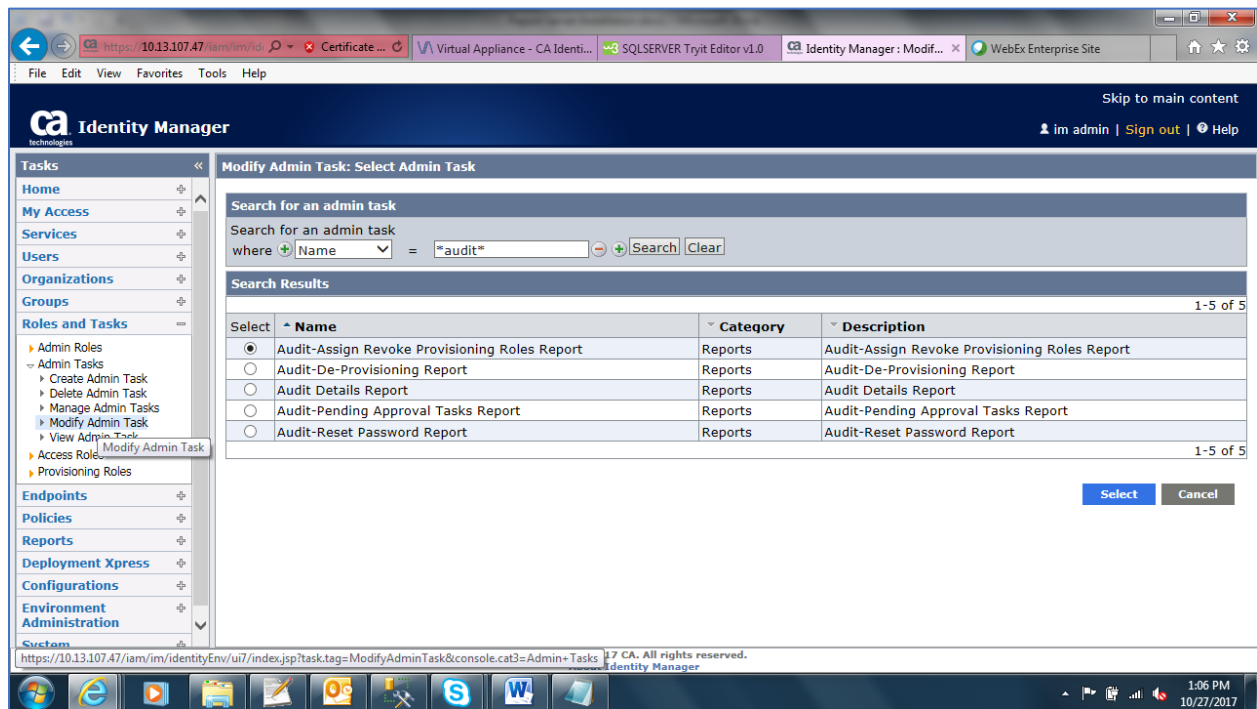
Enter Connection Type as JNDI and the required password; then click Test Connection.

If successful, the “Connection established successfully” message is displayed.

