This article demonstrates an example following the instructions on Qlik help site <u>https://help.qlik.com/en-</u>

<u>US/sense/February2018/Subsystems/PlanningQlikSenseDeployments/Content/Deployment/Configuring</u> <u>-SSO-for-MSSQL.htm</u>

Environment settings in this example:

- Qlik Sense February 2018, single node. Server name: *QlikServer1.domain.local*
- SQL Server Express 11. Server name: QlikServer3.domain.local
- Qlik Sense service account: domain\qvservice
- SQL Server service account: domain\srv3_sqlserver
- SSO test user in Qlik Sense: domain\user1 (or user1@domain.local)

Step 1 - Creating service principal names (SPN) in Active Directory

1.1. Open Windows Command line as an Domain Administrator. Execute the following commands:

```
setspn -A HTTP/QlikServer1.domain.local domain\qvservice
```

```
setspn -A MSSQLSvc/QlikServer3.domain.local:1433
domain\srv3_sqlserver
```

Notes:

- There is no need to provide port for SPN of Qlik Sense service account
- This example uses the default listening port of SQL Server (1433).

1.2. Verify SPN setup with the following commands:

setspn -L domain\qvservice

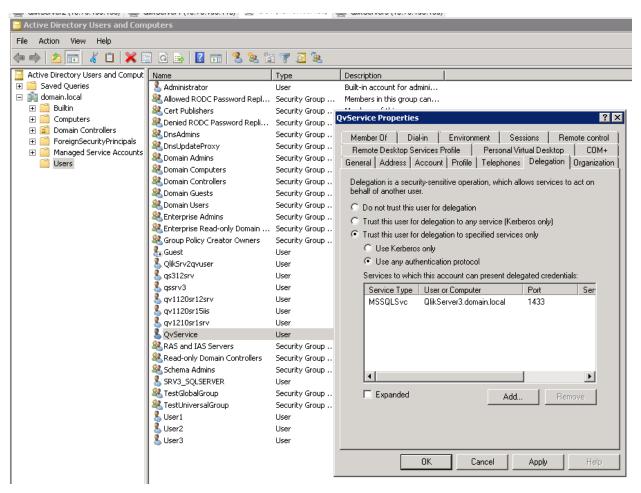
setspn -L domain\srv3_sqlserver

```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator.DOMAIN>setspn -L domain\quservice
Registered ServicePrincipalNames for CN=QuService,CN=Users,DC=domain,DC=local:
HTTP/QlikServer1.domain.local
C:\Users\Administrator.DOMAIN>setspn -L domain\srv3_sqlserver
Registered ServicePrincipalNames for CN=SRU3_SQLSERVER,CN=Users,DC=domain,DC=local:
MSSQLSvc/QlikServer3.domain.local:1433
C:\Users\Administrator.DOMAIN>_
```

Step 2 - Configuring delegation for the Qlik Sense services administrator account

- 2.1. Log on to the Domain Controller as a Windows domain administrator. Open Active Directory Users and Computers
- 2.2. Select Qlik Sense service account (domain\qvservice in this example) > Delegation tab > select Trust this user for delegation to specified services only > select Use any authentication protocol.
- 2.3. Click Add....> Users or Computers....> Enter the MS SQL Server service (domain\srv3_sqlserver in this example) > OK
- 2.4. On the Add Services window, select the MS SQL Server service and click OK.

Delegation set up should look like the following



Step 3 - Configuring the Qlik Sense server for SSO

3.1. Add Qlik Sense services administrator as part of the *Act as part of the operating system role* in *Local Security Policy*.

🖥 Local Security Policy		_
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🚡 Security Settings	Policy 🔺	Security Setting
🕀 📴 Account Policies	📓 Access Credential Manager as a trusted caller	
🖃 📴 Local Policies	📓 Access this computer from the network	Everyone, Administrators,
🗉 📴 Audit Policy	Act as part of the operating system	DOMAIN\qvservice
📴 User Rights Assignment	📓 Add workstations to domain	
🕀 📴 Security Options	📓 Adjust memory quotas for a process	LOCAL SERVICE, NETWOR
Windows Firewall with Advanced Security	📓 Allow log on locally	Administrators, Users, Back
Network List Manager Policies	Allow log on through Remote Desktop Services	Administrators,Remote De
⊞ Public Key Policies □	Back up files and directories	Administrators, Backup Op
Software Restriction Policies	Bypass traverse checking	Everyone,LOCAL SERVIC
	Change the system time	LOCAL SERVICE, Administr
	Change the time zone	LOCAL SERVICE, Administr
Advanced Addic Policy Configuration	Create a pagefile	Administrators

