How to Go from Zero to Hero in Two Hours with SAP Analytics Cloud

ANA264

EXERCISE 2:

How to set up SAP Analytics Cloud with SAP Cloud Connector (SCC) and SAP Cloud Agent to enable data acquisition from on-premise systems.

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SAP TECHED

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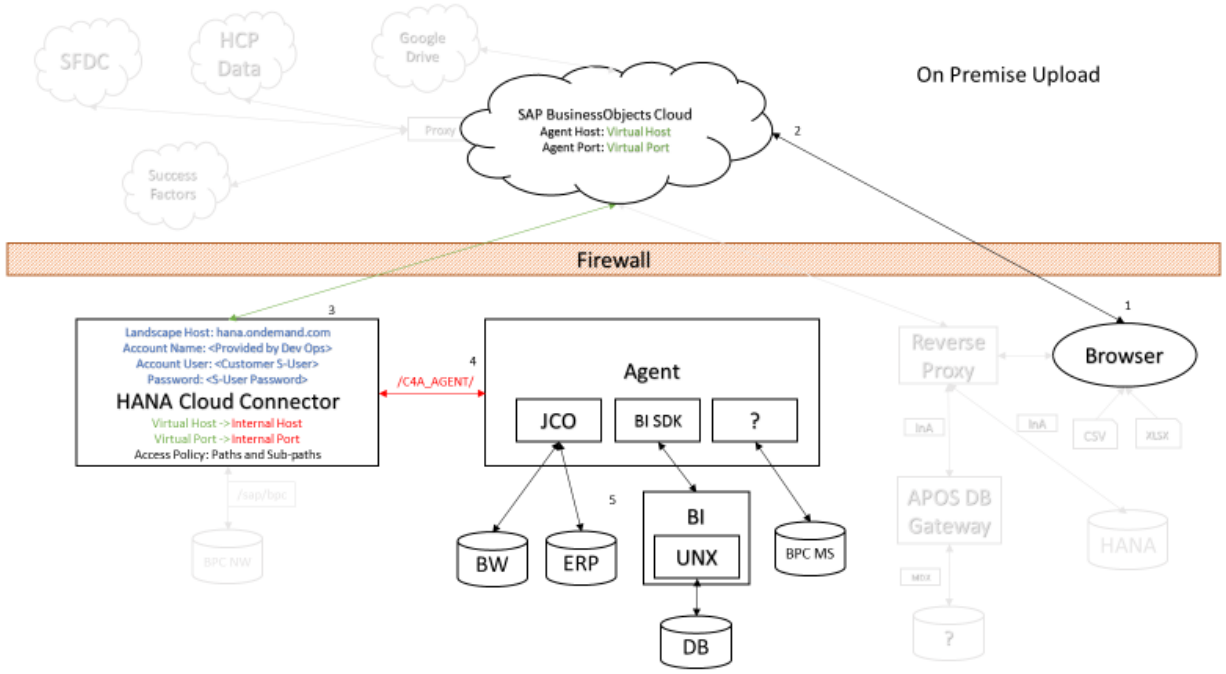
INTRODUCTION

This exercise will show you how to set up SAP Analytics Cloud, SAP Cloud Connector and SAP Cloud Agent to enable data acquisition from on-premise systems located in your local network.



The goal is to acquire data from source systems such as SAP BW, SAP BusinessObjects BI Universe, database… with these systems being installed on-premise in your local network area.

Two components are required:

1. SAP Cloud Connector
2. SAP Cloud Agent

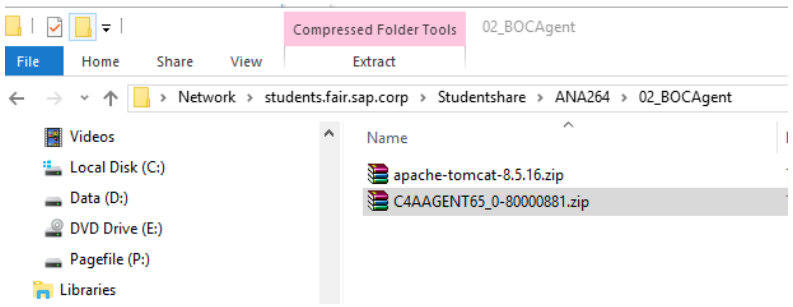
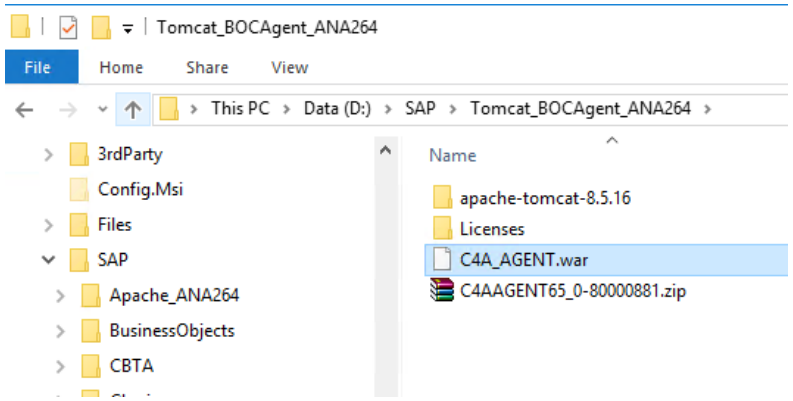
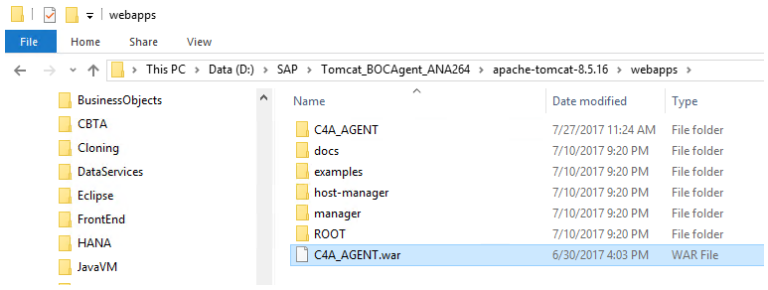
The configuration is done in three steps:

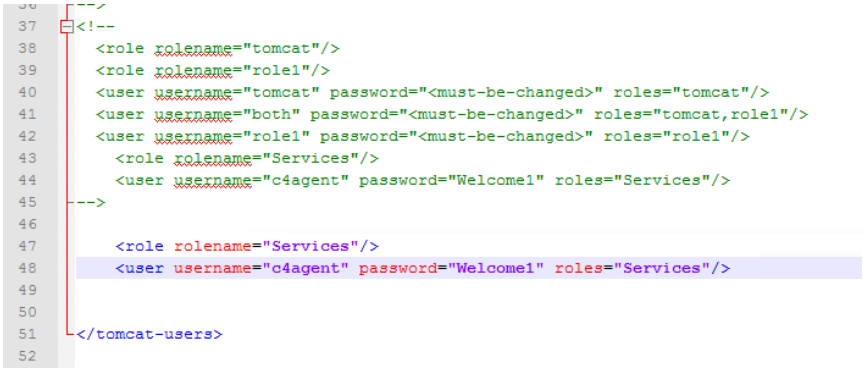
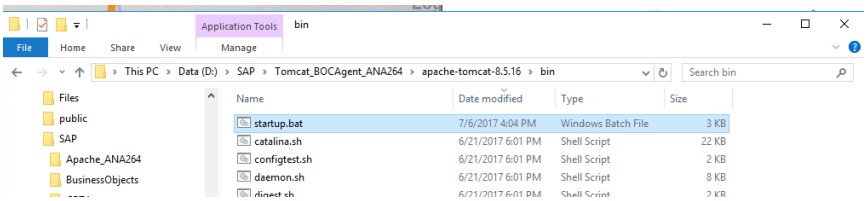
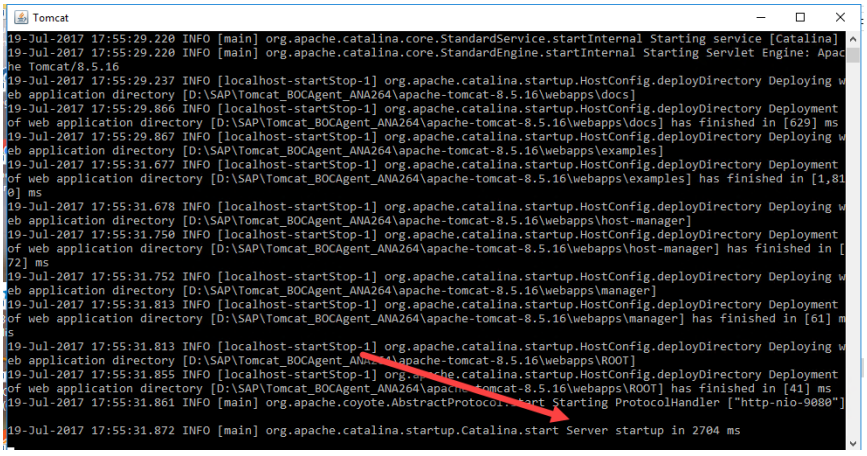
1. Install and configure the SAP Cloud Agent
2. Configure the SAP Cloud Connector to connect to the SAP Cloud Agent
3. Configure SAP Analytics Cloud (SAC) to point to the SAP Cloud Agent

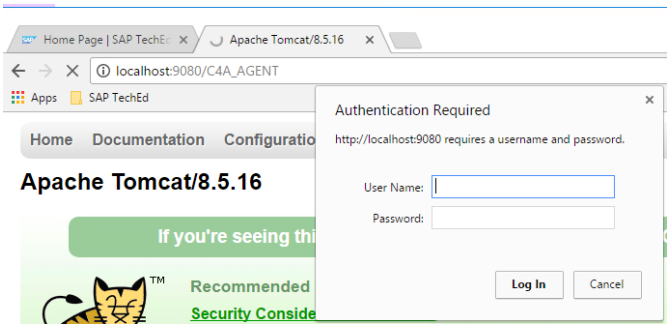
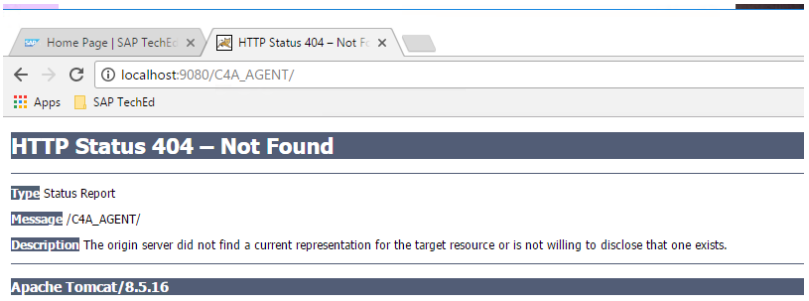
SAP CLOUD AGENT SETUP

A pre-requisite is to have Tomcat installed. For this exercise, Tomcat has already been installed in the folder *D:\SAP\Tomcat_BOCAgent_ANA264\apache-tomcat-8.5.16*.

The best way to get the latest version of the SAP Cloud Agent is to download it from SAP Software Download Center at https://support.sap.com/swdc. However, for this exercise we have made it available on a network drive.

Explanation	Screenshot
Go to the following network folder to get the latest version of the SAP Cloud Agent: \\students.fair.sap.corp\Studentshare\ANA264\02_BOCAgent Find the file *C4AAGENTxxx.zip*.	
Copy the file *C4AAGENTxxx.zip* into *D:\SAP\Tomcat_BOCAgent_ANA264* Unzip it and extract the *C4A_AGENT.war* file into that same location.	
Copy the *C4A_AGENT.war* to the folder *D:\SAP\Tomcat_BOCAgent_ANA264\apache-tomcat-8.5.16\webapps*.	

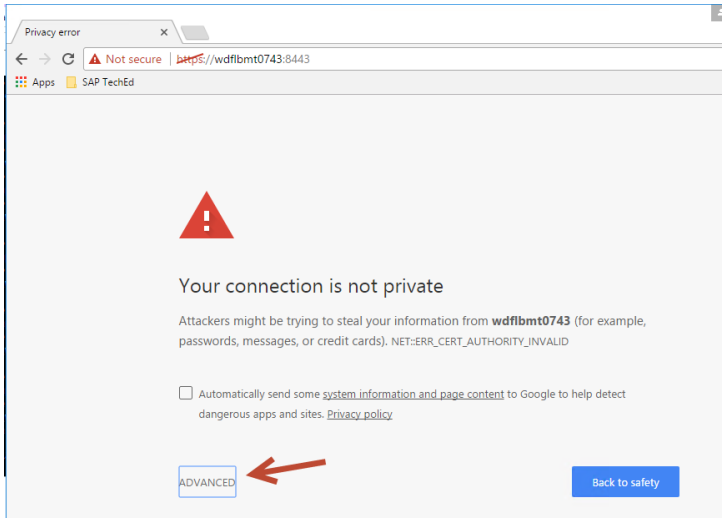
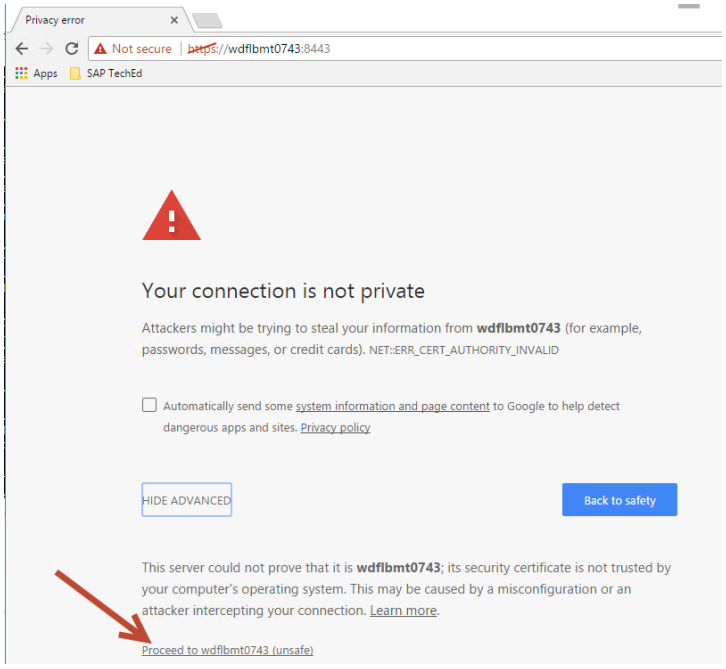
Explanation	Screenshot
Modify the *tomcat-users.xml* file located in *D:\SAP\Tomcat_BOC Agent_ANA264\apache-tomcat-8.5.16\conf* using Notepad++ (do a right click on the *tomcat_users.xml* to access Notepad++ in the menu). Add the following into the xml file and modify the username/password for your environment: **<role rolename="Services"/> <user username="c4agent" password="Welcome1" roles="Services"/>** Be careful to add these lines as displayed in the screenshot. The username/password added here will be required later when configuring the SAP Cloud Agent in SAP Analytics Cloud.	
To start Tomcat, go to the folder *D:\SAP\Tomcat_BOCAgent_ANA264 \apache-tomcat-8.5.16\bin* Double-click on *startup.bat*.	
Wait until the Command Prompt shows the server is started, like in the screenshot.	