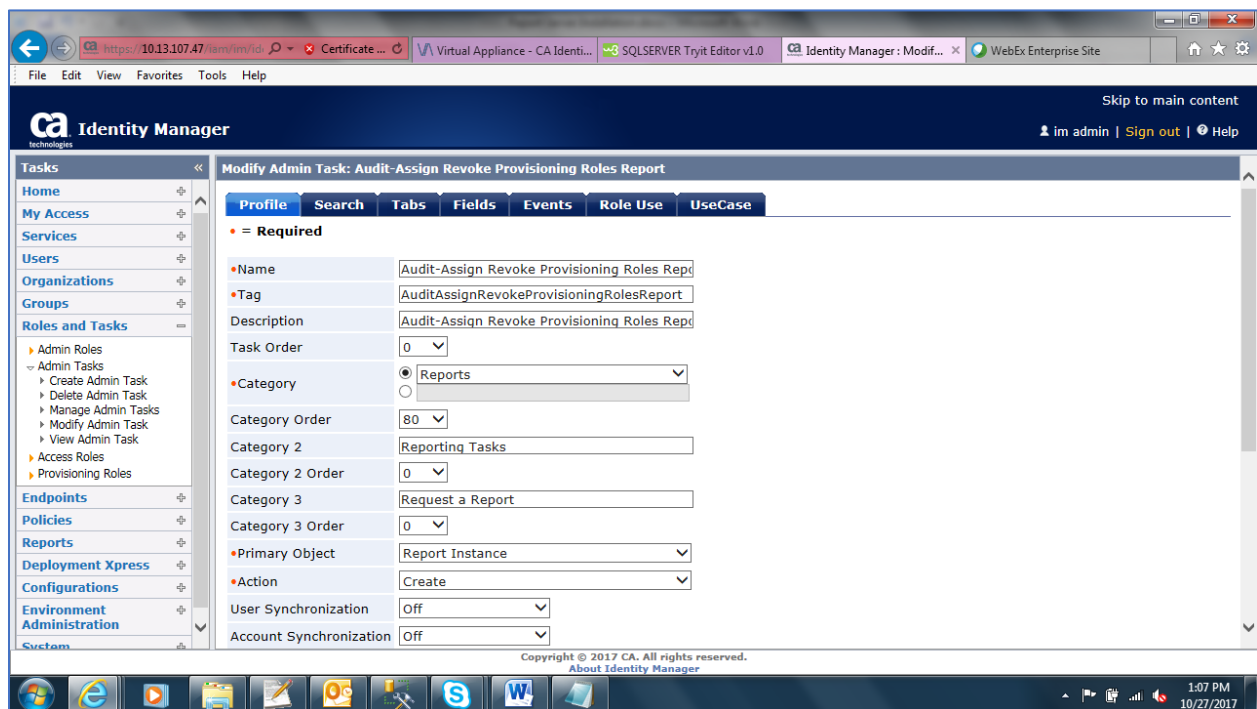
Click Submit to save the JDBC Connection configuration.

Modify Each Audit task by following the below steps.

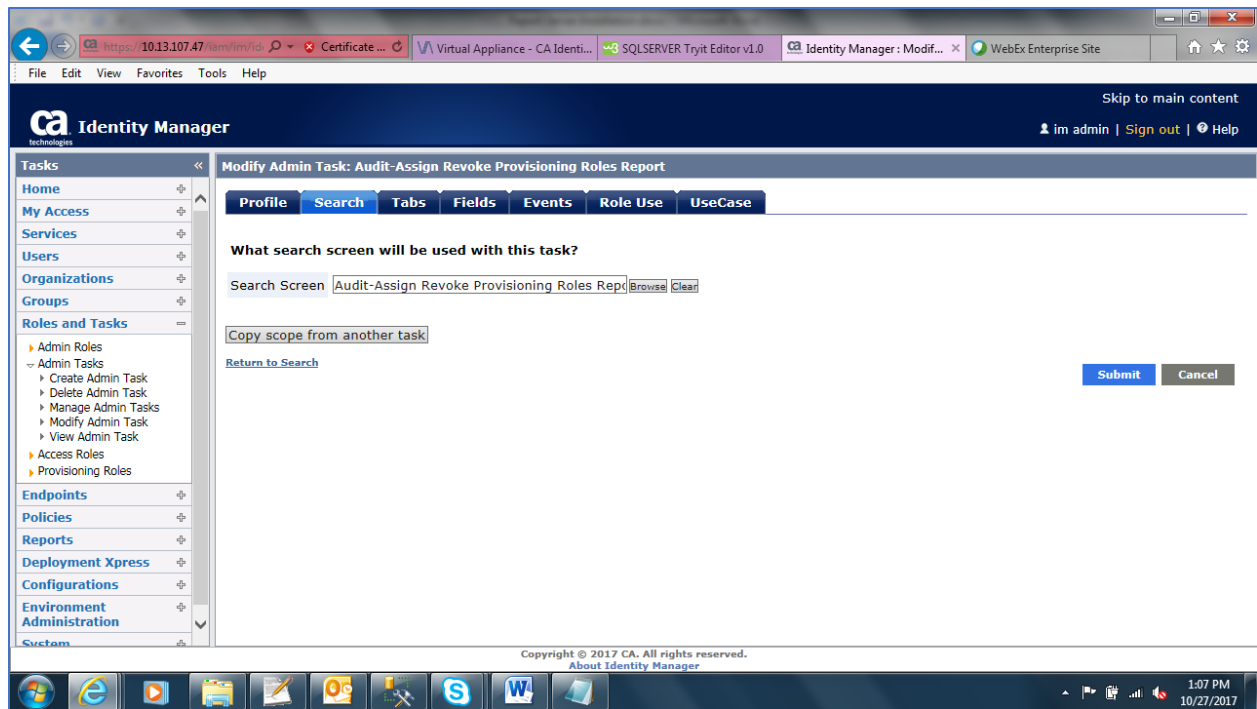
Navigate to Modify Admin task and Search for audit report tasks.



