



QlikView, Creating Business Discovery Application using HDP

V1.0 March 13, 2014

Introduction

Summary

Welcome to the QlikView (Business Discovery Tools) tutorials developed by Qlik[™]. The tutorials will is designed to help you get connected with QlikView within minutes to access data from the Hortonworks Sandbox. QlikView will allow you to immediately gain personalized analytics and discover insights into that data. As with most BI tools QlikView can use Apache Hive (via ODBC connection) as the SQL access in Hadoop.

QlikView has two modes of ingesting data

- 1. Data loaded to QlikView In-Memory Associate Data Store.
 - a. Pros Sub Second Response Time, Data Compression, only accesses Data from HDP at time of load (Less Load on HDP)
 - b. Con Data Size Limitation, Data Duplication
- 2. QlikView Hybrid Solution QlikView Direct Discovery on top of Hadoop.
 - a. Pro Data is left in HDP, Workload is pushed down to HDP
 - b. Con Response time depends on HDP is much slower than In-Memory, Work Load on HDP will need to be managed effectively.

This Tutorial will cover loading data into Qlikview In-Memory Associative Data Store; with simple modifications to the load script, the application can be configured to run the Qlikview Hybrid Solution where data resides inside HDP.

Prerequisites:

- Prerequisite 1: Download <u>QlikView Desktop Personal Edition</u>
- Prerequisite 2: Working HDP Cluster (Please choose one of the below. This tutorial uses Sandbox)
 - o Download HDP 2.0 for Ubuntu, RHEL, CentOS & SLES
 - o Download HDP 2.0 for Windows
 - o Download HDP Sandbox
- Prerequisite 3: Download HDP Hive ODBC Driver





Overview

Step 1: Install QlikView Desktop Personal Edition. (Qlikview is Windows Only Application) The current version of QlikView of this writing is QlikView 11 SR5. See Appendix for screen shots and detailed instructions.

Step 2: Install HDP Hive ODBC driver and Connect QlikView to HDP. Here are the simple steps, or see Appendix for screen shots and step by step instructions.

- Execute file HortonworksHiveODBC64.msi downloaded from HDP Hive ODBC Driver
- Click Next on the Hortonworks Hive ODBC Driver Setup Wizard Welcome screen, and complete the wizard setup. Reboot as requested.
- Open ODBC Manager to set up ODBC Connection with HDP. Click "Add" and New Data Source Window will show up.
- Select Hortonworks Hive ODBC Driver and Finish
- Enter credentials for HDP Sandbox. Use Hive Server Type 2 to support Kerberos Authentication.
- Enter Credentials and test.

Step 3: QlikView Integration with HDP Hive – Step by step Tutorial below.





Step 3 – QlikView Integration with HDP Hive

In this section, we will explore two ways that QlikView can explore data in Hive.

Please review HDP Tutorial and load data into Hortonworks Hive before starting this section.

Setup QlikView and Load Sample Data from Hive

1. Start QlikView Desktop Personal Edition

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and take the second Protocol	

2. File -> New Click Cancel when the Wizard Comes up







3. Click on the Script Icon to Open QlikView Script



4. Click Connect and QlikView ODBC Manager will come up.



5. Select your HIVE ODBC Connection enter your credentials and test your connection

Connect to Data Source		×	Connect to Data Source Test	×
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6. Click OK to clear connection test and OK on the QlikView ODBC Manager and a connection string will appear on Script Editor

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7. Click Select and QlikView Selection Window will Appear with all of your Tables

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8. Choose your sample table and select okay to add to HIVE table load script for selected sample table.

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9. Qlik Okay to exit Script Editor or Reload to Load Data immediately into QlikView

Reload will force user to save the QlikView document with a new name.

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- 10. Click Reload
- 11. The QlikView Document will pull in HDP Table into QlikView in Memory Associative Data Store. In this example we will pull in *sample_07* table

Please note 823 lines were extracted from HDP Hive and inserted into QlikView In-Memory Associative Data Store.

