

Creating a dashDB instance in Bluemix

Selecting the dashDB icon creates a new tab with the following screen. Select **Log In**

The screenshot shows the IBM Bluemix Catalog page for 'dashDB for Analytics'. The page includes a description of the service, its features, and pricing plans. The 'Log In' button is visible in the top right corner.

dashDB for Analytics

IBM dashDB for Analytics is a fully managed SQL cloud database service, optimized for data warehouse and analytics workloads. The easy-to-use web console provides everything you need to manage your database, including an SQL editor, import tools, and driver downloads. Note: If you are looking for a cloud database that is optimized for OLTP workloads, check out the related service: IBM dashDB for Transactions SQL Database.

Features

- Powerful**
Combining the best of DB2 and Netezza technology with in-memory data processing, columnar tables, and in-database analytics.
- Fully managed, safe, and secure**
Includes daily backups, at-rest database encryption, and SSL connections.
- Connect, leverage, extend**
Connect your favorite analytics tools; easily integrate with other Bluemix services, such as Watson; and extend your dashDB service by using the REST API.

Images

Click an image to enlarge and view screen captures, slides, or videos. Screen caps show the user interface for the service after it has been provisioned.

Pricing Plans

Monthly prices shown are for country or region: [United States](#)

PLAN	FEATURES	PRICING
✓ IBM dashDB for Analytics Entry	Credit card or Bluemix subscription billing No charge for up to 1GB of data storage 20 GB maximum data storage One dedicated schema per service instance on a shared server	\$50.00 USD/Monthly

Recommended for up to 100 GB of data, based on typical compression. Estimated compression is based on historical average of observed data compression rates. Actual Client data compression rates and temp space requirements, and resulting data storage availability, are not guaranteed and may vary based on Client's specific usage and data characteristics.

Need Help?
[Contact Bluemix Sales](#)

Already have an account?
[Log In](#)

[Sign up to Create](#)

Log In should log you into Bluemix using your DSX credentials and bring you to the dashDB create screen

The screenshot shows the IBM Bluemix Catalog page for 'dashDB for Analytics' after logging in. The page includes a description of the service, its features, and pricing plans. The 'Create' button is visible in the bottom right corner.

dashDB for Analytics

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Service name:

dashDB for Analytics-6b

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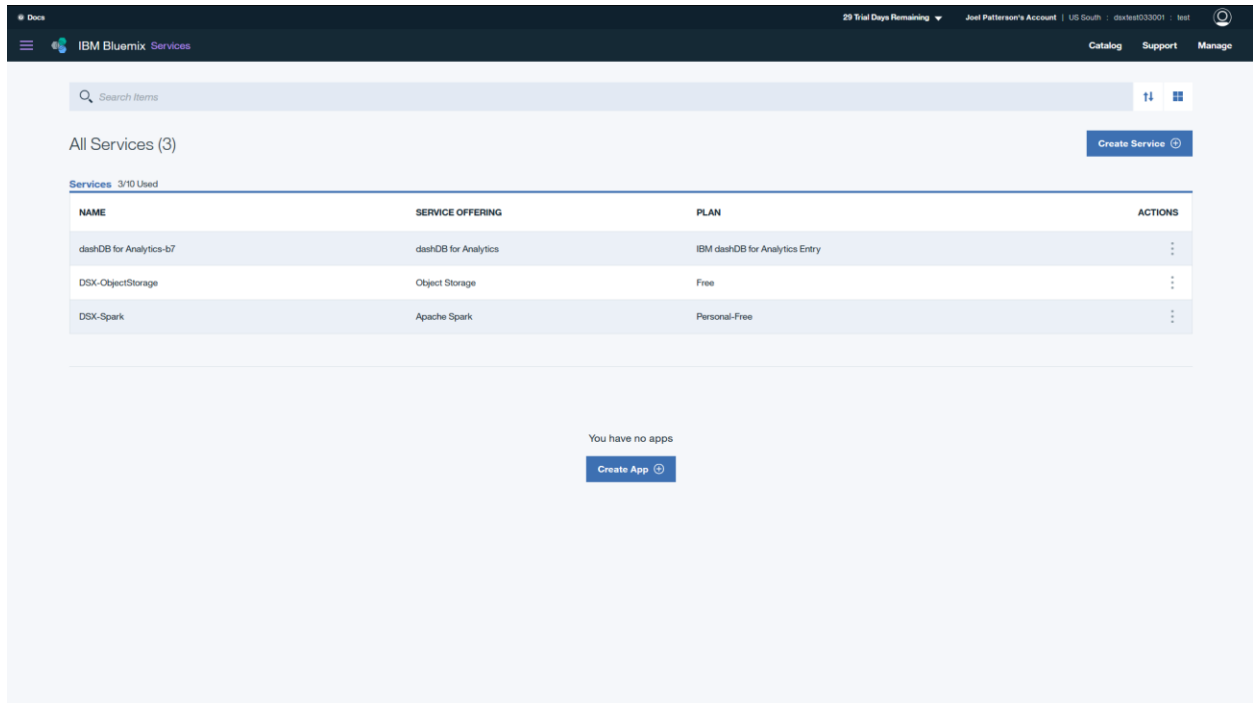
Recommended for up to 100 GB of data, based on typical compression. Estimated compression is based on historical average of observed data compression rates. Actual Client data compression rates and temp space requirements, and resulting data storage availability, are not guaranteed and may vary based on Client's specific usage and data characteristics.