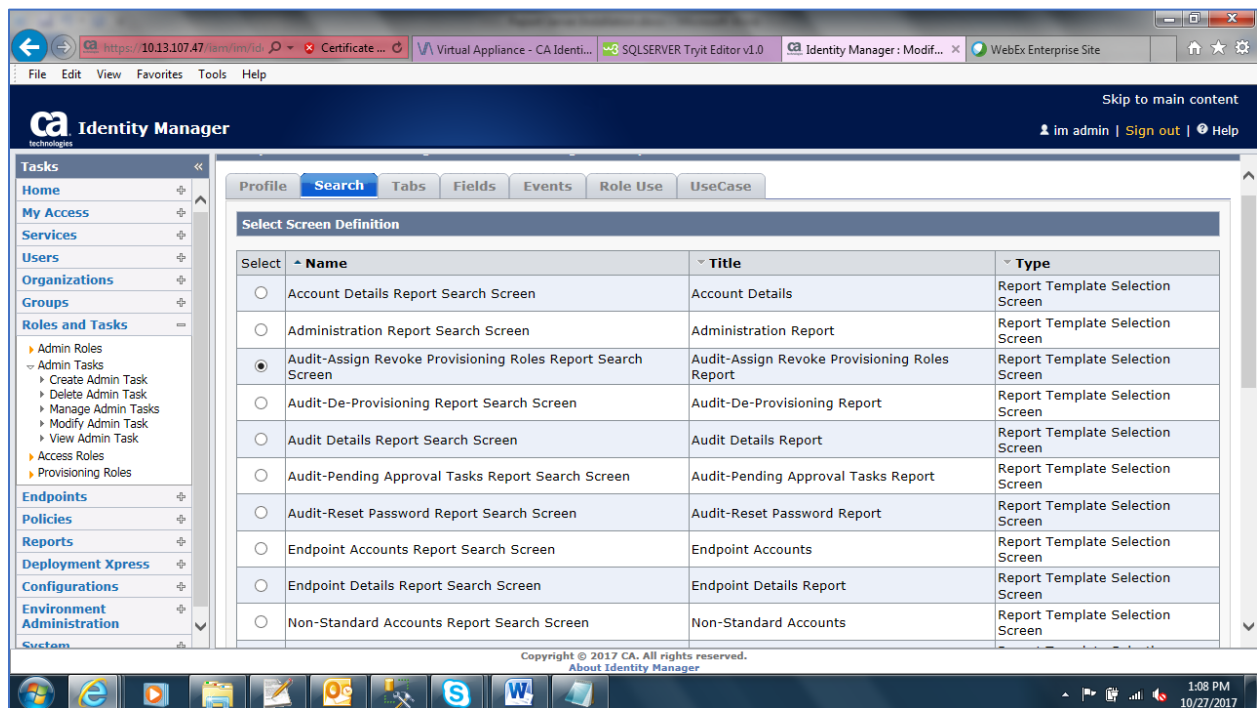
Select the Audit Assign revoke Provisioning roles Report.