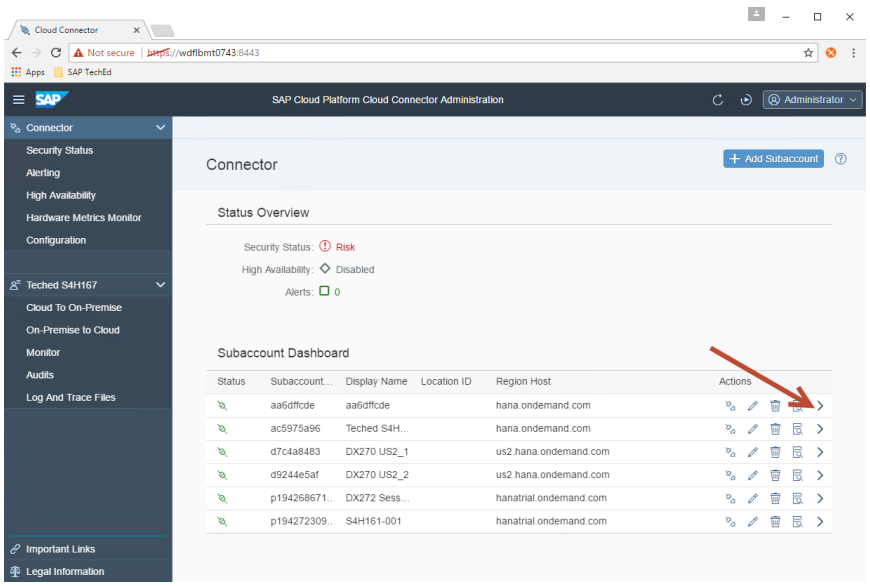
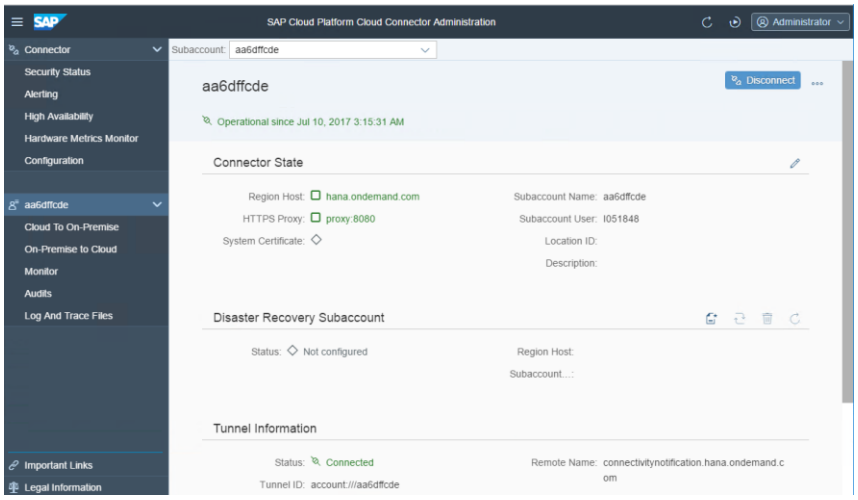
Explanation	Screenshot
Start Chrome and enter the following URL to check Tomcat has started: *http://localhost:9080/* Then enter: *http://localhost:9080/C4A_AGENT* Enter the credential as added in the *tomcat-users.xml*. User Name: c4agent Password: Welcome1	
You should see a 404 “Not Found” page. This is correct. It confirms the URL is working and the user name / password are correct.	

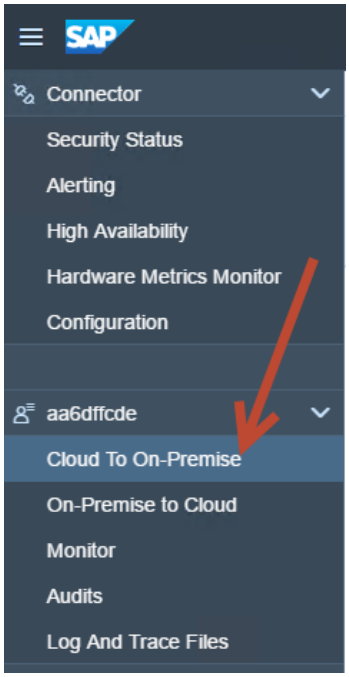
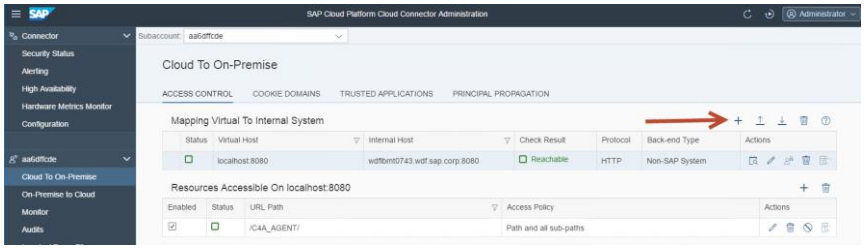
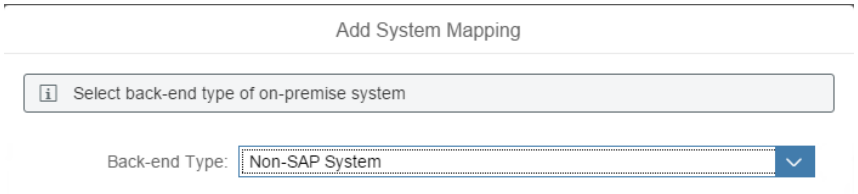
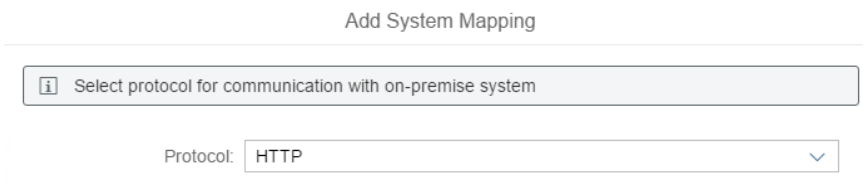
At this stage, the SAP Cloud Agent is properly up and running on your system.

