Using BigSheets for Spreadsheet-like Analytics

Loading data into BigSheets

Contents

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Before you can work with BigSheets, you need to load the data that you want to work with into BigSheets. BigSheets is part of the IBM BigInsights product so you will be working with this for the lab exercise.

After completing this hands-on lab, you should be able to:

- Import data into a workbook
    - From the *Files* tab in the BigInsights Console
    - From the *BigSheets* tab in the BigInsights Console
    - Directly from an application on the BigInsights Console

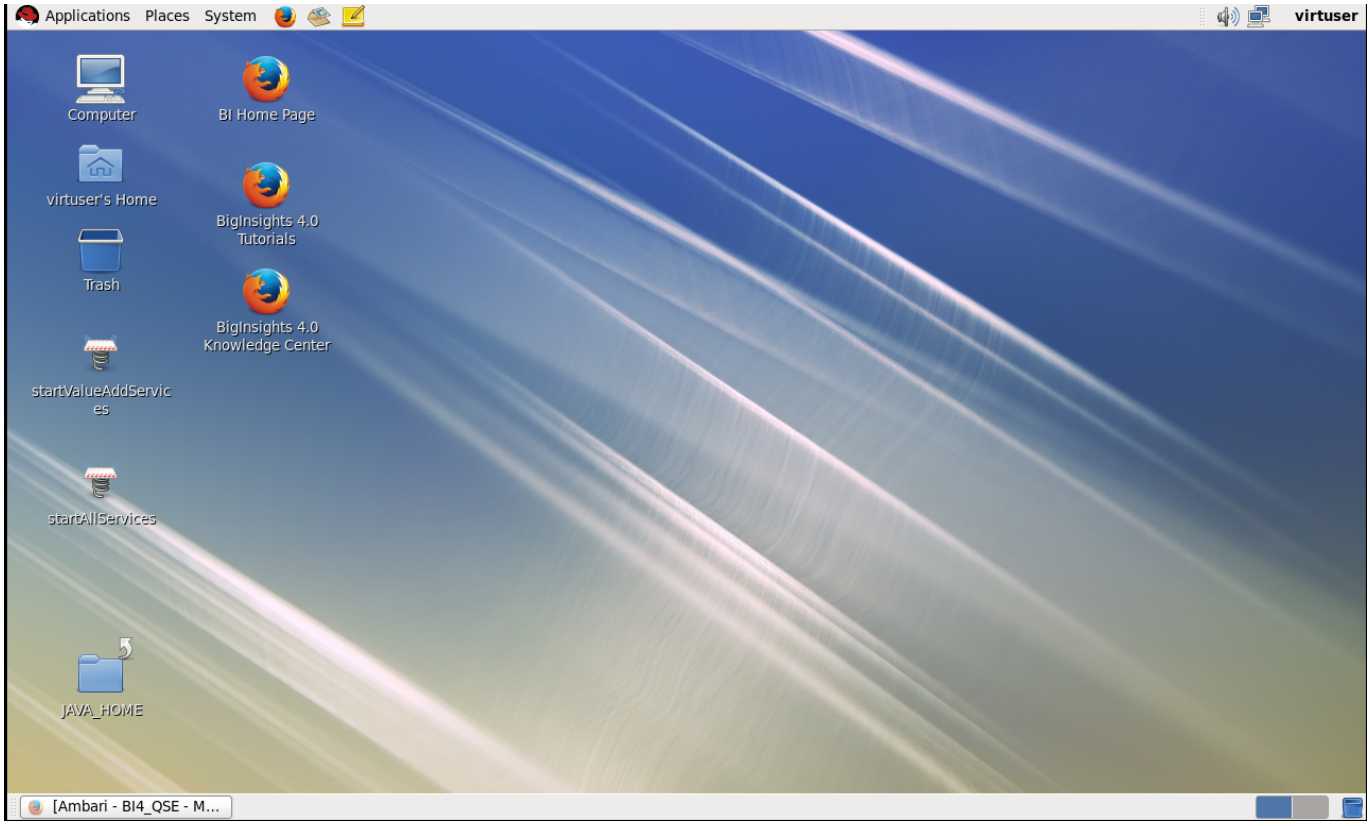
Allow 15-30 minutes to complete this section of lab.

Throughout this lab you will be using the following account login information:

When to use:	Username	Password
Log in from the command-line to accept the licenses	root	password
Log in from the RHEL desktop	virtuser	password
Log in to the Ambari console	admin	admin