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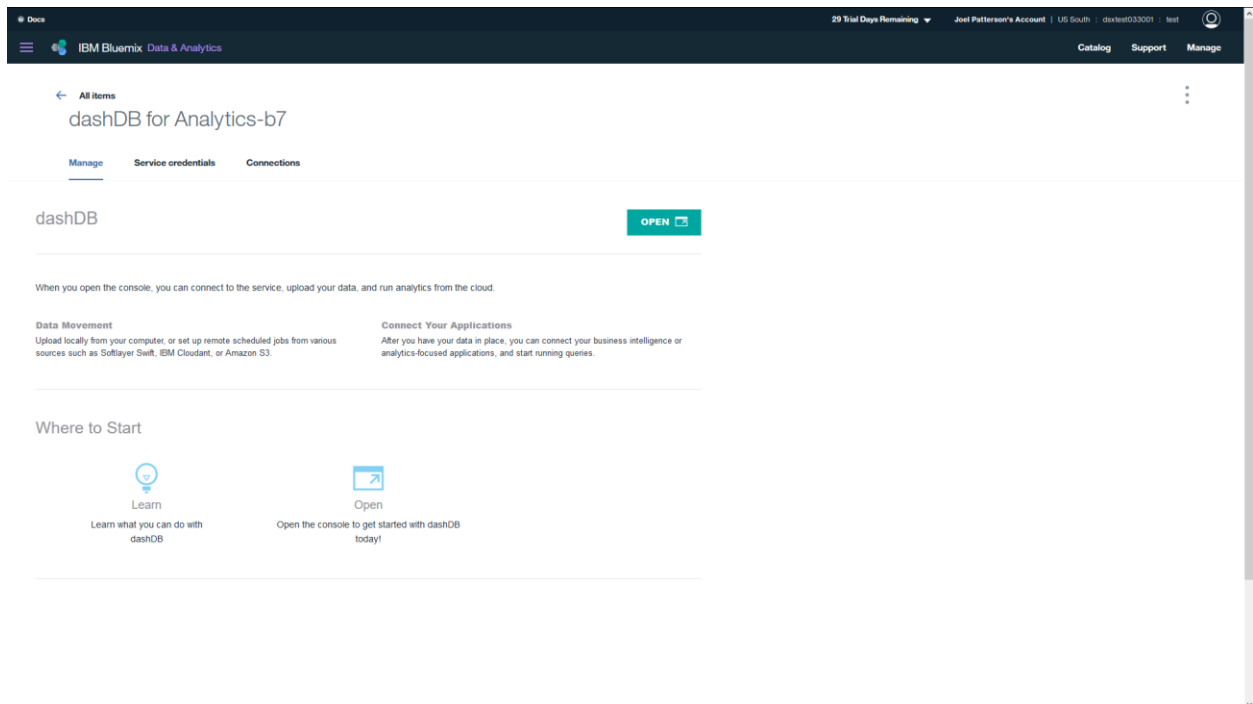
Estimate Monthly Cost
[Cost Calculator](#)