Go to Search Tab



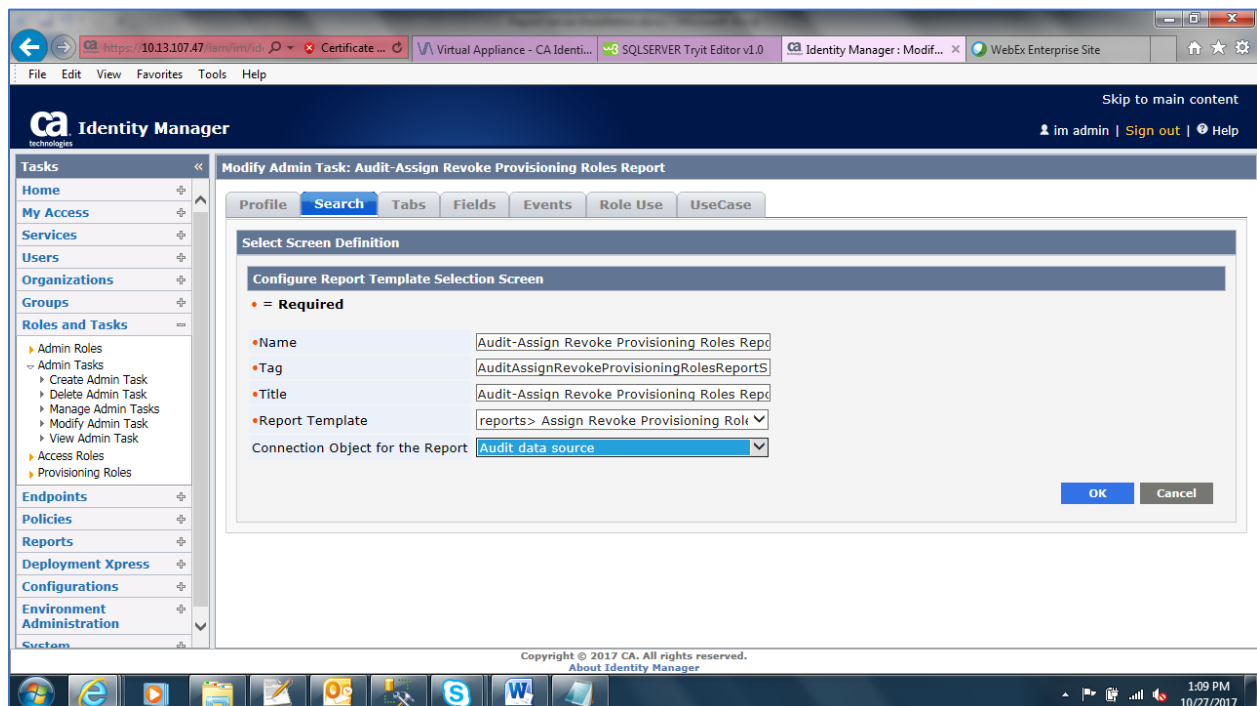
Browse the Search Screens.



Click Edit button available in the bottom of the screen.