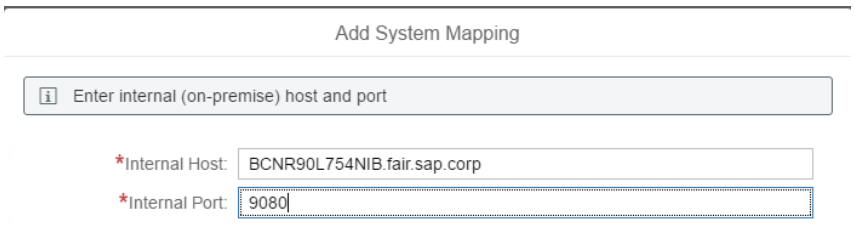
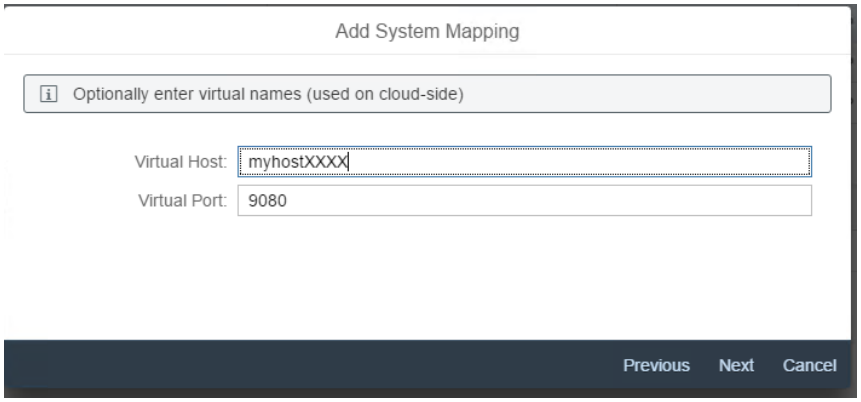
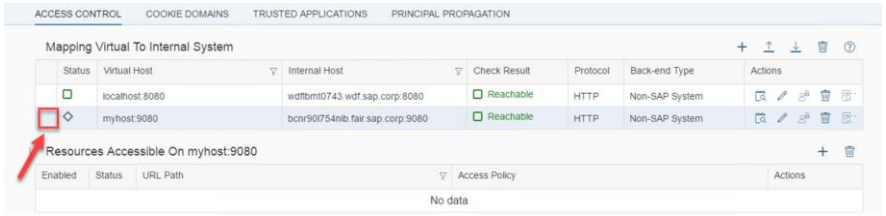
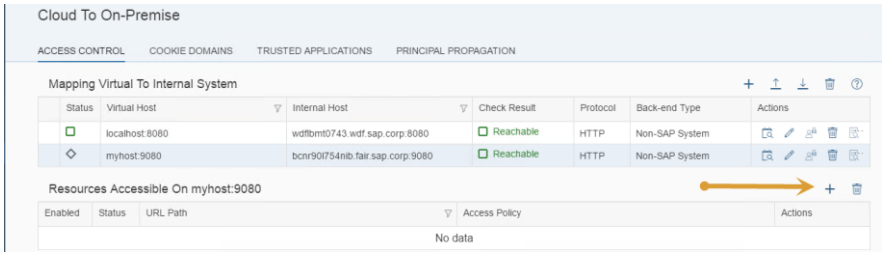
CONFIGURE ACCESS CONTROL IN SAP CLOUD CONNECTOR

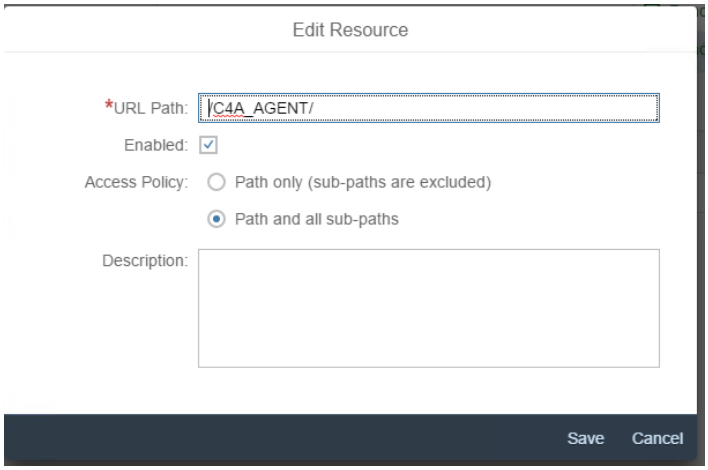
Now we are going to configure the SAP Cloud Connector with the SAP Cloud Agent information that we just created.

Explanation	Screenshot
Open Chrome and enter the following URL to launch the SAP Cloud Connector configuration page: *https://wdflbmt0743:8443/* Ignore the warning. Click on *Advanced*.	
Click *Proceed to wdflbmt0743*.	

Explanation	Screenshot
Enter the following credentials: User Name: **Administrator** Password: **WelcomeSAP17**	
Select sub-account **aa6dffcde** and click the arrow next to it.	
You can now view the sub-account details.	

Explanation	Screenshot
When you want to acquire data, you need to connect SAP Analytics Cloud to your on-premise system, in order to pull out data from that system. We are going to add the SAP Cloud Agent to the on-premise system. For that click on *Cloud to On-Premise*.	
Click the + icon in the “Mapping Virtual To Internal System” section.	
Select *Non-SAP System* then click *Next*.	
Select *HTTP* for the protocol then click *Next*.	

Explanation	Screenshot
The Internal Host is the fully qualified hostname of the SAP Cloud Agent. This is the same as your machine name, i.e. **<machinename>.fair. sap.corp** Internal port: **9080**	
The Virtual Host and Virtual Port can be whatever you want, but you can only use alphanumeric characters. Virtual Host: **myhostXXX** where XXX is the number assigned to you. Virtual Port: **9080** Click *Next* and keep everything else at their default settings.	
Once back on the page, click on the *Check Availability* icon to validate the system is reachable. 	
Click on this newly created host so that it is highlighted.	
We need to add a resource to this new entry. In the section “Resources Accessible on <virtual hostname>”, click on the + icon.	

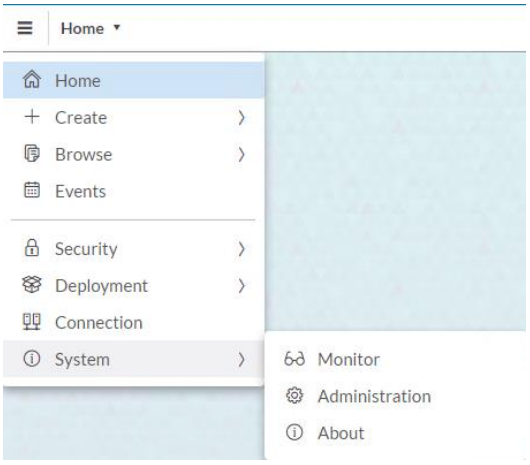
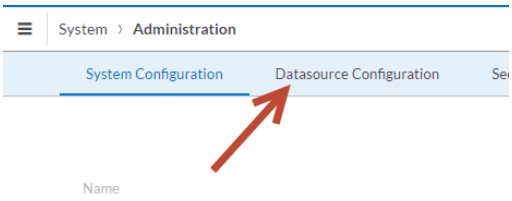
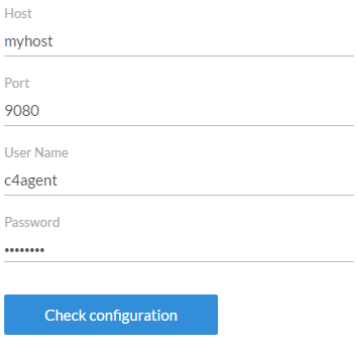
Explanation	Screenshot
Add the following information: URL Path: **/C4A_AGENT/** This is the URL is used when deploying the SAP Cloud Agent in Tomcat (see page 6). Access Policy: **Path and sub-paths** Click *Save*.	

At this stage, the SAP Cloud Connector is now properly connected to your SAP Cloud Agent and it will be able to redirect any call coming from SAP Analytics Cloud to the SAP Cloud Agent.

CONFIGURE SAP CLOUD AGENT IN SAP ANALYSIS CLOUD

The last part is to configure SAP Analytics Cloud to point to the SAP Cloud Agent. This step will not be done as an exercise as there can only be one SAP Cloud Agent per SAC tenant, so we have done this step for you in the SAC Datasource Configuration page.