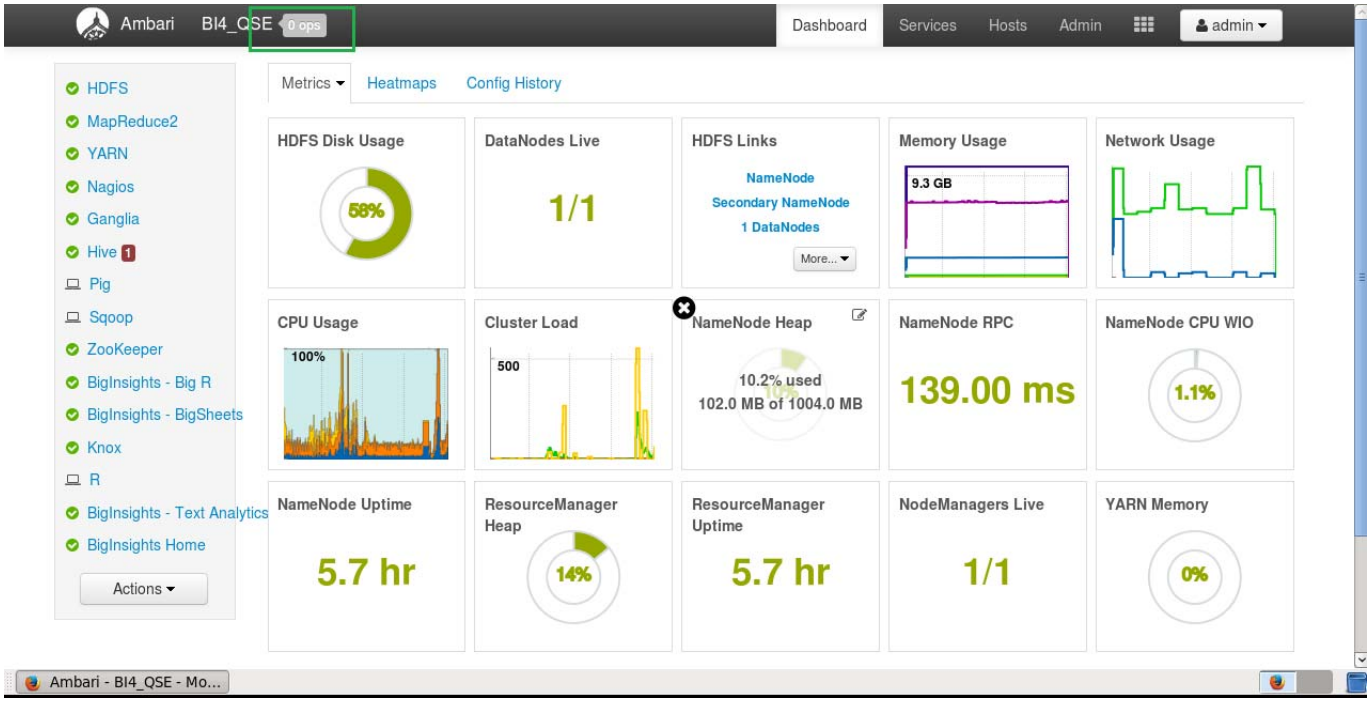
1.1 Getting Started

__1. After you log in, your screen should look similar to the one below.

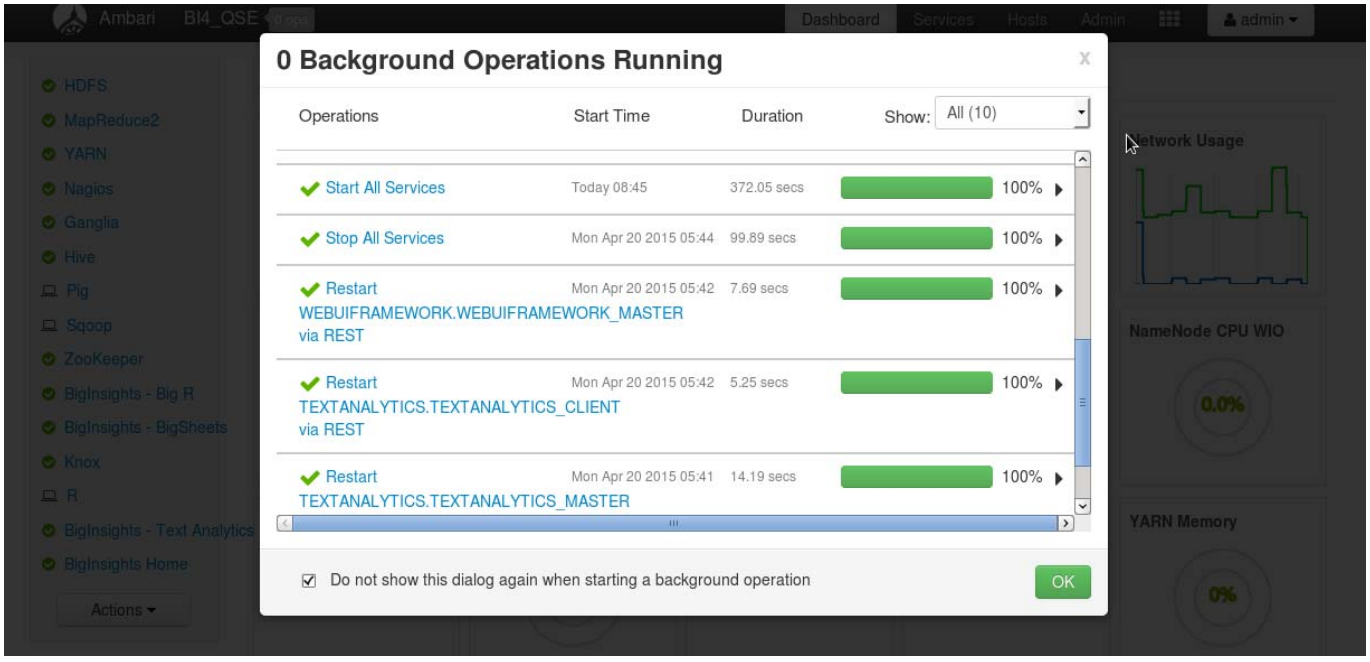


Before you can start working with BigSheets, you need to start up BigInsights. The Ambari console should have automatically started up for you. If not, you can start it up yourself. To check if the services have started, open up the Firefox browser and log in to the Ambari console. You will have to give it a few minutes for all the services to start up.

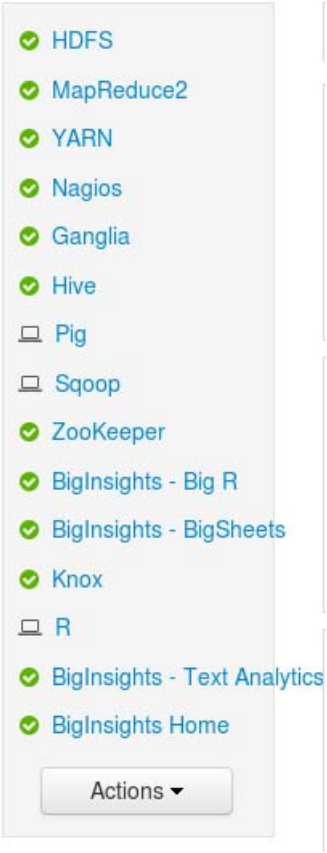
__2. Check to see the status of the startup by opening up the operations windows of the Ambari console:



__3. With the Operations dialog opened, you will see that the services are starting up:



__4. When all the services have started, the left panel should appear with all green check marks.



__5. Once that is up, you are ready to begin the lab. If not, use the appropriate buttons on the desktop to either "**startAllServices**" and the "**startValueAddServices"** (for BigSheets). You can also use the Services inside the Ambari console to start them up manually that way as well.

__6. Try these hints and tips if you have trouble with the installation of the VM Image.

1. Browser cannot load the Ambari user interface

   If you have problems with the browser not being able to load the Ambari user interface, then the IP address of the machine might have changed due to a network connectivity reset. Network reset can happen during these conditions:

   - Changing from wifi to wired or wired to wifi.
   - Shutting down the system, and then re-establishing connection.
   - Sending the machine into sleep mode. When it comes back up, the network IP address might be reset.

   To resolve this issue, run the following scripts as the **`root`** user (root/password):

   ```
   /home/virtuser/setHostname.sh
   /home/virtuser/start-all.sh
   ```

Then, try to connect to `http://rvm.svl.ibm.com:8080`. You can also reboot the VM so that the IP address changes are updated as part of the initialization scripts.