[Create](#)

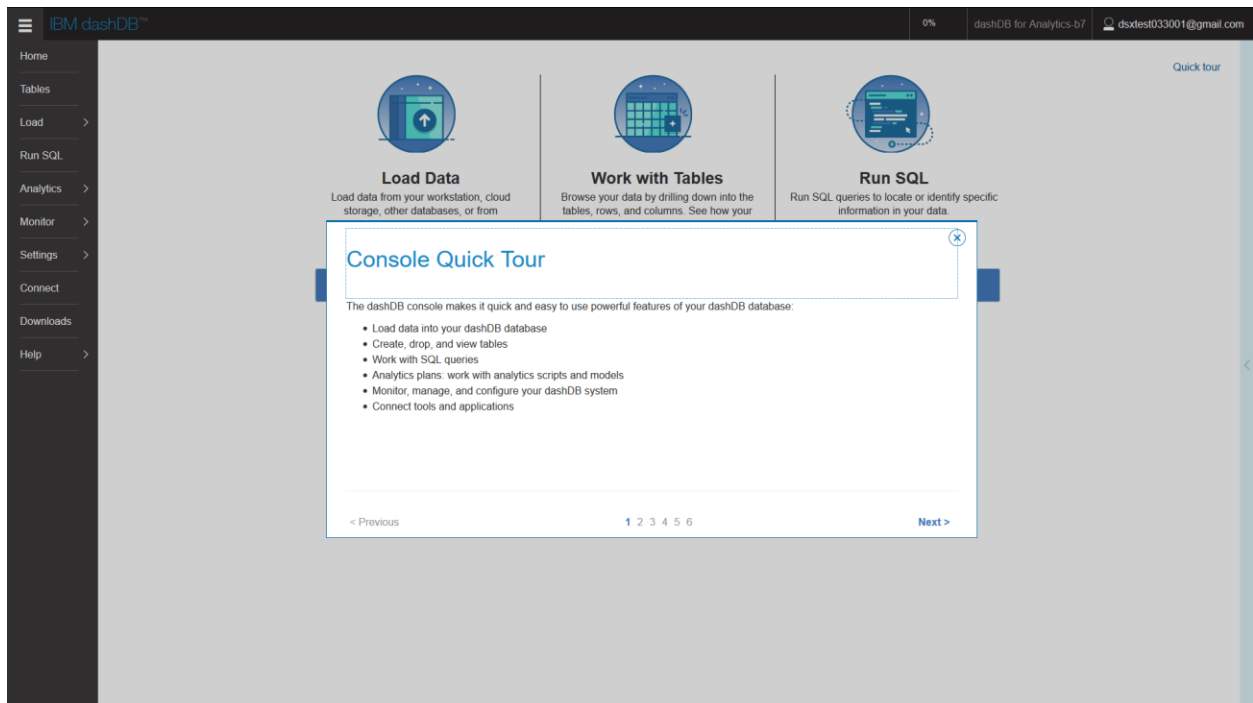
Create the dashDB instance – you will be directed to the Dashboard and see something similar to