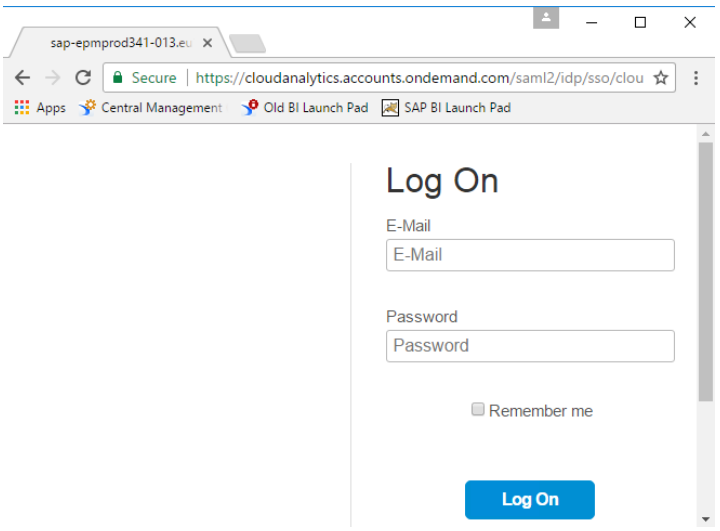
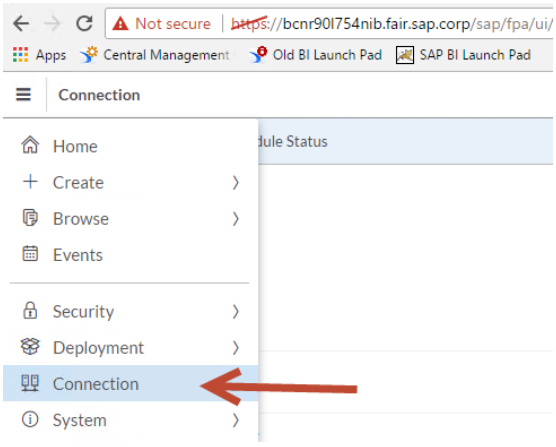
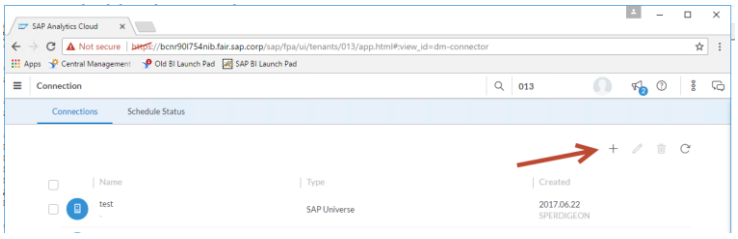
However, in the steps below we will show you how this can be configured, **but please do not do any changes in this configuration**.

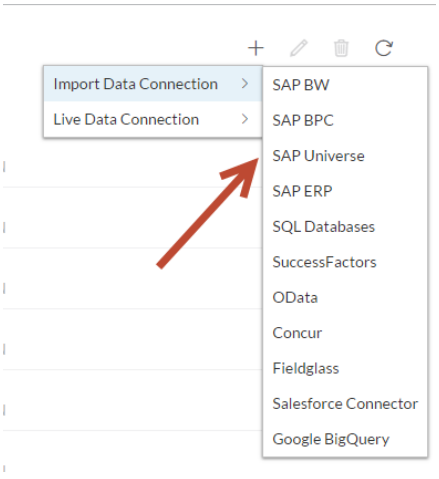
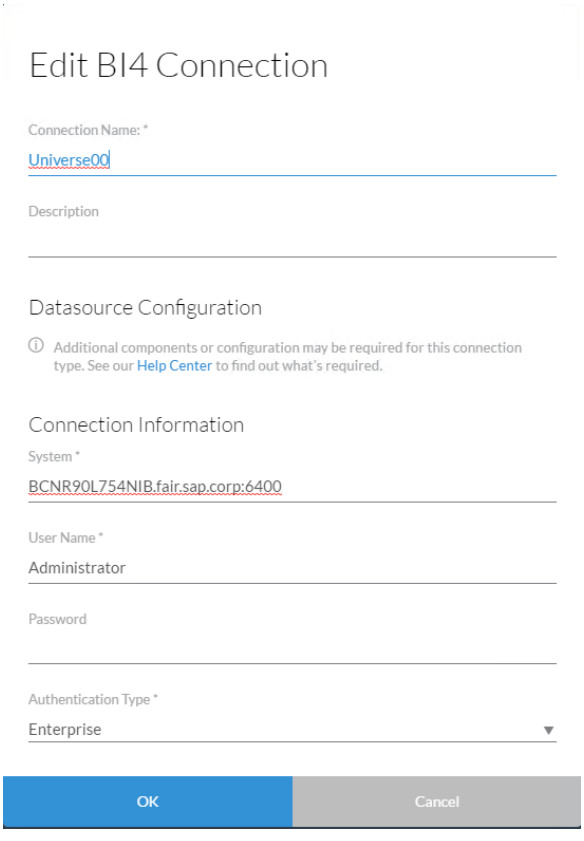
Explanation	Screenshot
Click on *Hamburger* → *System* → *Administration*.	
Click on the *Datasource Configuration* tab.	
Then you would enter the information for the SAP Cloud Agent we just created. DO NOT CHANGE THESE CONFIGURATION SETTINGS Click on *Check configuration* to ensure the SAP Cloud Agent is reachable from the SAP Analytics Cloud tenant.	

At this stage, we are ready to acquire data stored in your on-premise systems.

In the following steps, we are going to acquire data from a Universe in a SAP BI 4.2 SP04 system.

CREATE A CONNECTION TO A UNIVERSE

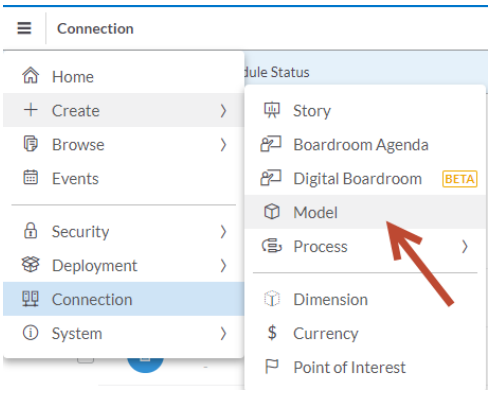
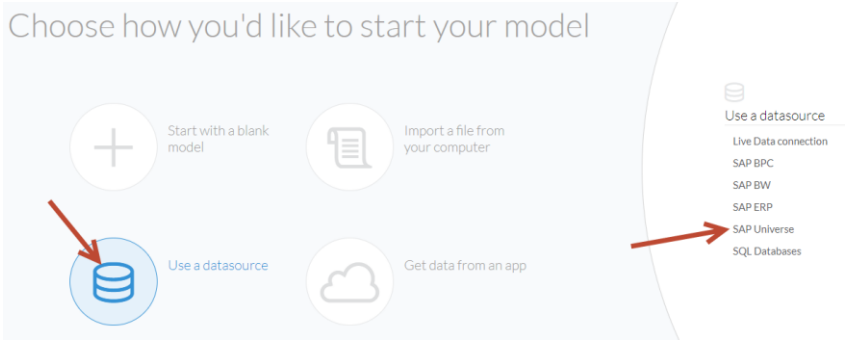
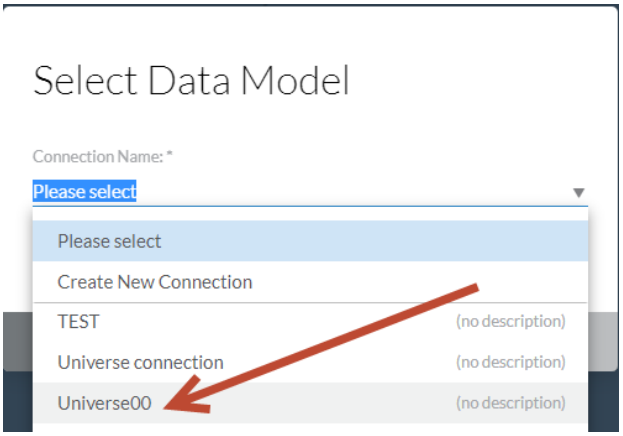
Explanation	Screenshot
Start Chrome and enter the following URL to logon to SAP Analytics Cloud: *https://sap-epmprod341-013.eu1.sapbusinessobjects.cloud* Log into the system using your credentials: **teched17ANA264+XXX@gmail.com** …where XXX is the number assigned to you (for example if you have 089, the email address will be: teched17ANA264+089@gmail.com) Password: **Password1**	
Click on *Hamburger* → *Connection*.	
To create a new connection, click the + icon.	