2. Some of the BigInsights value-add services will not launch.
    1. From the Ambari web interface, click **Actions** > **Stop all services**.
    2. From the Ambari web interface, click **Actions** > **Start all services**.
    3. Run the **`startValueAddServices`** script that is available on the desktop of the Quick Start Edition.
    4. From the VM image desktop, click **BIHomePage** to launch the BigInsights Home web interface.

1.2 Loading data into BigSheets using HDFS commands

In this section of the exercise, you will be creating a workbook using CSV files. These files represent data from a fictitious company, The Great Outdoor Company. You should have loaded the labfiles directory on under /home/virtuser. If not, go back to that section on the BDU page for BigSheets to download the labfilfes directory onto the VM.

__1. Launch a terminal.

__2. Type in the command to copy the labfiles directory into HDFS under /user/virtuser.

hdfs dfs -put /home/virtuser/labfiles /user/virtuser/

__3. Let's take a moment to understand the files that we just uploaded to the HDFS.

hdfs dfs -ls /user/virtuser/labfiles

```
[virtuser@rvm Desktop]$ hdfs dfs -ls /user/virtuser/labfiles
Found 7 items
-rw-r--r--   3 virtuser hdfs        606 2015-05-04 11:19 /user/virtuser/labfiles
/RDBMS_data.csv
-rw-r--r--   3 virtuser hdfs    1416881 2015-05-04 11:19 /user/virtuser/labfiles
/blogs-data.txt
-rw-r--r--   3 virtuser hdfs       3389 2015-05-04 11:19 /user/virtuser/labfiles
/employee_state .csv
-rw-r--r--   3 virtuser hdfs     881781 2015-05-04 11:19 /user/virtuser/labfiles
/last_of_the_mohicans.txt
-rw-r--r--   3 virtuser hdfs    2634155 2015-05-04 11:19 /user/virtuser/labfiles
/news-data.txt
-rw-r--r--   3 virtuser hdfs       1386 2015-05-04 11:19 /user/virtuser/labfiles
/product.csv
-rw-r--r--   3 virtuser hdfs       1223 2015-05-04 11:19 /user/virtuser/labfiles
/sales.csv
[virtuser@rvm Desktop]$
```

