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Chapter

1

Deploy the AtScale Intelligence Platform to a New HDInsight Cluster

The steps in this section explain how to create and configure a new HDInsights cluster for use with the AtScale Intelligence Platform.

Before you begin

- Obtain a license from AtScale. You can obtain a trial license at http://info.atscale.com/atscale-on-hdi. You must obtain a license before continuing. Although the HDI user interface allows you to proceed without obtaining a license, the interface prompts you for a license near the end of the configuration steps. If you don't have a license by the time you reach this prompt, you might need to go through the entire procedure again after you obtain one.

- You can either create a new cluster as you follow this procedure, or you can use an existing cluster. These instructions assume that you are creating a new cluster.

- Configuring a new cluster requires selecting primary storage. AtScale recommends that you use a data lake store for primary storage. Data lake stores tend to provide faster performance than the alternative, which is Azure storage. If you want to use a data lake store, ensure that you have a Data Lake Store account.

- If you believe that you will upgrade your cluster in the future, ensure that an SQL database is set up for your account. During the procedure for setting up an AtScale Intelligence Platform cluster, you can select this database for storing Hive metadata outside of the cluster. When you upgrade the cluster, metadata stored within the cluster is deleted and unrecoverable. However, when you store the metadata outside of the cluster, the metadata is retained during when you upgrade the cluster.

About this task

If any of the terminology that appears in the HDInsight user interface is unclear to you, refer to the Microsoft Azure documentation for HDInsight at https://docs.microsoft.com/en-us/azure/hdinsight/.
Procedure

1. In Azure Marketplace, search for AtScale. You can also look for it in the Compute and Data + Analytics categories. Although AtScale is not a database, the marketplace has categorized it as one.

   Select AtScale Intelligence Platform and then click Create. The list of Quick Create steps appears, with step 1 selected and expanded.

   ![Figure 1: The Basics blade](image)

   You can use the Quick Create steps, rather than the Custom steps. The configuration options offered by the Quick Create steps cover most use cases.

2. Specify a name for the cluster.
3. Select your subscription.
4. Configure an Hadoop cluster.
a) Click **Configure required settings** under **Cluster type**.

b) In the **Cluster type** field, select **Hadoop**, which is the only choice.

c) Select the combination of versions of Hadoop and HDI that you want to use. AtScale works with either combination.

d) Select the standard cluster tier.

e) Specify a username and password for logging into the cluster.

f) Specify a username and password for using SSH to connect to the cluster.

   You can use the same username and password that you specified for logging into the cluster.

g) Click **Next**.

5. Configure a storage account for the cluster.

   a) Select a primary storage type.
Ensure that you have followed the **prerequisite** for this step.

b) In the **Root path** field, remove `/clusters` from the beginning of the path.

c) If you selected **Data Lake Store** as the primary storage type, configure Data Lake Store access.

![Diagram of the Storage and Data Lake Access panels](image)

**Figure 3: The Storage and Data Lake Access panels**

d) Download the certificate and click Select. On the Storage blade, select Data Lake Store access after a few seconds when the red circle with the exclamation point appears. Then, upload the certificate in the **Certificate** field.

6. Under **Metastore Settings** on the **Storage** blade, select the SQL database that is set up for your account.

   Ensure that you have followed the **prerequisite** for this step.

   After completing this step, click **Next**.

7. Provide your AtScale license and accept Microsoft's legal agreement.
a) On the Applications blade, select AtScale Intelligence Platform.

b) On the AtScale Intelligence Platform blade, supply the license key that you received from AtScale.

Ensure that you have followed this prerequisite step.

c) Select Review legal terms and accept Microsoft's terms of use.

[Warning] If you do not accept the terms of use, you will not be able to purchase the AtScale application and the environment that you have configured for it.

d) Click Next.

8. On the Cluster summary blade, review your settings and then click Create.

Results

The Microsoft Azure dashboard for your account appears. Somewhere on it will be a tile with the message "Submitting deployment for AtScale Intelligence Platform". After a few moments, this message will change to "Deploying for AtScale Intelligence Platform". You will also see the message "Deployment in progress..." in the Notifications area of the dashboard (which you can display by clicking the bell in the upper-right of your browser window).

Deploying the cluster can take twenty minutes or more. After it is deployed, the caption of the current tile is changed to the resource group name that you specified. The portal automatically opens the resource group in a new blade. You can see both the cluster and the default storage listed.

What to do next

1. Click the name of the cluster.

2. Under the heading Configuration on the left side of the console, click Applications.

3. In the list of applications, click the name of your AtScale Intelligence Platform application. On the Properties blade that appears, the following information is presented:

   • App name: The name that you gave to this instance of the AtScale Intelligence Platform.
   • Status: The status of this instance of the AtScale Intelligence Platform.
   • Webpage: The URL of the Design Center, AtScale's main web application.
   • HTTP endpoints: You can ignore these endpoints.
Take the First Steps in Learning How to Use AtScale

The topics in this section show you how to log in to the AtScale Design Center, so that you can open the sample project and cube that comes with the AtScale Intelligence Platform. This section also explains how to connect to the sample cube from Tableau Desktop and Microsoft Excel.

Topics:

• Log in to AtScale Design Center and Explore the Azure Sample Cube
• Connect from Tableau to the Azure Sample Cube
• Connect from Microsoft Excel to the Azure Sample Cube

Log in to AtScale Design Center and Explore the Azure Sample Cube

To log in to the Design Center, AtScale's main web application, use the webpage URL that is on the Properties blade for the AtScale Intelligence Platform application.