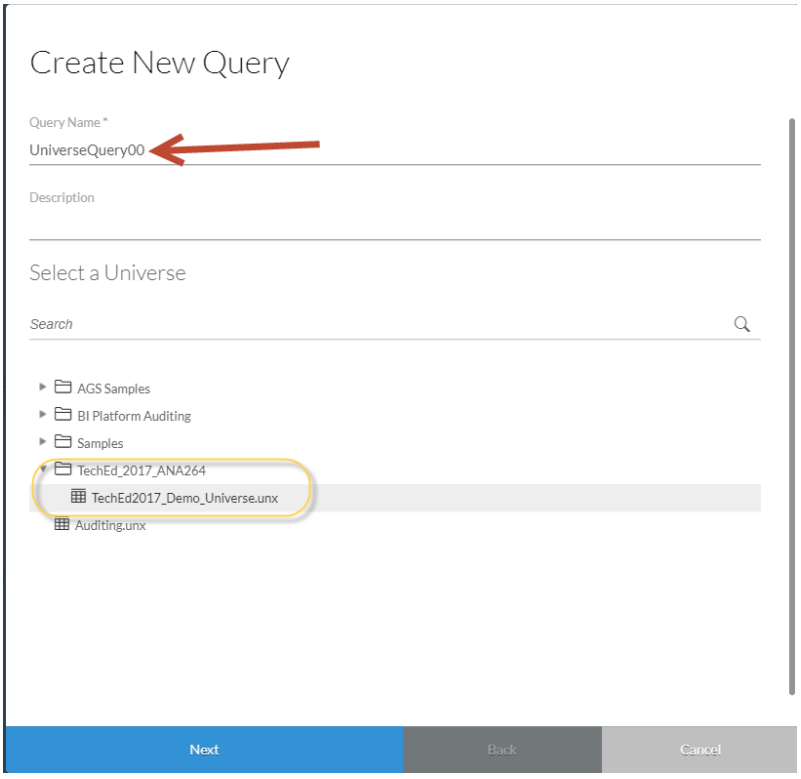
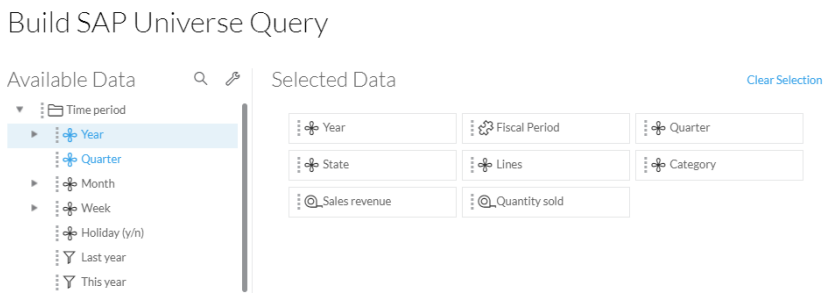
Explanation	Screenshot
Select *Import Data Connection* → *SAP Universe*.	
In the pop-up window, fill in the following details: Name: **UniverseXXX**, where XXX is the number assigned to you. System: **<MachineFQDN>:6400** (e.g.: BCN*****.fair.sap.corp:6400) User Name: **Administrator** Password: **Abcd1234** Authentication Type: **Enterprise** The System is the name of the SAP BusinessObjects BI 4.2 CMS. As this is installed on your machine, the system is your machine hostname. The User Name and Password are the ones used to logon to the BI 4.2 CMS.	

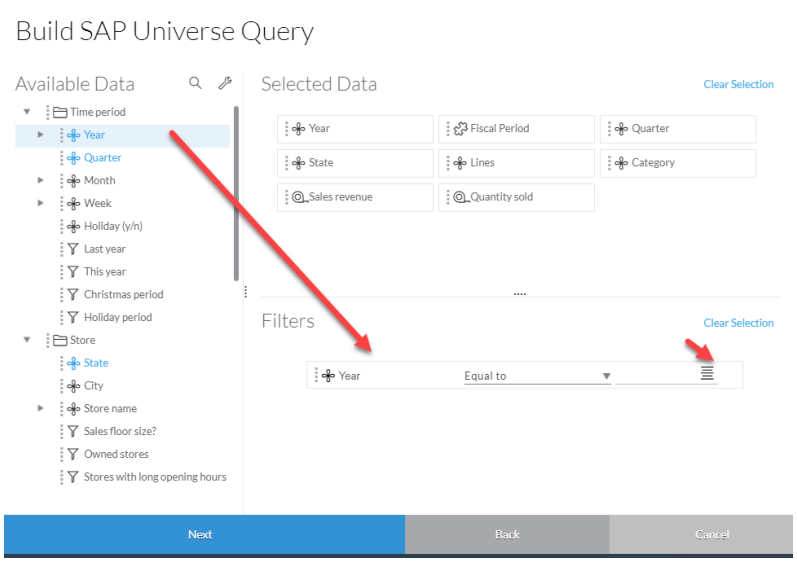
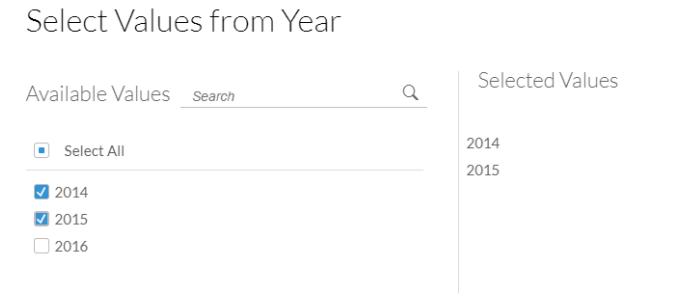
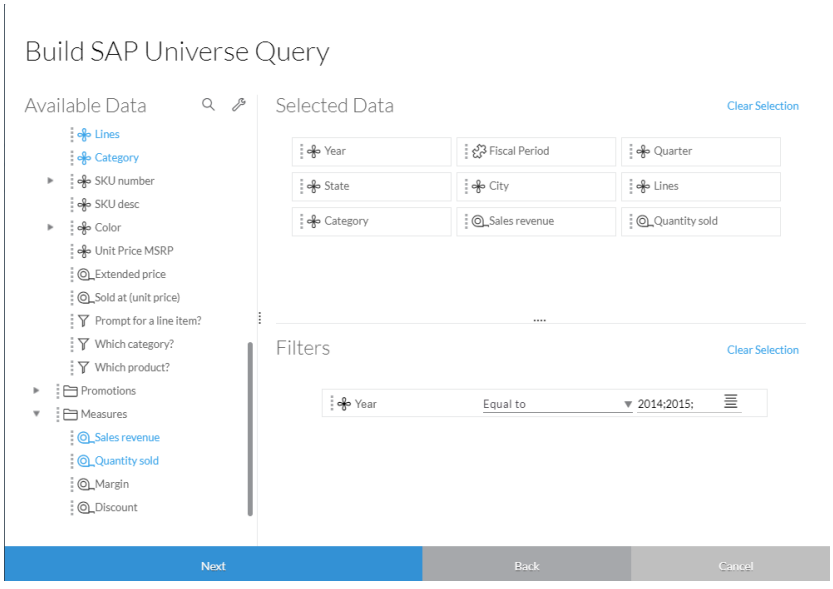
The newly-created remote BI 4.2 system definition is now part of the list of connections.