RDBMS_data.csv → data from a RDBMS database

blogs-data.txt → data from the boardreader application

employee_state.csv → data for the employees' state

last_of_the_mohicans.txt → text file from the last of the mohicans

news-data.txt → some news blogs

product.csv → csv file of the products from the The Great Outdoor Company

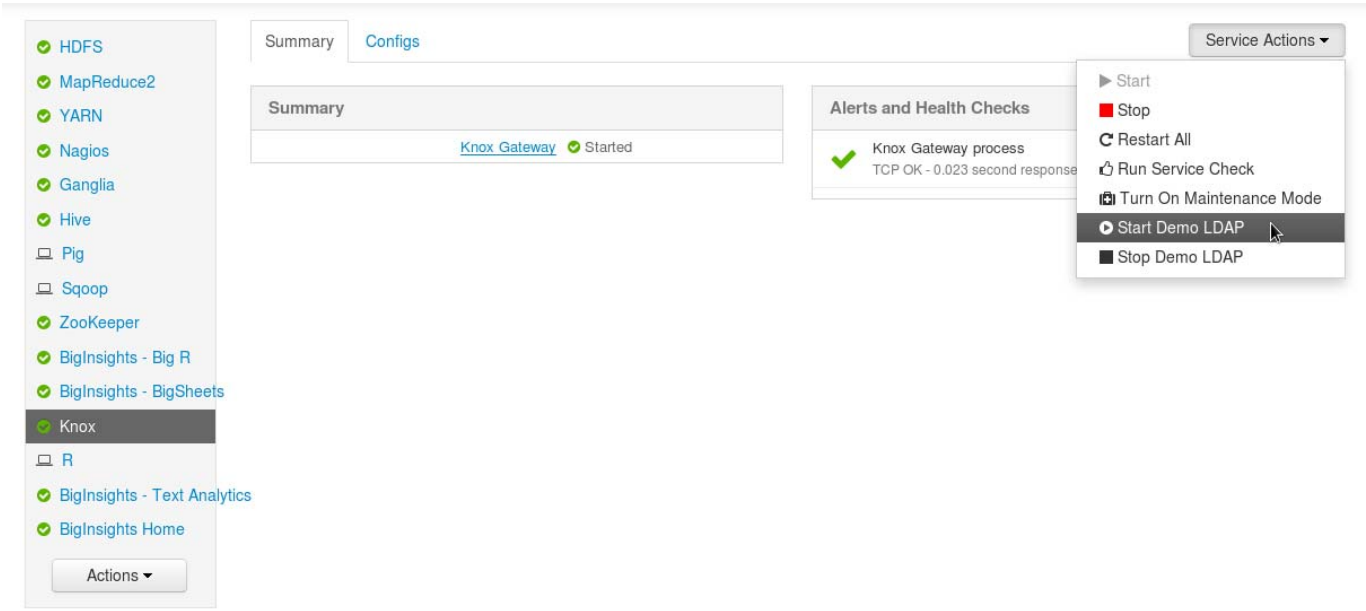
sales.csv → csv file of the sales

1.3 Loading data into BigSheets using the BigInsights Home page

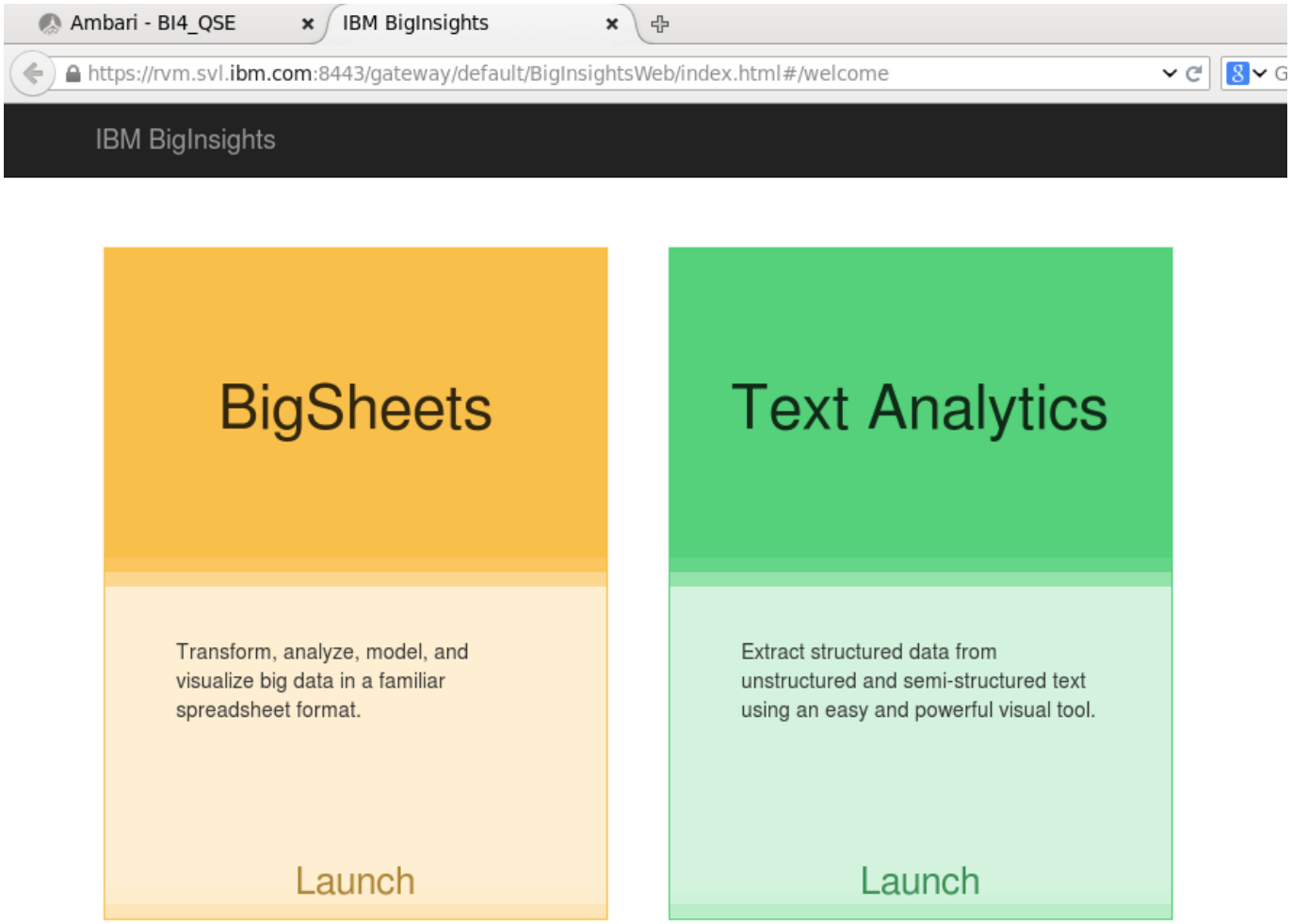
In this section of the exercise, you will be creating a workbook using CSV files. These files represent data from a fictitious company, The Great Outdoor Company.

__4. Start the BigInsights Console by double-clicking on the *Web Console* icon on the desktop.

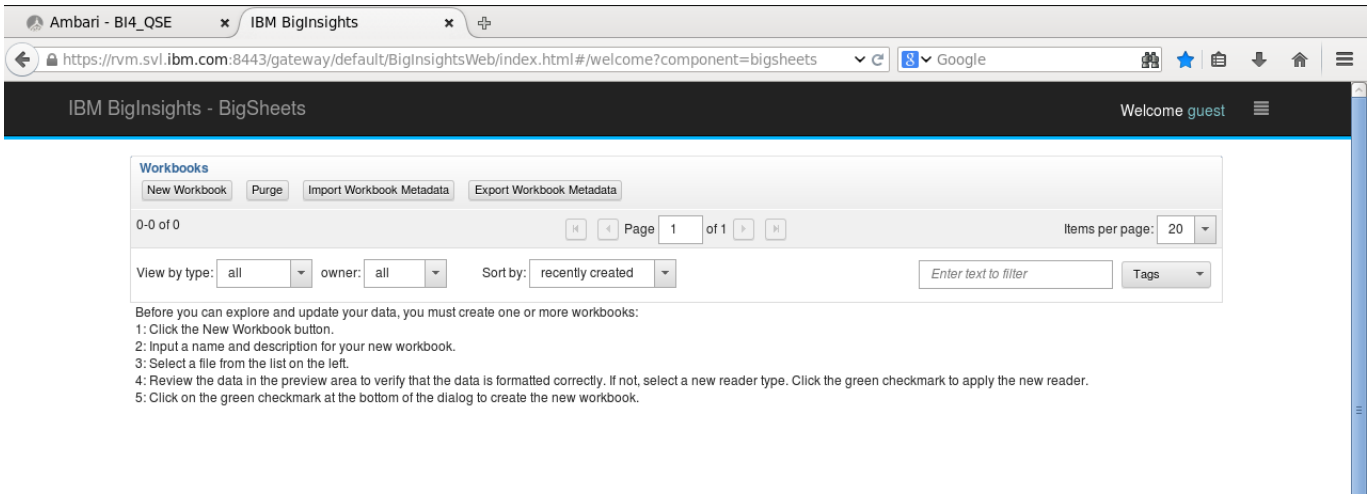
__5. If it doesn't start up, you need to start the **Demo LDAP** via the **Knox** service:



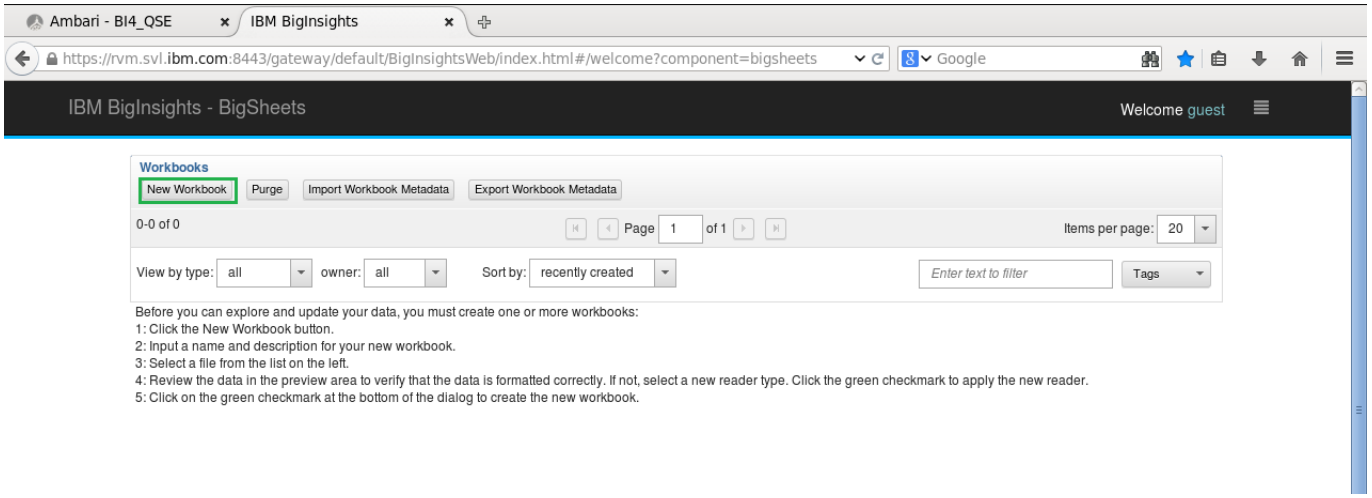
__6. The login to the BigInsights home should be saved in the browser. If not, use **guest/guest-password** as the login.