Procedure

1. To find the webpage URL for logging into the Design Center:
   a) In your dashboard in the Microsoft Azure console, double-click the tile for the cluster.
   b) Under the heading Configuration on the left side of the console, click Applications.
   c) In the list of applications, click the name of your AtScale Intelligence Platform application.
   d) On the Properties blade that appears, click the webpage URL.

   The AtScale login screen appears in a new browser tab. Bookmark the URL, so that you can return to the Design Center without first having to go through the Microsoft Azure console.

2. Use the ID admin and the password admin to log in for the first time.

What to do next

1. Change your password.
   a. On the left side of the Design Center, select User User Settings.
b. On the left side of the screen, locate the Profile section and click Change Password.

2. In the top-right corner of the browser window, click Return to the Design Center. Changing your password and performing other tasks related to users and security is done in an administrative web application that is separate from the Design Center. Only users with the right authority can navigate to the separate application. After performing administrative tasks, you must return to the Design Center to perform any tasks that are related to data modeling.

3. Start learning about modeling data in AtScale by using the Azure Sample project. The AtScale installer creates a sample database in Hive that you can use to model cubes. AtScale cubes are managed inside of a project, and a project can contain multiple cubes. You can open the Azure Sample project and cube to see the sample dataset and the cube metadata modeled in AtScale. On the left side of the Design Center, click Design Azure Sample.

For help learning AtScale concepts and how to model data in AtScale, click About Help on the left side of the Design Center. The online help opens in a new browser window.

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Connect from Tableau to the Azure Sample Cube

You can publish the Azure Sample project and open the Azure Sample cube in Tableau Desktop.

**About this task**

After you publish a project, you can use Tableau to explore your data. You can do so by using Tableau data source files. These files have the .tds file extension. Data source files are shortcuts for quickly connecting to data sources from Tableau Desktop.

Data source files do not contain the actual data but rather the information necessary to connect to a data source. AtScale generates a .tds file for every published cube.

**Before you begin**

Ensure that you have installed the version of the Hive ODBC driver that is compatible with your version of Tableau. See Installing Hive ODBC Drivers.

**Procedure**

1. Change the value of the ATSCALE.HOST engine setting to localhost.
   a) On the left side of the Design Center, select Manage Engine Overview.
   b) At the top of the browser window, select Settings Advanced Settings.
   c) Type CMD+F (Mac) or CRRL+F (Windows) and find the setting ATSCALE.HOST.
   d) Change the value of this setting to localhost.
   e) Scroll to the bottom of the page and click Save Settings.
2. Download a copy of the .tds file for the Azure Sample cube.
a) On the left side of the Design Center, click Design and then click Azure Sample, which is the name of the project that the Azure Sample cube is in.

A project does not need to share a name with a cube that it contains. It just happens in this case that the names of the project and cube are identical.

b) In the Publish Status section of the page, locate the Production section and click the arrow next to the name of the cube.

Production is the name of the AtScale environment that the project was published to. Learn more about environments in the online help. On the left side of the Design Center, select About Help.

The cube is already published when you first open the Azure Sample project. If you want to try publishing it yourself, click Publish in the top-right corner of the page.

c) Select Download Tableau TDS.

The .tds file is downloaded to your computer.

3. From a command line, run the following command, where ssh_username is the username specified for ssh access during the configuration of the HDInsight cluster and cluster_name is the name of this cluster:

```bash
ssh -L 11111:localhost:11111 <ssh_username>@as-atscale.com.<cluster_name>-ssh.azurehdinsight.net
```

4. Enter the password for connecting to the HDInsight cluster.

5. Double-click the .tds file.

Doing so launches the Tableau Desktop application.

6. Enter your AtScale user name and password, and click OK.

If user accounts for AtScale are managed in Google's G Suite Directory, authenticate by using your Google account ID (Gmail address) and the temporary session password.

What to do next

- You can publish the cubes of a project to Tableau Server, as explained in "Publish a Project" in the online help. However, if the .tds file that you want to open from Tableau Server was published from AtScale running on an Microsoft HDInsight cluster, be sure to set up an ssh tunnel before trying to open it.
• If you republish a cube that is used in a workbook, in Tableau you must replace the data source for the workbook, pointing to the new .tds file. Refer to the Tableau documentation for the steps for replacing a data source.

Connect from Microsoft Excel to the Azure Sample Cube

You can publish the Azure Sample project and open the Azure Sample cube in Microsoft Excel.

About this task
You connect to the cube from Excel as though you are connecting to a Microsoft SQL Server Analysis Services (MSSAS) cube. After you have connected to an AtScale cube, you can build a PivotTable report from fields in the cube.

Procedure
1. Open a blank Excel worksheet.
2. On the Data tab, select From Database From Analysis Services.

3.
To obtain the information for this field, follow these steps in the Design Center:

1. On the left side of the Design Center, click Manage and then select the environment that contains the aggregates.
2. In the list of published projects, find the cube that you want to find the connection information for, and select Action Connection Information.
3. Locate the connection information for MDX near the top of the page.

4. In the Select Database and Table dialog, select Azure Sample. Then, click Next.

Server name

Login credentials

Select Use the following User Name and Password and then enter your AtScale username and password.
5. On the next page of the Data Connection wizard, click Finish.

6. In the Import Data dialog, choose PivotTable Report or PivotChart and PivotTable Report. Click OK.
What to do next
You can create your PivotTable report or chart by choosing fields from the cube.