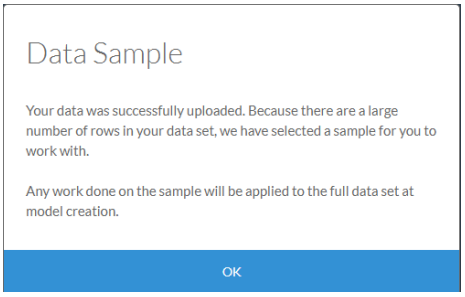
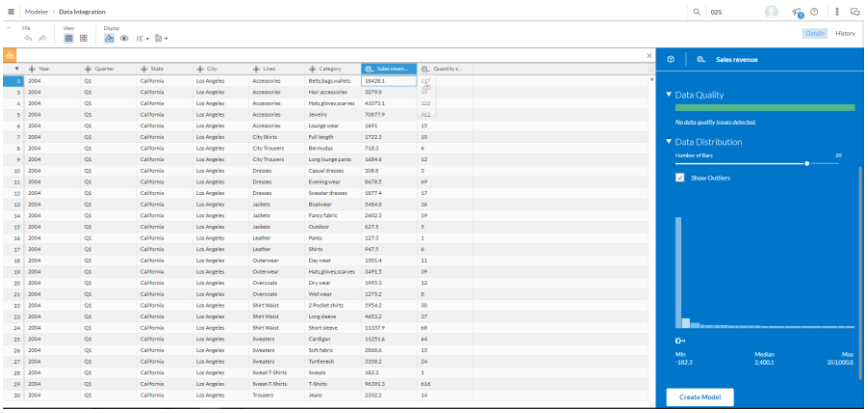
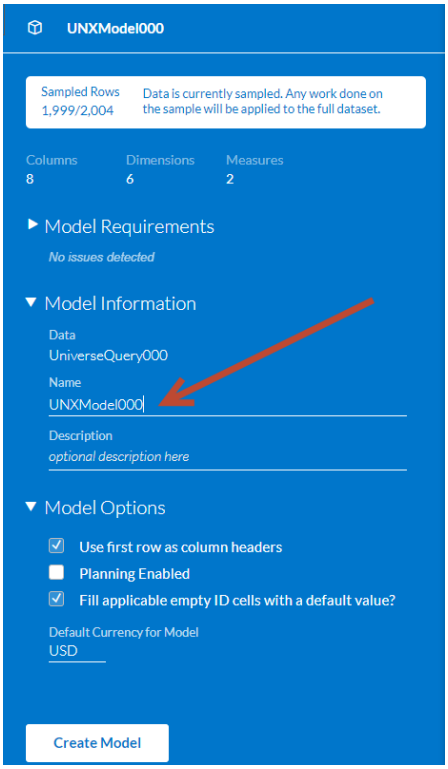
CREATE A MODEL FROM AN SAP UNIVERSE

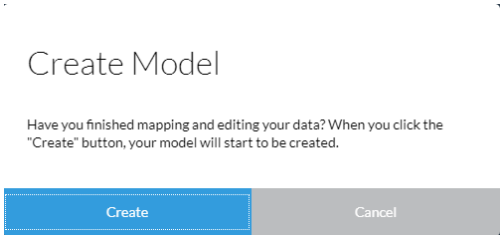
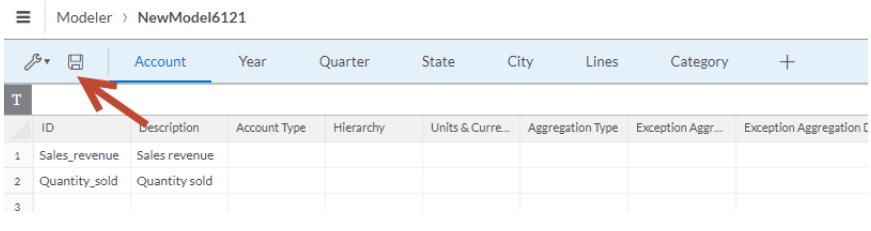
Now that the connection to the SAP BI 4.2 system has been created, we will create a model and acquire data from a Universe stored in the BI 4.2 system.

Explanation	Screenshot
We will now create a model from a Universe. Click on *Hamburger* → *Create* → *Model*.	
Click *Use a datasource* and select *SAP Universe*.	
For the Connection Name, select the name of the connection you just created, *UniverseXXX*, where XXX is the number assigned to you.	

Explanation	Screenshot
We will create a query on top of a Universe that will retrieve data for the SAP Analytics Cloud system. For the Query Name use *UniverseQueryXXX*, where XXX is the number assigned to you. Expand the folder *TechEd_2017_ANA264*. Select the universe *TechEd2017_Demo_Univese.unx*. Click *Next*.	
Now select the objects that we need in our query. These will be brought into SAP Analytics Cloud as a dataset. Choose the following objects: Time period folder • *Year* • *Quarter* Store folder • *State* • *City* Product folder • *Lines* • *Category* Measures folder • *Sales revenue* • *Quantity sold*	

Explanation	Screenshot
Also drag *Year* to the Filters panel. Click on the *Filter value* icon. Add a quick filter on *Year* with values *2014* and *2015*.	 
You will end up with a query like in the screenshot. Click *Next*. The query is now executed on the backend SAP BI 4.2 system and the data is retrieved.	

Explanation	Screenshot
Once the data is acquired we can view it. However, in this case because there is a lot of data we will be shown a sample. Click *OK*.	
We can view the acquired data and may want to perform some data manipulation or transformations on top of the dataset. We will not do this in this exercise as this topic is covered in a later exercise.	
Change the model name to *UNXModelXXX*, where XXX is the number assigned to you. Click *Create Model*. The model is then validated on the entire set of data.	