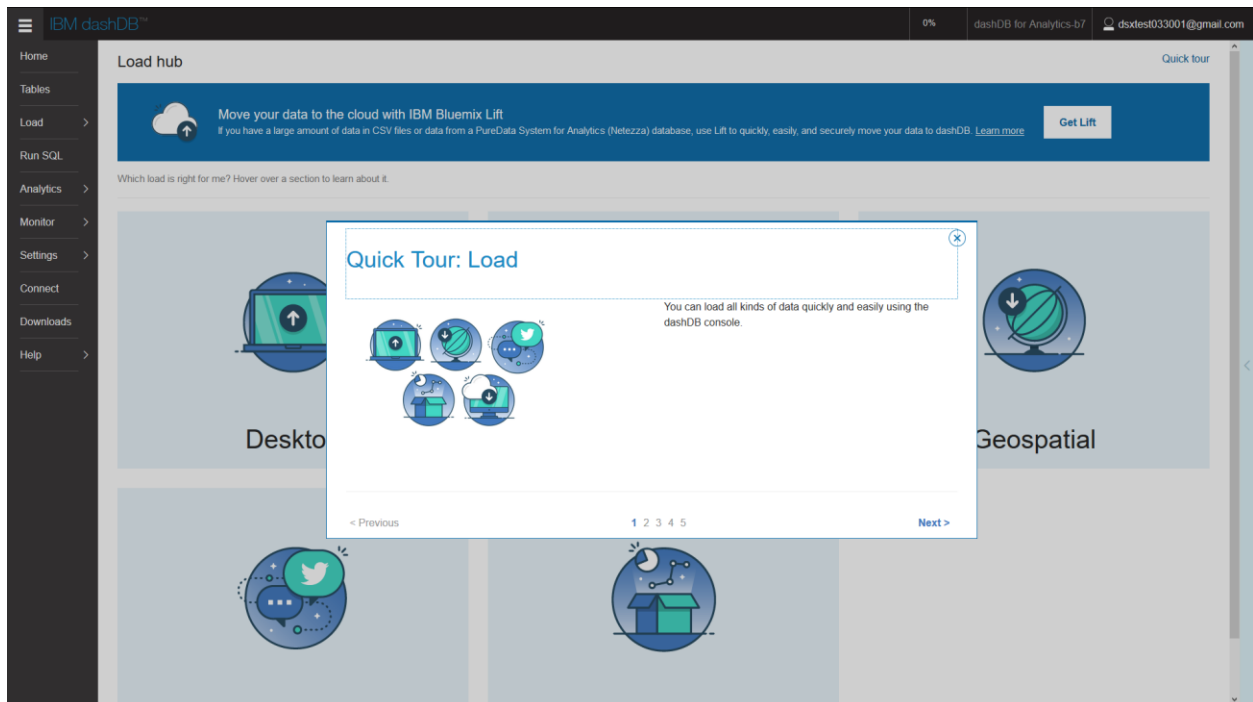
Select the **dashDB for Analytics** service – this brings you to the following