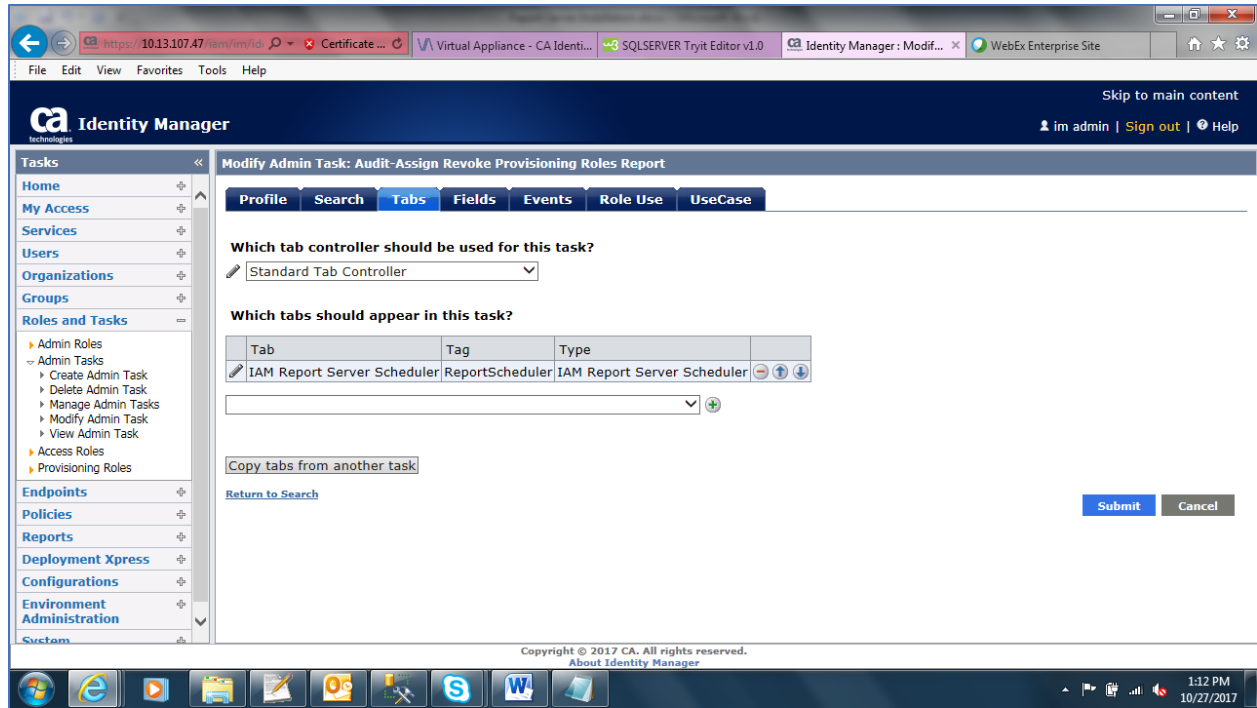


Change the object for the Report to Audit data source.



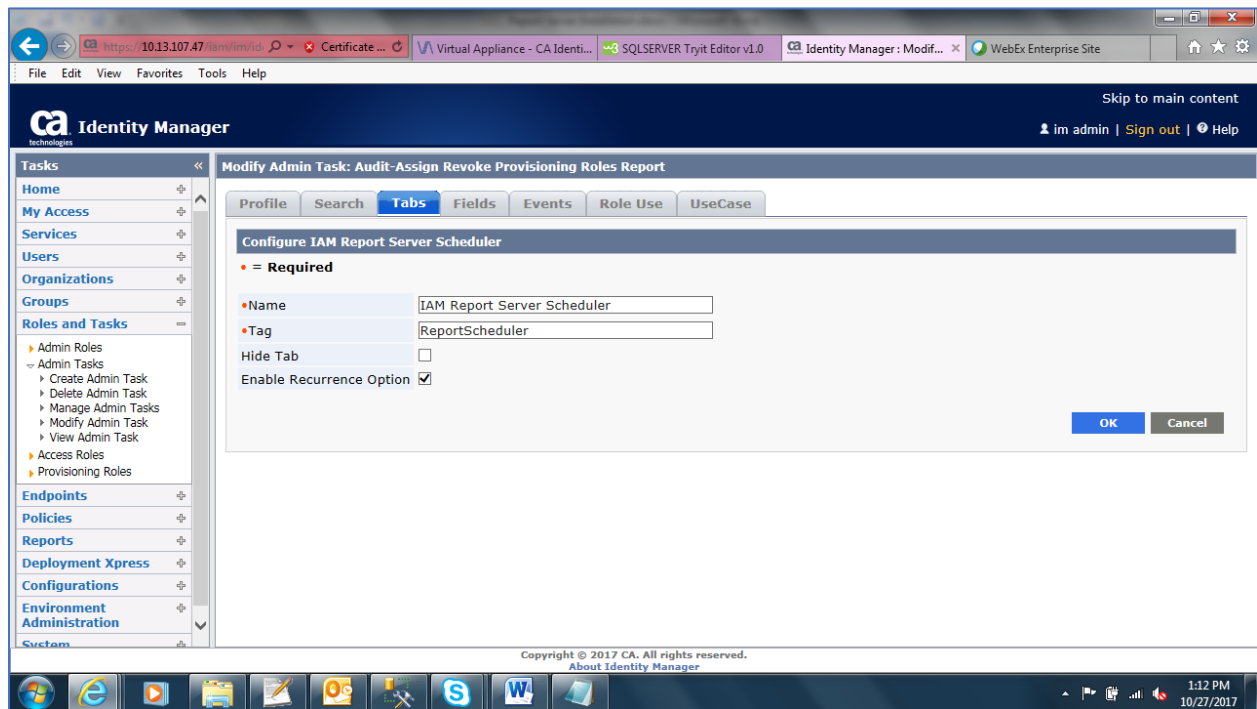
Click OK, then click on Select button available at the bottom of the page.