Script Execution Prog	gress					
20	Executing Script					
<u> </u>	This may take up to several minutes depending on the size of the script.					
	Started at 11:16:23, Ended at 11:16:34, Elapsed: 00:00:11					
	Click the End Here button to stop script at its current position. Click the Abort button to abort the script execution.					
Connecting to Connected	o Horton 2.0 Sandbox					
sample_07 82	3 lines fetched					
4						
Close when finishe	d Close End Here	Abort				

12. Right click and choose "select fields"

@ QlikView x64 - [C:\Users\jrp\Des	skto	\Qlik HDP Demo.qvw*]	
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Select fields to show on this sheet			3/17/2014 11:16:33 AMP* //





13. Click Add All to add all fields to current QlikView Sheet.

Sheet Properties [Main]	×
General Fields Objects Security Triggers	
Available Fields	Fields Displayed in Listboxes
Show Fields from Table	Add > Add All >> < Remove
All Tables	
I Show System Fields	
	OK Cancel Apply Help

14. Verify all fields were successfully loaded by inspecting the data in QlikView. Select Items inside QlikView to see the Associative nature of QlikView.

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Once the data is imported you are ready to go. Now you can use QlikView to create data application with data from Hadoop and the Hortonworks Sandbox. The QlikView application approach users create insightful data visualization applications with Hortonworks Data Platform.





To help you learn more about QlikView here are some Videos that you may want view.

- 6 minute Video on High Level Product Demonstration on QlikView <u>QlikView</u>
 <u>Product Tour</u>
- <u>New To QlikView Videos</u> Series of 1 to 3 minutes video on QlikView Topics from loading data to designing charts to creating buttons.
 - New to QlikView: Introduction to QlikView
 - New to QlikView: OLAP vs. New Rules
 - New to QlikView: Multiple Dimensions--The Power of QlikView
 - New to QlikView: Load Data from ODBC
 - <u>New to QlikView: Creating your First Chart in QlikView</u>
 - o New to QlikView: Chart Properties
 - New to QlikView: Create a Text Object
 - New to QlikView: Create a Button Object
 - o Drag and Drop to Create Your First QlikView
 - Ways to Ask Questions with QlikView
 - o **QlikView and the Data Pool**





About Qlik

Qlik (NASDAQ: QLIK) is a leader in Business Discovery—user-driven Business Intelligence (BI). Its QlikView Business Discovery solution bridges the gap between traditional BI solutions and inadequate spreadsheet applications. The in-memory associative search technology Qlik pioneered created the self-service BI category, allowing users to explore information freely rather than being confined to a predefined path of questions. Appropriate from SMB to the largest global enterprise, QlikView's self-service analysis can be deployed with data governance in days or weeks. The QlikView Business Discovery platform's app-driven model works with existing BI solutions, offering an immersive mobile and social, collaborative experience. Headquartered in Radnor, Pennsylvania, Qlik has offices around the world serving approximately 29,000 customers in over 100 countries.

The QlikView Business Discovery platform enables users to explore data, make discoveries, and uncover insights that can be used to help them solve business problems in new ways. One of QlikView's primary differentiators is the associative experience it delivers to users. QlikView's associative experience allows users to answer questions they did not know to ask. - See more at: http://us.demo.QlikView.com/ and visit us at http://www.qlik.com

About Hortonworks

Hortonworks develops, distributes and supports the only 100-percent open source distribution of Apache Hadoop explicitly architected, built and tested for enterprise grade deployments. Developed by the original architects, builders and operators of Hadoop, Hortonworks stewards the core and delivers the critical services required by the enterprise to reliably and effectively run Hadoop at scale. Our distribution, Hortonworks Data Platform, provides an open and stable foundation for enterprises and a growing ecosystem to build and deploy big data solutions. Hortonworks also provides unmatched technical support, training and certification programs. For more information, visit www.hortonworks.com. The Hortonworks Sandbox can be found at: www.hortonworks.com/sandbox.





Appendix: Screen Shots and Step by Step Notes for Steps 1 and 2

Step 1 – Install QlikView Desktop Personal Edition

This section will guide you step by step instructions on installing QlikView personal edition. Current version of QlikView of this writing is QlikView 11 SR5.

1. Install QlikView Desktop.exe

Open File ·	- Security Wa	arning	×		
Do you	want to run t	his file?			
	Name:	\Downloads\Olikview SR5\OlikViewDesktop_x64Setup.exe			
	Publisher:	<u>QlikTech International AB</u>			
	Type:	Application			
	From: C:\Users\jrp\Downloads\Qlikview SR5\QlikViewDesktop_x				
		Run Cancel			
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2. Choose Language



3. Qlik Ok and allow installation to continue





QlikView x64 - InstallShield Wizard	
QlikView x64 Setup is preparing the InstallShield will guide you through the program setup proces	Wizard, which s. Please wait.
Extracting: QlikViewX64.msi	
	Cancel