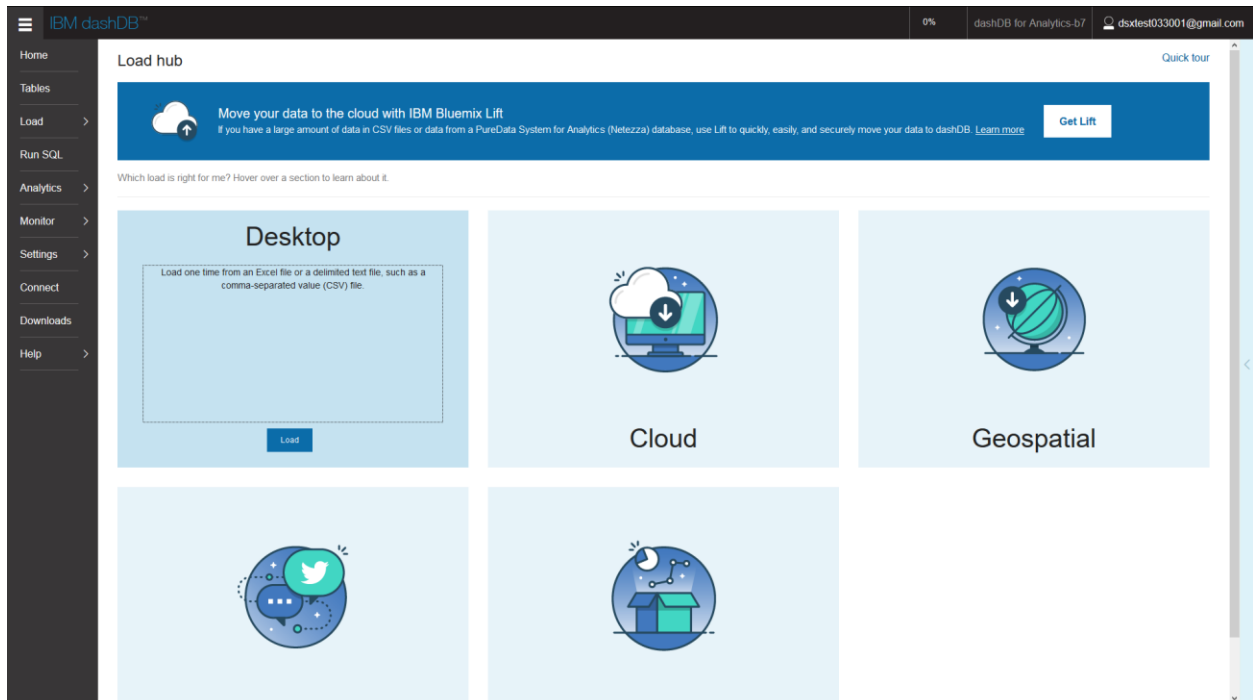
OPEN dashDB



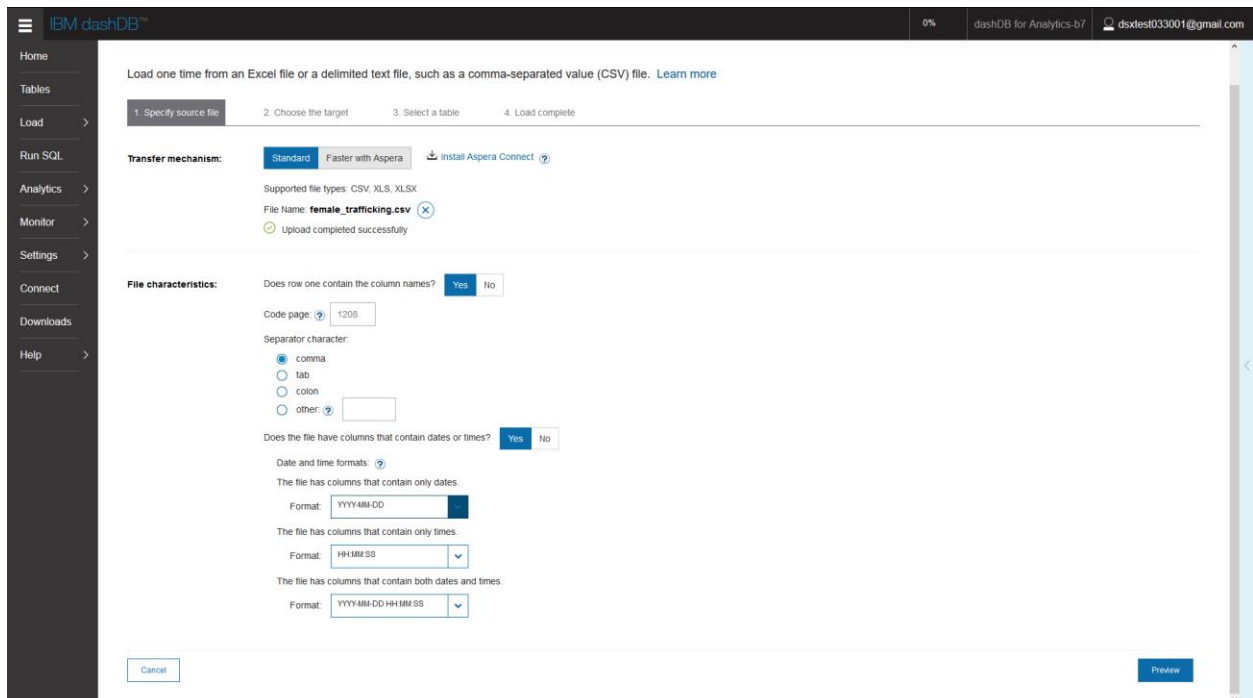
Close the Quick Tour and select **Load Data**



Hover over the various sections to understand your options and then go to **Desktop** and select the **Load** button



Select the `female_trafficking.csv` file which you should have downloaded previously. It does contain dates (Date of Birth) so we will select the proper format (YYYY-MM-DD). Select the **Preview** button.