Click on Tabs



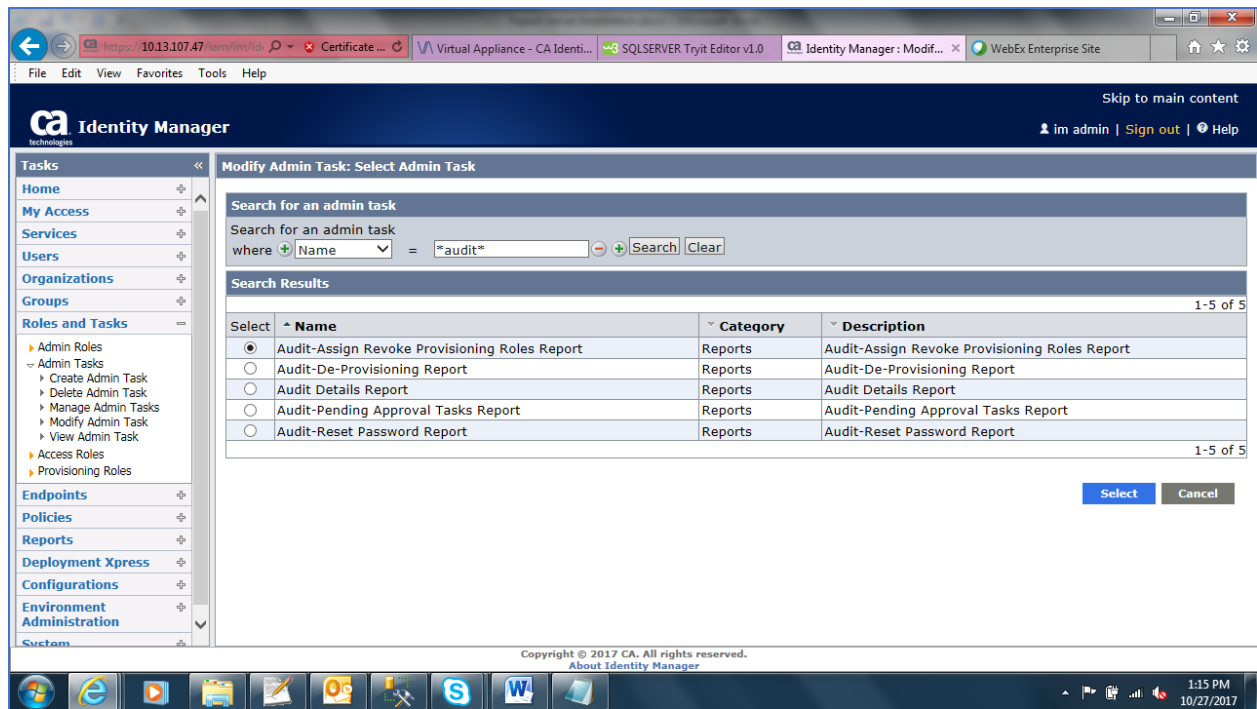
Edit IAM Report Server Scheduler.

Select “Enable Recurrence Option” and click OK.



Click on Submit to save the updated configuration.