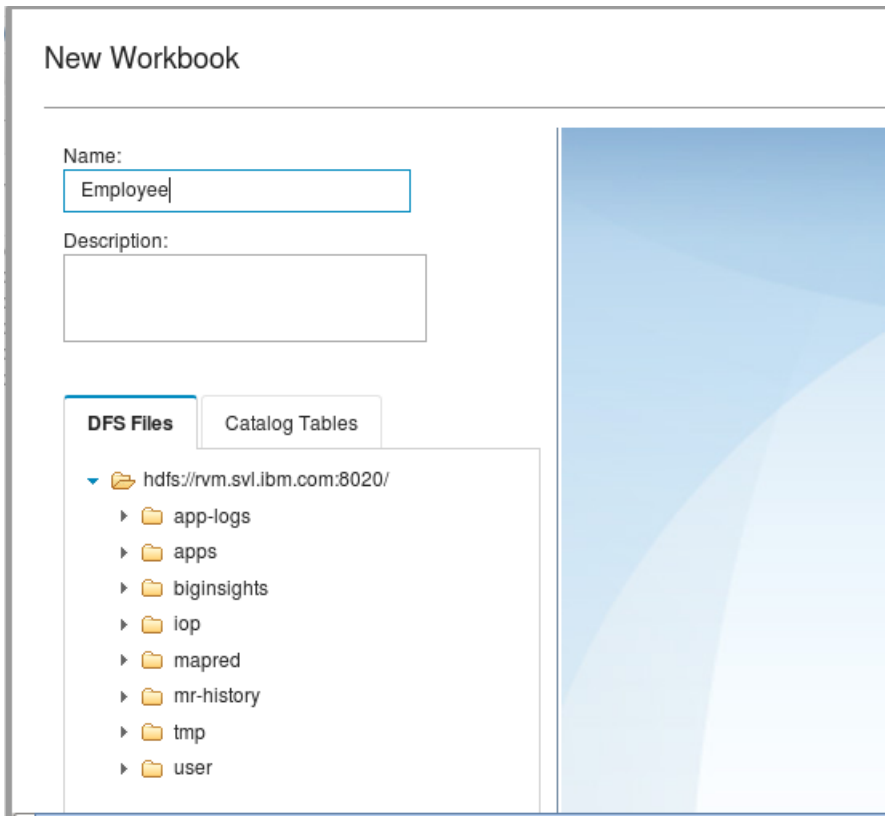
__7. Click the BigSheets to launch it.



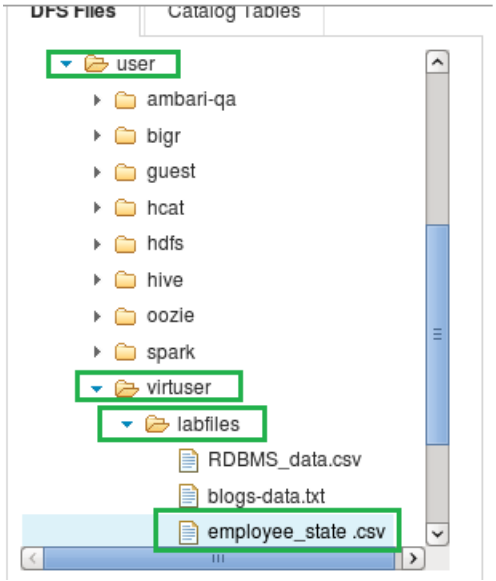
__8. Create a new workbook using the *employee_state.csv*. Click the New Workbook pushbutton.



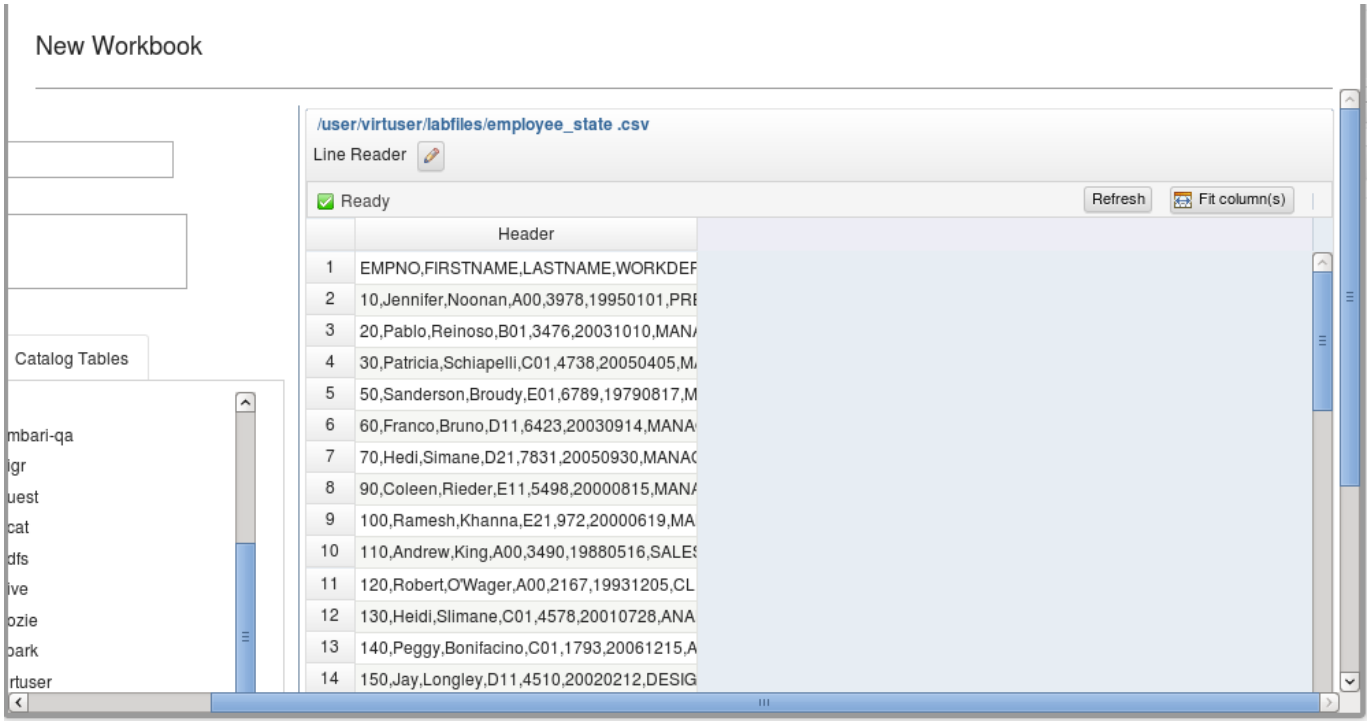
__9. In the dialog that pops up, give the workbook the name *Employee.*