Verify that the data appears correct and then scroll to the bottom and select **Next**

IBM dashDB™

0%

dashDB for Analytics-b7

dsxtest033001@gmail.com

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Load from desktop

Load one time from an Excel file or a delimited text file, such as a comma-separated value (CSV) file. [Learn more](#)

1. Specify source file

2. Choose the target

3. Select a table

4. Load complete

Data preview (first 10 rows): female_trafficking.csv

VETTING_LEVEL	NAME	GENDER	AGE	BIRTH_DATE	BIRTH_COUNTRY	BIRTH_COUNTRY_CODE	OCCUPATION	ADDRESS	SSN
100	Kathleen Bailey	F	31	1985-11-27	Ghana	GH	Chiropodist	"79421 Jordan Orchard, Lawton, Oklahoma 73507"	885-71-9055
30	Kelly Robbins	F	46	1971-01-17	Pakistan	PK	"Engineer, structural"	"5808 Jacobs Unions, Karval, Colorado 80823"	141-10-9199
100	Linda Stewart	F	19	1997-04-15	Ghana	GH	"Engineer, land"	"824 Kristin Grv, Atlant ic, Virginia 32303"	911-46-5304
100	Stacey Courtney Gonzalez	F	32	1984-03-27	Ghana	GH	Careers adviser	"322 Hutchinson Cres, Ten Mile, Tennessee 37880"	691-25-2647
30	Erika Patie Fowler	F	18	1998-06-18	Ghana	GH	"Geneticist, molecular"	"07695 Michael Via Ste 394, Wasilla, Alaska 99554"	165-33-0802
100	Ashlee Fisher	F	36	1981-01-05	Ghana	GH	Electronics engineer	"4838 Cassandra Streets Apt. 931, Spring, Texas 77380"	072-16-8742
100	Jacqueline Clark	F	41	1976-01-19	Ghana	GH	"Editor, commissioning"	"1148 Wang Fall Suite 988, Fullerton, California 92823"	634-03-1462
30	Shell Chapman	F	19	1997-08-24	Ghana	GH	Writer	"72346 Wilson Fords Apt. 650, Hawleyville, Connecticut 06440"	004-07-1446

Choose to **Create a new table and load**. Select **Next**

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1. Specify source file

2. Choose the target

3. Select a table

4. Load complete

Load into an existing table

Create a new table and load

Cancel

Back

Next

You can change any of the column names, types or the table name if you wish. Scroll to the bottom and select the **Finish** button.

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Load from desktop

1. Specify source file

2. Define new table

3. Load complete

Table preview (first 10 rows). Review the data types and their lengths, and edit them if necessary to prevent data loss when doing the load.

Click the column headings to rename the columns.

Table name: FEMALE_TRAFFICKING

Column	VETTING_LEVEL	NAME	GENDER	AGE	BIRTH_DATE	BIRTH_COUNTRY	BIRTH_COUNTRY_CODE	
Data type	SMALLINT	VARCHAR (26)	VARCHAR (1)	SMALLINT	DATE	VARCHAR (10)	VARCHAR (2)	
100		Kathleen Bailey	F	31	1985-11-27	Ghana	GH	Chi
30		Kelly Robbins	F	46	1971-01-17	Pakistan	PK	"Er
100		Linda Stewart	F	19	1997-04-15	Ghana	GH	"Er
100		Stacey Courtney Gonzalez	F	32	1984-03-27	Ghana	GH	Ca
30		Erika Patie Fowler	F	18	1998-06-18	Ghana	GH	"Gr
100		Ashlee Fisher	F	36	1981-01-05	Ghana	GH	Ele
100		Jacqueline Clark	F	41	1975-01-19	Ghana	GH	"Ec
30		Shell Chapman	F	19	1997-08-24	Ghana	GH	Wri
10		Sabrina Debra Wilson	F	40	1977-02-21	Haiti	HT	Re
100		Ashley Gibson	F	30	1986-04-06	Ghana	GH	Th

The table is now loaded.

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0%

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Load from desktop

1. Specify source file

2. Choose the target

3. Define new table

4. Load complete

100%

Loading table FEMALE_TRAFFICKING in schema DASH107602 succeeded

Load more data

Quick Stats:

Number of rows committed = 1085

Number of rows deleted = 0

Number of rows loaded = 1085

Number of rows read = 1085

Number of rows rejected = 0

Number of rows skipped = 0

View the log for this load

View full table structure and details

VETTING_LEVEL	NAME	GENDER	AGE	BIRTH_DATE	BIRTH_COUNTRY	BIRTH_COUNTRY_CODE	OCCUPATION	ADDRESS	SSN
100	Elizabeth Joanna Hernandez	F	30	1986-09-20	Ghana	GH	Mental health nurse	9192 Smith Brooks Apt. 903, Livingston, Montana 59047	096-40-7445
100	Natalie Fernandez	F	26	1990-12-23	Ghana	GH	Designer, jewelry	73091 Prince Heights, Denver, Colorado 80623	502-77-4624
100	Amalie Taylor	F	30	1986-06-23	Ghana	GH	Corporate investment	7889 Stephanie P	651-61-9133

Total: 100 Selected: 0

10 | 25 | 50

Adding dashDB as a DSX Data Source

You should continue with this section once you reach the point to add the data source credentials. Let's make the dashDB instance visible in DSX. We're going to have to add it as a Data Source. In the lab you have reached the following section.