3.2. Add SSOExternalId=1 to configuration file Setting.ini of Qlik Sense Engine service:

- Stop Qlik Sense Engine service
- Open C:\ProgramData\Qlik\Sense\Engine\Settings.ini

- Add *SSOExternalId=1* under [*Settings 7*]. Save the file.
- Start the Engine service

Step 4 - Configuring MS SQL Server

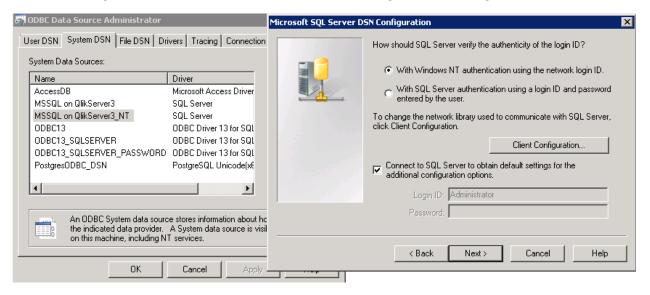
4.1. Ensure that the MS SQL Server service runs as the MS SQL Server services administrator

🚟 Sql Server Configuration Manager				
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🗢 🔿 🖄 🖪 🗟 😹				
😵 SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As
SQL Server Services	SQL Server (MSSQLSERVER)	Running	Automatic	DOMAIN\SRV3_SQLSERVER
. SQL Server Network Configuration (32bit)	ogSQL Server Browser	Running	Automatic	NT AUTHORITY\LOCALSERVICE
🖃 💂 SQL Native Client 11.0 Configuration (32bit)	SQL Server Agent (MSSQLSERVER)	Stopped	Other (Boot, System	NT AUTHORITY\NETWORKSERVICE
Section Protocols				
🚆 Aliases				
SQL Server Network Configuration				
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1	1			

4.2. Reboot the SQL Server (and Qlik Sense server if possible) for the SPN changes to be registered.

Step 5 - Configuring the ODBC DSN

5.1. Set up an ODBC DSN with Microsoft SQL Server ODBC Driver. Make sure the DSN authentication is configured as *"With Windows NT authentication using the network login ID"*



Notes:

- SSO feature can be used with SQL Server Native Client and ODBC Driver 13 (https://www.microsoft.com/en-us/download/details.aspx?id=50420)
- However, for certain environments, SSO does not work with *ODBC Driver 13*. This issue is still under investigation by R&D

Step 6 - Configuring the ODBC connection in Qlik Sense

- 6.1. Create a generic ODBC connection using the DSN created in step 5. Note that option "Single Sign-on" does not exist when creating the connection
- 6.2. Open the newly created connection. Option "Single Sign-on" is now available. Check this option and save the connection

 32-bit O 64-bit AccessDB MSSQL on QlikServer3 MSSQL on QlikServer3_NT ODBC13 ODBC13_SQLSERVER 	
MSSQL on QlikServer3 MSSQL on QlikServer3_NT ODBC13	
MSSQL on QlikServer3_NT ODBC13	
ODBC13	
ODBC13_SQLSERVER	
Logon credentials	
✓ Single Sign-On	
Username Password	
Name	

<u>Notes:</u> SSO is only available for domain users that have a User Principal Name (UPN). Verify this by opening *Active Directory Users and Computers* in the Domain Controller > Right click user > Properties > Account. Make sure the user has a valid user logon name (in this case User1@domain.local)

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Step 7 – Test Single Sign-On

- 7.1. Insert the ODBC connection created in step 6
- 7.2. Use the following load statement in the script:
 - CurrentUser: SELECT SUSER_NAME() as USR;
- 7.3. Reload the application. Preview the loaded table in Data Model viewer (or insert the table to a sheet). Verify that the table shows the current Qlik Sense user instead of the service account.

	22 23	LIB CONNECT T	<pre>0 'MSSQL on QlikServer3_NT (domain_user1)'</pre>	;
	24	CurrentUser:		
	25	SELECT SUSER	NAME() as USR;	
	26			
			rrentU <i>s</i> er SR	
	▼ Previ	iew		
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			Preview of data USR	
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