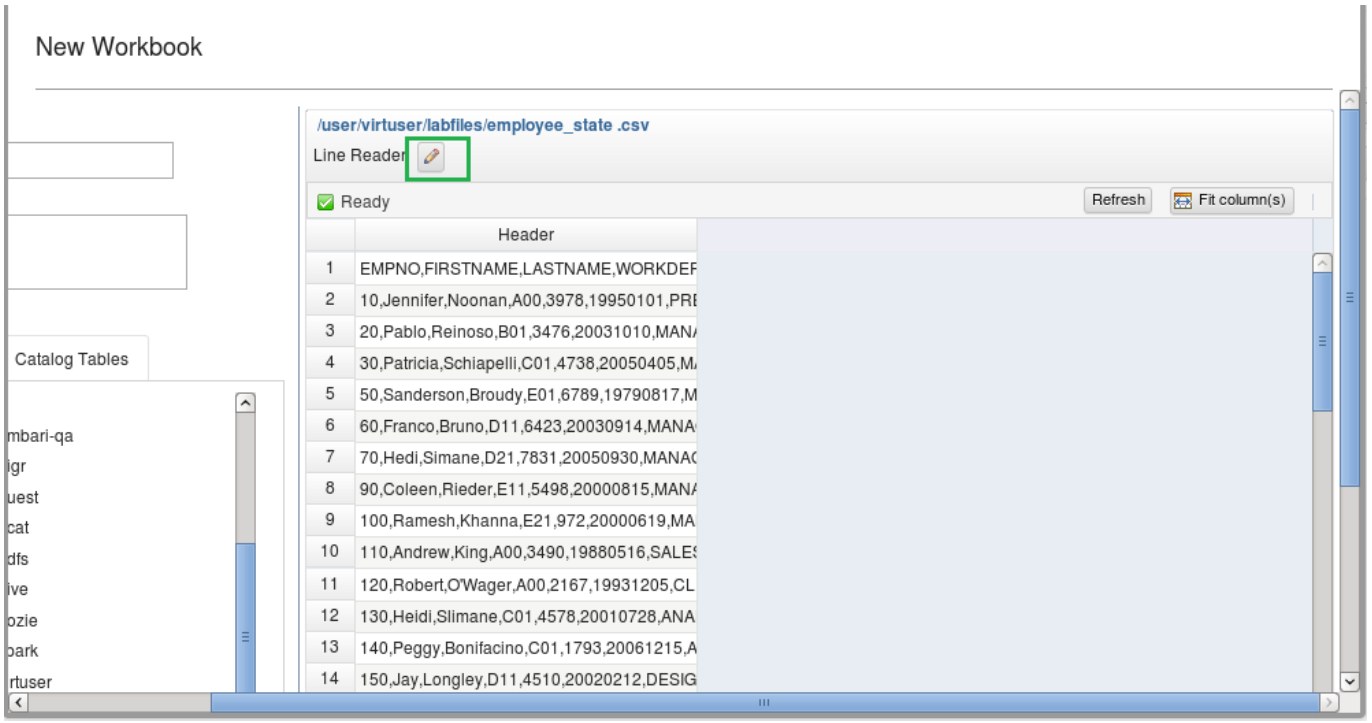
__10. Scroll down further, under the DFS Files tab, and select the *employee_state.csv* file under */user/virtuser/labfiles/employee_state.csv*



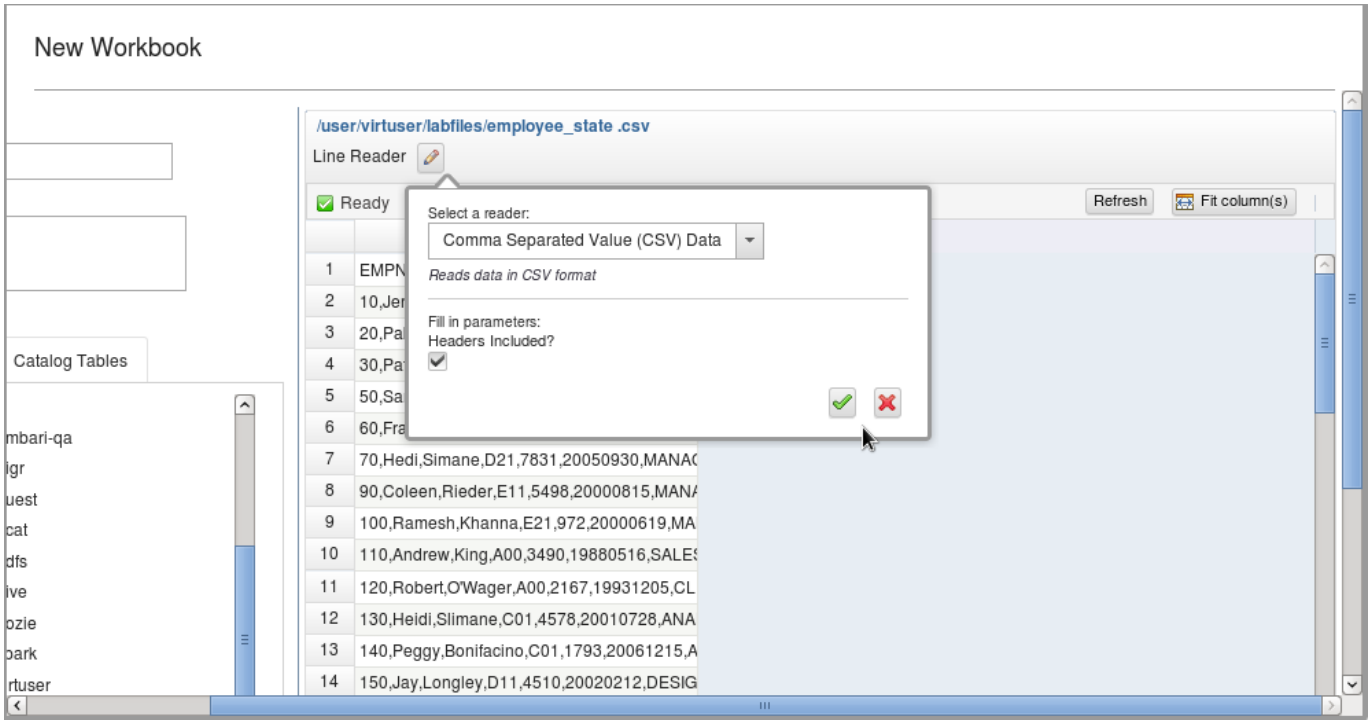
__11. The contents of *employee_state.csv* are displayed in the right frame in a text format. Scroll up and right to center the preview pane:



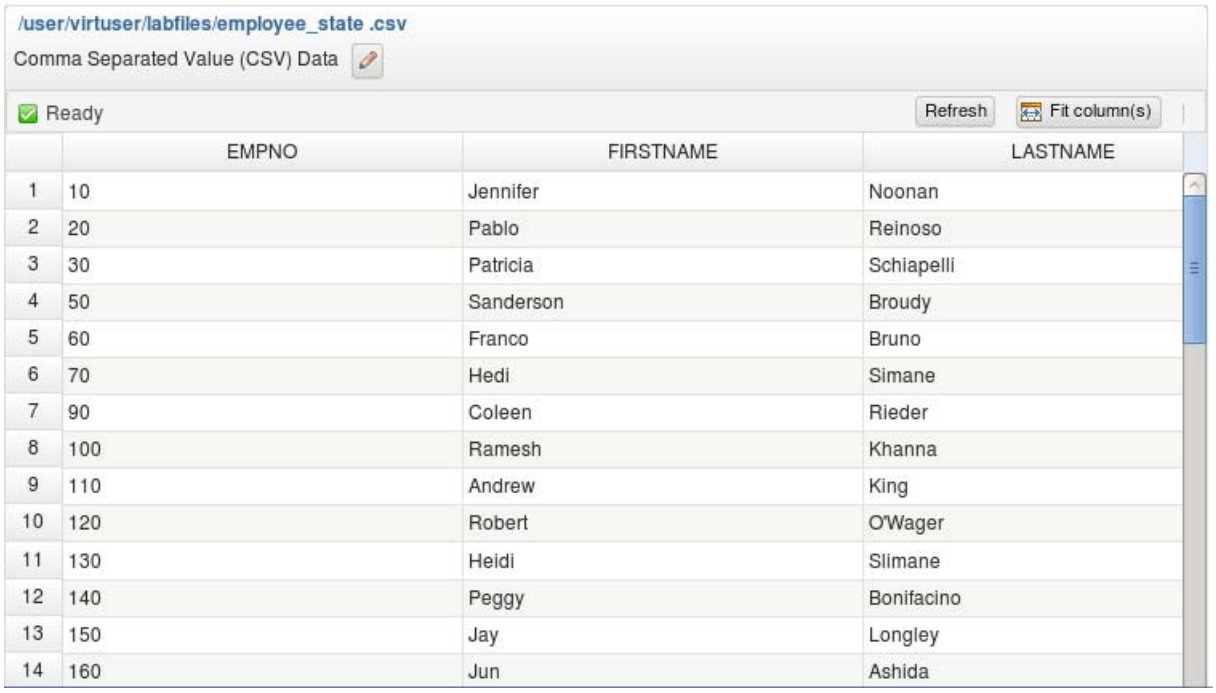
__12. The data has been read by the BigSheets' line reader. Unfortunately, the data is in a comma-separated format, so you need to specify a different BigSheets reader. Click the **pencil** icon.



__13. From the *Select a reader* drop-down box, select *Comma Separated Value (CSV) Data*. Since the data includes header information, make sure the *Headers included?* checkbox is checked. Click the **green check mark**.