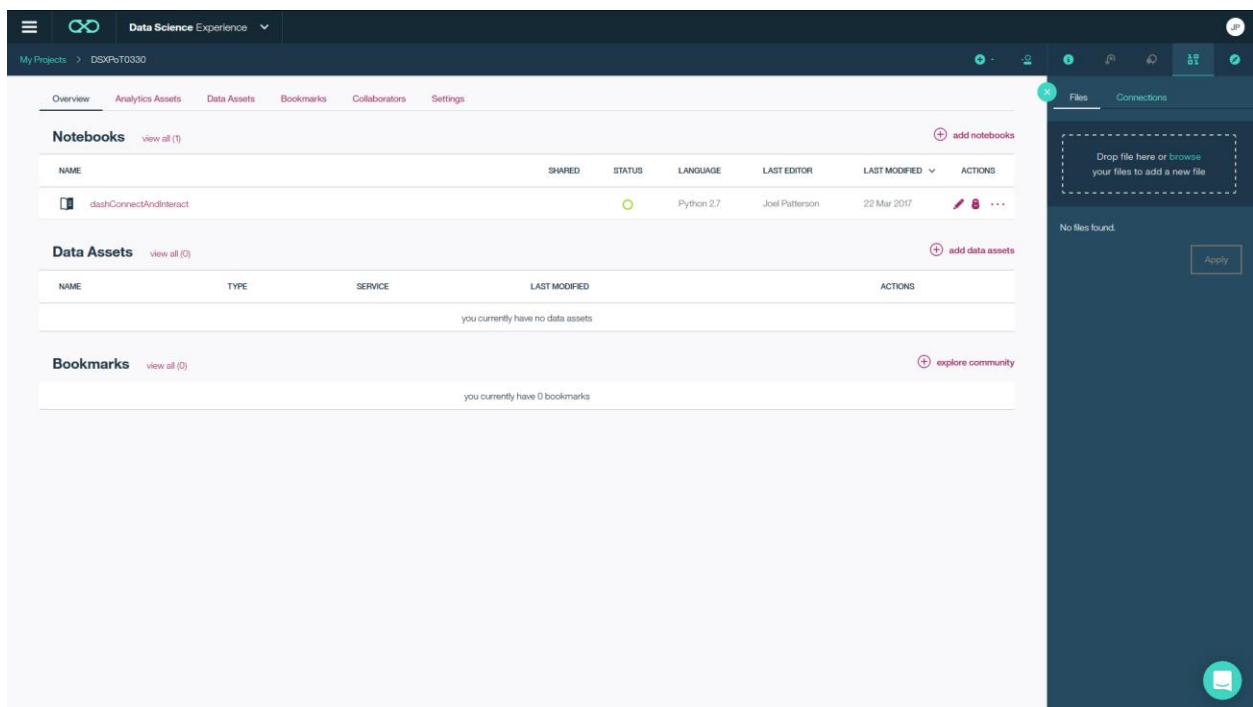
Insert the database connection credentials

Click on the cell below, then on the notebook toolbar, click the box of 1's and 0's which allows you to insert file or data connections. Select the **Connections** tab.

You should not have any connections defined.



Select **project page** to create a new tab in your browser displaying the project page:



Select **Connections** and then **Create Connection**

The screenshot shows the 'Data Science Experience' (DSX) interface. The top navigation bar includes a menu icon, the DSX logo, and the text 'Data Science Experience'. Below this, a breadcrumb trail shows 'My Projects > DSXPeT0330'. The main content area is divided into several sections: 'Overview', 'Analytics Assets', 'Data Assets', 'Bookmarks', 'Collaborators', and 'Settings'. The 'Data Assets' section is currently active, displaying a table with columns: NAME, TYPE, SERVICE, LAST MODIFIED, and ACTIONS. The table is empty, with a message 'you currently have no data assets'. Other sections visible include 'Notebooks' with one item 'dashConnectAndInteract' and 'Bookmarks' with a message 'you currently have 0 bookmarks'.