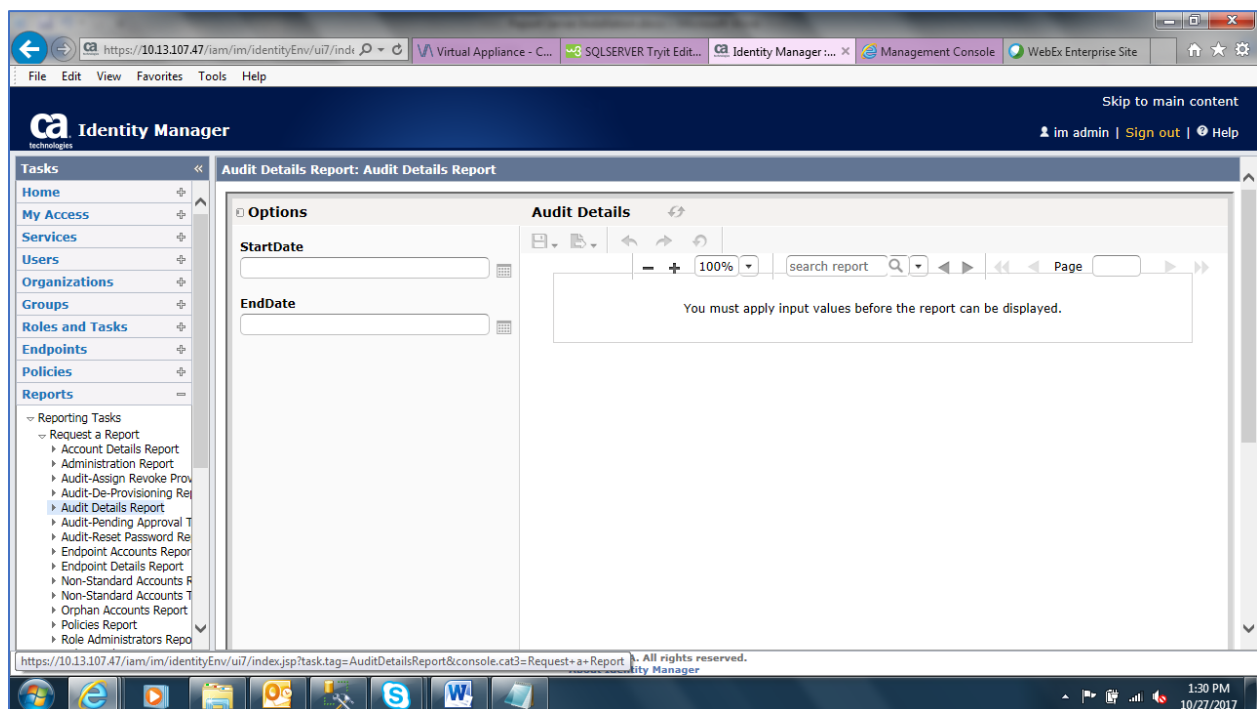
Repeat the above steps for all the Audit Tasks shown below.



Enable Audit– Verification

Verify the configuration by creating and viewing an Audit Report. Remember the auditing data is coming from the runtime tables and does not require a snapshot creation step. Login to IM User Console if you logged out after the last step shown above.

Navigate the Reporting tasks and select the Audit Details Report.



..

Enter date and time for generating the Report, similar to the example shown below but meeting your specific timeline.

StartDate

EndDate

..

Click Apply to save the filter and generate the report. The report should display as shown below.

The screenshot shows the CA Identity Manager web interface. The left sidebar contains a 'Tasks' menu with various options. The main area is titled 'Audit Details Report: Audit Details Report'. It features a 'Options' section with 'StartDate' and 'EndDate' filters set to '2017-10-27 00:00:00' and '2017-10-27 16:00:00' respectively. The 'Audit Details' section shows a report for '10/27/2017'. The report includes a table of 'Tasks Audited' with the following data:

Task	Event	Description	Date	Status	Initiated By
Logout	Logout	Logout Attempt by User 'imadmin' in Environment 'identityEnv'	10/27/17 1:28 PM	completed	imadmin
Login	Login				imadmin

Below the tasks table, there is a table for 'Attribute' values:

Attribute	Old Value	New Value
Logout		completed

This completes the verification steps.