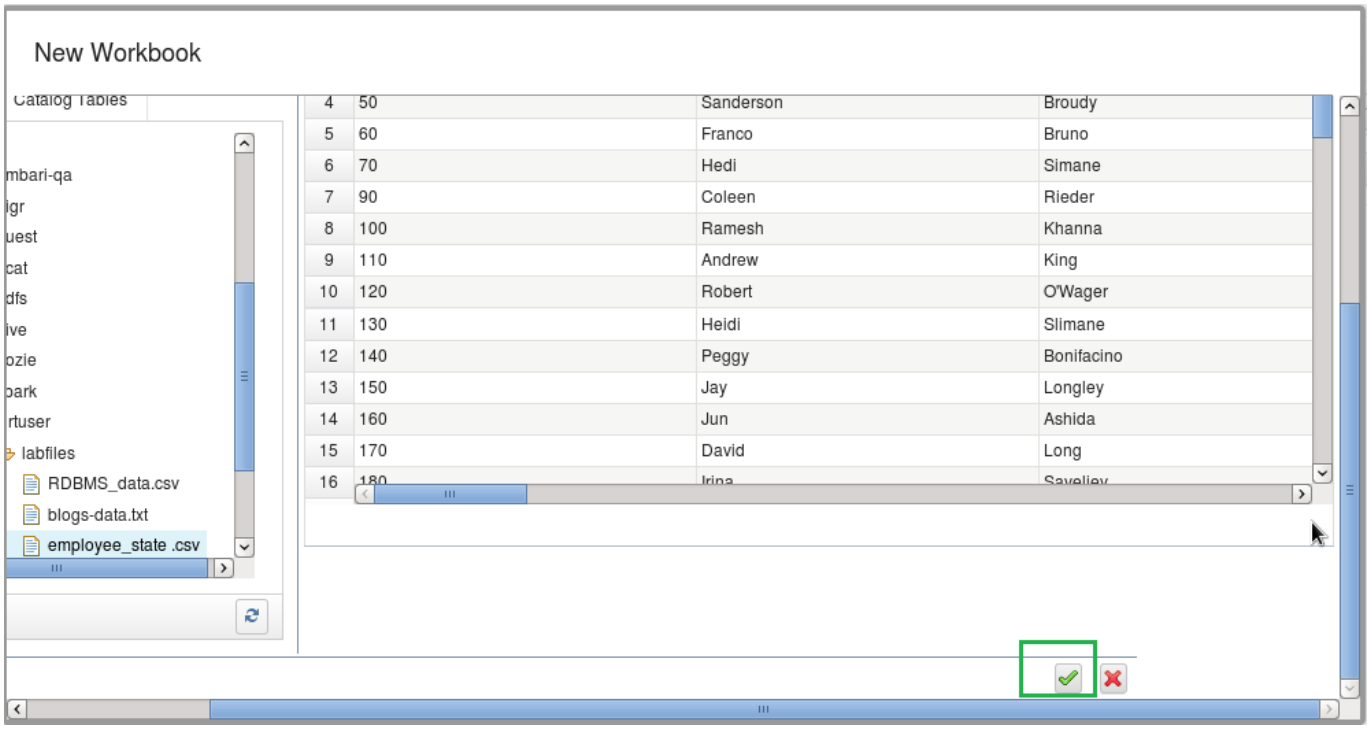


__14. The data is now formatted correctly.



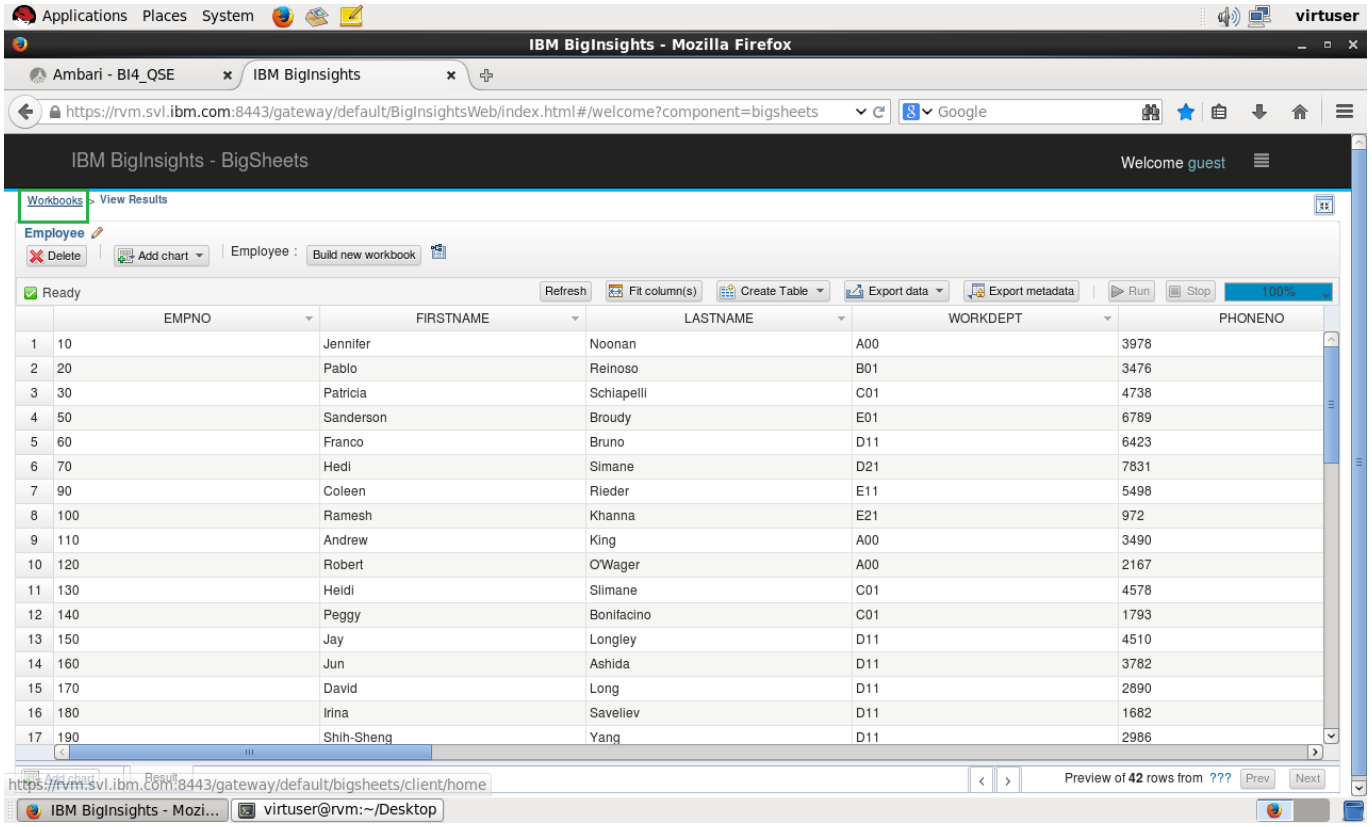
	EMPNO	FIRSTNAME	LASTNAME
1	10	Jennifer	Noonan
2	20	Pablo	Reinoso
3	30	Patricia	Schiapelli
4	50	Sanderson	Broudy
5	60	Franco	Bruno
6	70	Hedi	Simane
7	90	Coleen	Rieder
8	100	Ramesh	Khanna
9	110	Andrew	King
10	120	Robert	O'Wager
11	130	Heidi	Slimane
12	140	Peggy	Bonifacino
13	150	Jay	Longley
14	160	Jun	Ashida

__15. Scroll to the bottom of the New Workbook dialog to Save the workbook. Click the green checkmark.



This time, use the same process for loading in the products csv file. We're not going to do anything with the Employee workbook just yet.

__16. Click the Workbooks breadcrumb link near the top to get back to the BigSheets home.



__17. Click the **New Workbook** pushbutton.

__18. In the Name field, type in **Products.**

__19. Drill down the *DFS File* to */user/virtuser/labfiles/*. Select the *product.csv* file and see that its content is displayed on the right.

__20. Similar to the *employee_state.csv* file that you did earlier, the format is in CSV so you need to specify the appropriate line reader. Select the **Pencil** icon and choose the *Comma Separated Value (CSV) Data*. The file also includes header, so make sure the *Headers included?* checkbox is checked. Click the **green check mark**.

__21. Scroll down to the bottom and click the **green check mark** to create the new *Products* workbook.

__22. You are going to do the same steps for the sales.csv file.

__23. Click the **New Workbook** pushbutton.

__24. In the Name field, type in **Sales.**

__25. Drill down the *DFS File* to */user/virtuser/labfiles*. Select the *sales.csv* file and see that its content is displayed on the right.

__26. Select the **Pencil** icon and choose the *Comma Separated Value (CSV) Data*. The file also includes header, so make sure the *Headers included?* checkbox is checked. Click the **green check mark**.

__27. Scroll down to the bottom and click the **green check mark** to create the new *Sales* workbook.

Summary

Having completed this exercise, you should now be able to load data into BigSheets using the Hadoop commands along with the BigInsights Home page to create worksheets. You specified the CSV reader to load in CSV files.

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