4. Click Next to Start QlikView Installation



5. Accept EULA







6. Enter Name and Organization

🞼 QlikView x64 - InstallShield Wizard			×
Customer Information			
Please enter your information.			O
User Name:			
JRP			
Organization:			
QlikTech Inc.			
InstallShield			
	< <u>B</u> ack	<u>N</u> ext >	Cancel

7. Press "Next"

🎼 QlikView x	:64 - InstallShield Wizard			×
Destination Click Next	Folder to install to this folder, or click o	Change to install to	a different folder.	0
	Install QlikView x64 to: C:\Program Files\QlikView\			Change
InstallShield —		< Back	Next >	Cancel





8. Choose Full installation

🞼 QlikView x64 -	InstallShield Wizard
Setup Type Choose the set.	up type that best suits your needs.
Please select a	setup type.
Complete	All program features will be installed. (Requires the most disk space.)
C Custom	Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield	< Back Next > Cancel

9. Press Next Button

🞼 QlikView	x64 - InstallShield Wizard			_ 🗆 🗙
Installing (The prog	Qlik∀iew x64 Iram features you selected are b	eing installed.		0
₽	Please wait while the InstallSh several minutes. Status:	ield Wizard installs	QlikView x64. This may tak	
InstallShield –		< Back	Next >	Cancel





10. Complete Installation of QlikView by pressing Finish



You have successfully installed QlikView Desktop Personal Edition.





Step 2 – Install HDP Hive ODBC driver and Connect QlikView to HDP

In this section we will install HDP Hive ODBC Driver and Connect QlikView to HDP.

- 1. Execute file HortonworksHiveODBC64.msi downloaded from :HDP Hive ODBC Driver
- 2. Click Next on the Hortonworks Hive ODBC Driver Setup Wizard Welcome screen.



3. Review the license agreement than select checkbox to accept the license terms and click Next to continue







4. Select Next



5. Click Install







6. If reboot is required Click OK

Please wait	t while the Setup Wiz	Horto	onworks Hive C	DDBC Driver	Setup	
Status:	Validating install	0	The setup mu updated while continue, a re setup.	ust update file e the system i eboot will be r	s or services that is running. If you o equired to complet	cannot be hoose to te the
			ОК		Cancel	

7. Click Finish to close.

B Hortonworks Hive ODBC I	Driver Setup	
	Completed the Horto Driver Setup Wizard	nworks Hive ODBC
	Click the Finish button to exit the	he Setup Wizard.
UJ		
Hortonworks		
	Back	Finish Cancel





8. Click **Yes** to restart to your system



- 9. Open ODBC Manager to set up ODBC Connection with HDP
- 10. Click Add and New Data Source Window will show up.







11. Select Hortonworks Hive ODBC Driver Click Finish.

	Name	Version	
0110	HDBODBC	1.00.52.47206	
	Hortonworks Hive ODBC Driver	1.02.13.1018	
	IBM BIG SQL ODBC DRIVER	Not marked	
	Microsoft Access dBASE Driver (*.dbf,	14.00.7010.1000	
	Microsoft Access Driver (*.mdb, *.accdb)	14.00.7010.1000	
	Microsoft Access Text Driver (*.txt, *.csv)	14.00.7010.1000	
	Microsoft Excel Driver (*.xls, *.xlsx, *.xls	14.00.7010.1000	
	PostgreSQL ANSI(x64)	9.00.01.01	-
		•	

12. Enter credentials for HDP Sandbox

Use nive ser	ver Type 2 to support Kerb
Hortonworks Hive	ODBC Driver DSN Setup
Data Source	1
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Host:	
Port:	10000
Database:	default
Hive Server Type:	Hive Server 1
CAuthentication	
Mechanism:	No Authentication 💌
Realm:	
Host FQDN:	
Service	
User	
	Advanced Options
v1.2.13.1018 (64 bit) Test OK Cancel

Use Hive Server Type 2 to support Kerberos Authentication.





13. Enter Credentials

Hortonworks Hive	e ODBC Driver DSN Setup
Data Source	Horton 2.0 Sandbox
Description:	Horton 2.0 Sandbox
Host:	192.168.5.128
Port:	10000
Database:	default
Hive Server Type:	Hive Server 2
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Mechanism:	User Name
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Host FQDN:	
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User	hive
	Advanced Options
v1.2.13.1018 (64 bi	t) Test OK Cancel

14. Click Test and verify successful connection.

Но	rtonworks Hive ODBC Driver Data Source Test	×
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	Running connectivity tests	
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