Pick a name for your dashDb connection (I used myDashDb), an optional description, and then select the **Service Instance** (name will vary) and **Database** (BLUDB).

Create.

The screenshot shows the 'New Connection' form in the DSX interface. The form includes the following fields and options:

- Name:** myDashDb
- Description:** The connection to the dashDb instance I created in Bluemix
- Service Category:** Data Service (selected), External
- Service Instance:** dashDB for Analytics: dashDB for Analytics-b7
- Database:** BLUDB

At the bottom of the form, there are two buttons: 'Create' (highlighted in red) and 'Cancel'.

The connection will now show in your list of Data Assets.

The screenshot shows the Data Science Experience (DSX) dashboard. The main content area displays three sections: Notebooks, Data Assets, and Bookmarks. The Data Assets section contains a table with the following data:

NAME	TYPE	SERVICE	LAST MODIFIED	ACTIONS
myDashDb	Connection	dashDB	22 Mar 2017	...

The right sidebar shows the 'Connections' tab with a message 'No files found.' and an 'Apply' button.

And will automatically update in the list of Connections for your notebook.

The screenshot shows the DSX notebook editor. The notebook title is 'Access dashDB and explore the data with Python'. The content area shows a code block with a link 'Insert to code' under the connection name 'myDashDb' in the sidebar.

Select the code block for database credentials and click the **Insert to code** link under the connection name to have a `credentials_1` dictionary added to the notebook. (Note: sometimes the dictionary may be named `credentials_2`, etc – if so, simply rename to `credentials_1`)

The screenshot shows a Jupyter notebook in the Data Science Experience environment. The notebook is titled 'dashConnectAndInteract'. It contains two code cells. The first cell sets the classpath for the dashDB connector. The second cell imports the Jupyter client and starts the JVM. Below the code cells, there is a section titled 'Insert the database connection credentials' which provides instructions on how to insert credentials into the notebook. It lists the required information: Database name, Host DNS name or IP address, Host port, Connection protocol, User ID, and User password. It also mentions that the information in `credentials_1` will be used to build a connection string in a subsequent step. Below this, there is a code cell showing a dictionary `credentials_2` with the following values: `port: 50000`, `db: 'BLUDB'`, `username: 'dash107602'`, `ssl:disable: 'jdbc:db2://awh-yp-smal103.services.dal.bluemix.net:50001/BLUDB:sslConnection=true'`, `host: 'awh-yp-smal103.services.dal.bluemix.net'`, `https_url: 'https://awh-yp-smal103.services.dal.bluemix.net:8443'`, `dsn: 'DATABASE=BLUDB;HOSTNAME=awh-yp-smal103.services.dal.bluemix.net;PORT=50000;PROTOCOL=TCP;UID=dash107602;PWD=2fe(3gK5vCb)'`, `hostname: 'awh-yp-smal103.services.dal.bluemix.net'`, `jdbcurl: 'jdbc:db2://awh-yp-smal103.services.dal.bluemix.net:50000/BLUDB'`, `ssldes: 'DATABASE=BLUDB;HOSTNAME=awh-yp-smal103.services.dal.bluemix.net;PORT=50001;PROTOCOL=TCP;UID=dash107602;PWD=2fe(3gK5vCb;Security=SSL;'`, `url: 'db2://dash107602(2fe(3gK5vCb@awh-yp-smal103.services.dal.bluemix.net:50000/BLUDB'`, `password: '""2fe(3gK5vCb)'`. Below the code cell, there is a section titled 'Create the database connection' which states that the following code snippet creates a connection string `connection_string` and uses the `connection_string` to create a database connection object.

Connecting to dashDB requires the following information which are provided by the credentials dictionary inserted:

- Database name
- Host DNS name or IP address
- Host port
- Connection protocol
- User ID
- User password

The information `credentials_1` will be used to build a connection string in a subsequent step.