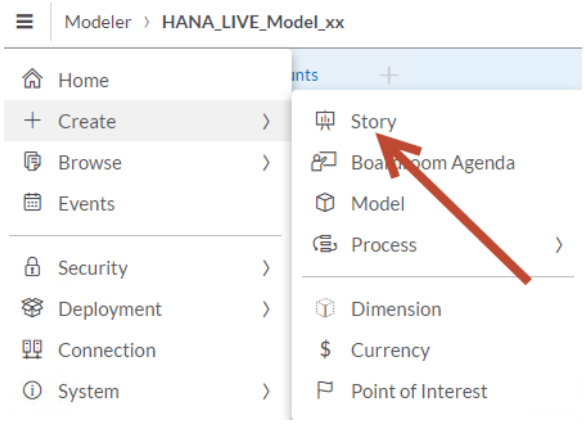
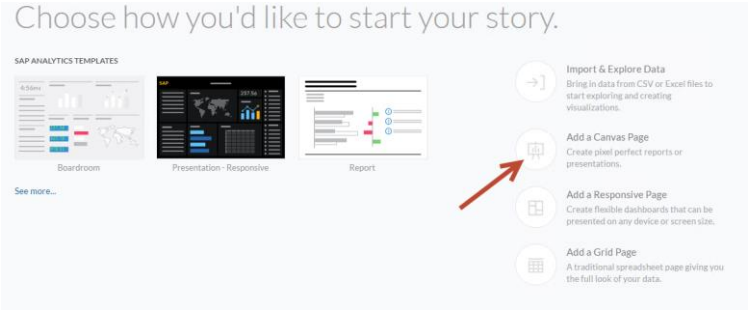
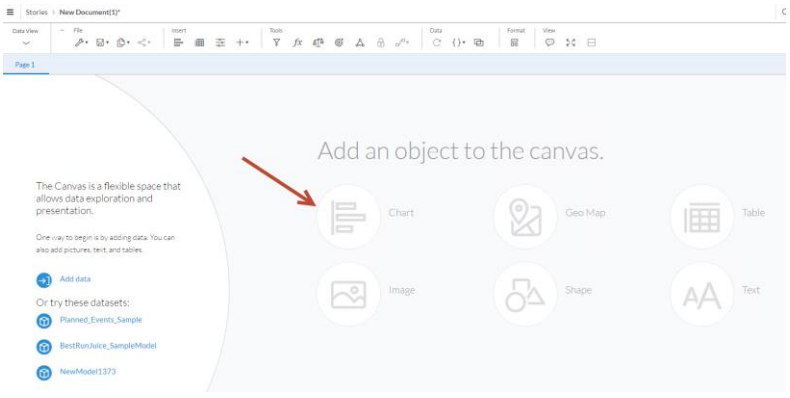
Explanation	Screenshot
Finalize the model by clicking *Create*.	
Click the *Save* icon to save the model.	

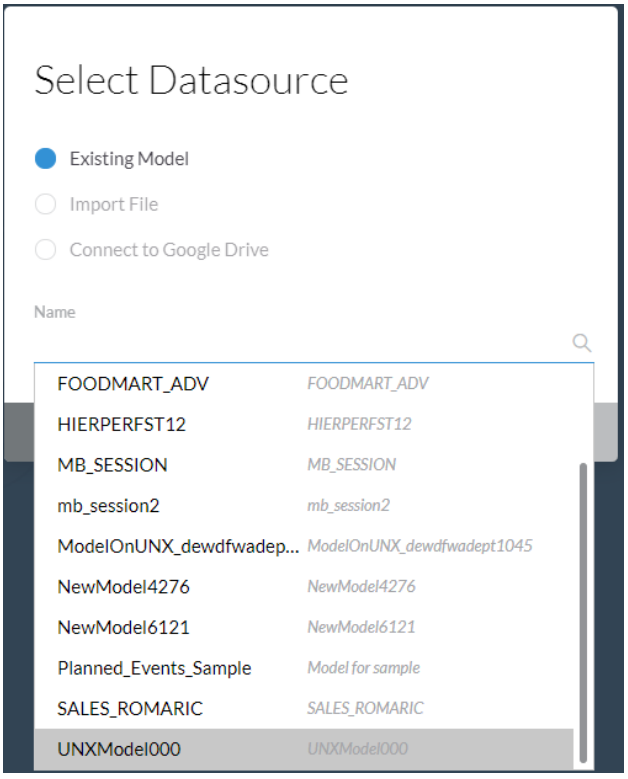
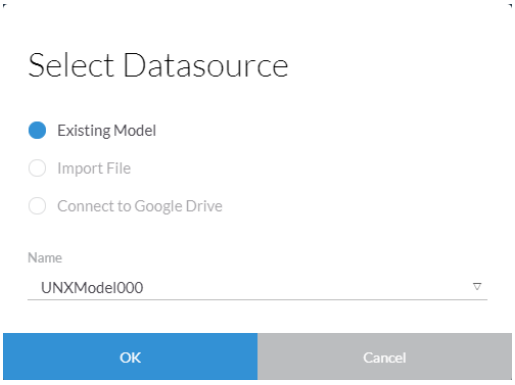
The model is now created with the data acquired by the query created on top of the SAP BusinessObjects BI 4.2 Universe.

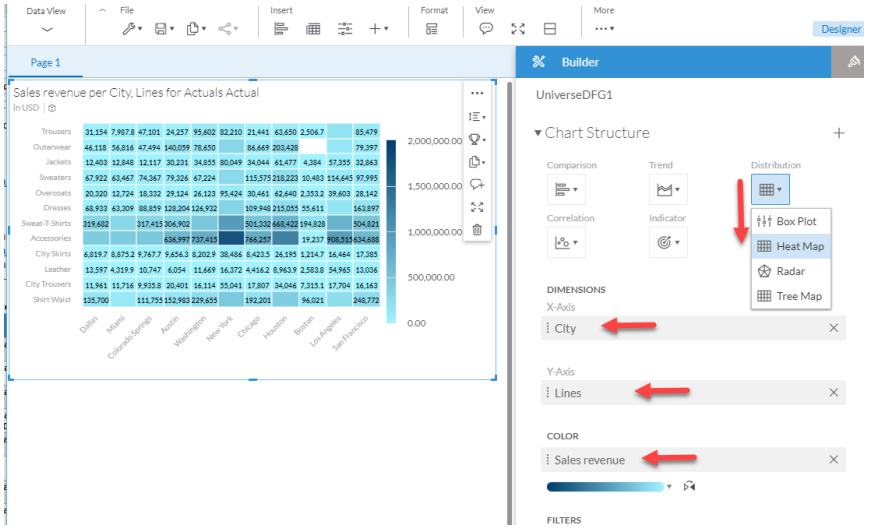
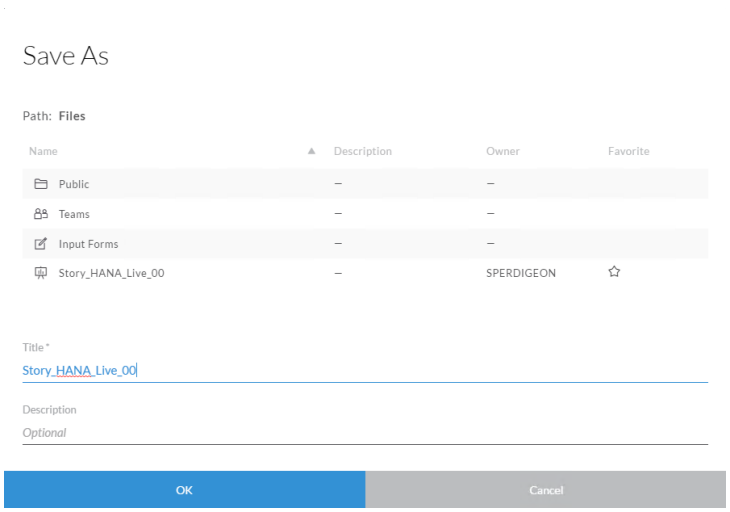
Note that you can do the same on top of other sources such as SAP BW, relational databases…

CREATE A STORY

We will now validate the model by creating a SAP Analytics Cloud story.

Explanation	Screenshot
To create a story, click on *Hamburger* → *Create* → *Story*.	
Click *Add a Canvas Page*.	
Click on *Chart* to add a chart to the canvas page.	

Explanation	Screenshot
Select the model we just created as a datasource, *UNXModelXXX*, where XXX is the number assigned to you. You can type your XXX number in the search box if you don't want to scroll down.	
Click *OK*.	

Explanation	Screenshot
In the *Builder* panel on the right-hand side, select *Heat Map* in the chart area. We now add data to the Heat Map. X-Axis: **City** Y-Axis: **Lines** Color: **Sales revenue**	
Save your story as *Story_UNX_XXX*, where XXX is the number assigned to you. Click *OK*.	

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