Configuring Webchat and the Qlik Sense Extension

Qlik Insight Bot®

February 2020

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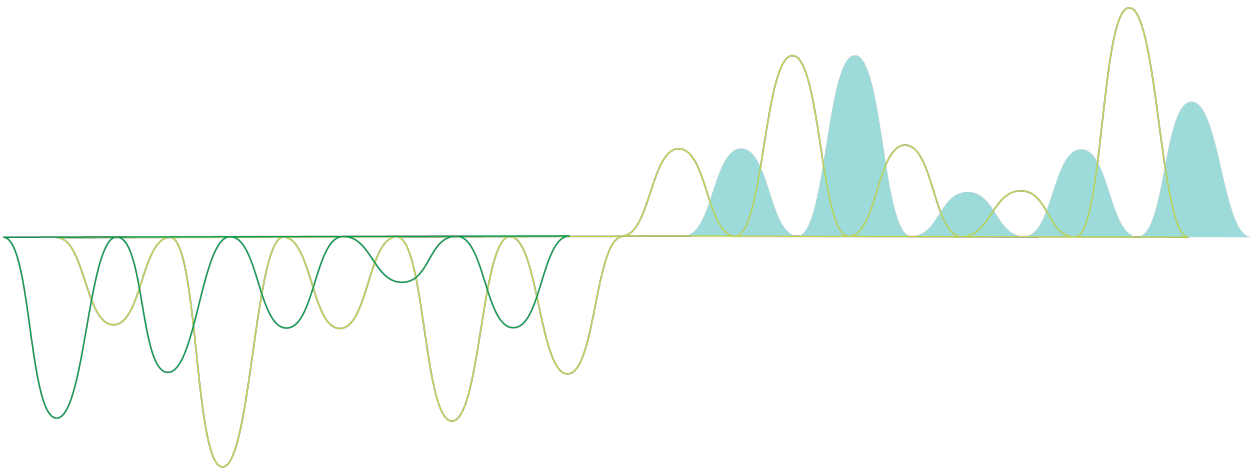

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1. Introduction

Qlik Insight Bot's webchat on hub enables you to have a conversation experience with your data without going inside your application and Qlik Insight Bot's chat extension for Qlik Sense enables you to have a conversational experience with your data within the Qlik Sense app itself.

In both of above cases, you no longer need to stick to a specific chat platform to know the facts about your data. The chat on hub and chat extension gives you the liberty to talk to your data within your Qlik Sense.

For QSEfW June 2019 to Nov 2019, you must install the Webchat service separately. For Q QSEfW February 2020, the service is integrated with Qlik Sense.

Note: The extension is only compatible with Qlik Sense Server edition and not the Desktop edition.

The purpose of this document is to guide you how to configure the both Webchat on Hub and the chat extension.

2. Prerequisites

For QSEfW June 2019 to Nov 2019:

1. **webchat.key** and **webchat.crt** files of a **server's SSL certificate** (must be signed through trusted CA) where **Qlik Insight Bot Webchat service** is installed.
2. **webchat.key** and **webchat.crt** files must be placed at in "*C:/ProgramData/Qlik Insight Bot/Certificate*" directory of a server where **Qlik Insight Bot** components are installed.
   Note: See Appendix I for information about converting PFX into CRT and KEY
3. If Qlik Insight Bot and Qlik Sense are installed on separate machines
   A Service User: If both machines on which Qlik Insight Bot and Qlik Sense Server are installed are in the same domain, you can use a service user of that domain.
4. The hostname of the server on which Qlik Insight Bot is installed must be whitelisted from Virtual Proxy of a Qlik Sense Server.
5. If Qlik Insight Bot and Qlik Insight Bot Webchat service are installed on a separate server, 4431 port must be opened in firewall on server where Qlik Insight Bot Webchat service is installed.
6. Qlik Insight Bot Webchat service and Qlik Sense server URL must fall under the same domain. e.g. If Qlik Insight Bot Webchat service URL is **https://webchat.domain.com**, the Qlik Sense server URL must be **https://qliksense.domain.com**.

For QSEfW Feb 2020:

1. If Qlik Insight Bot and Qlik Sense are installed on separate machines
   a. 4434 port must be opened in firewall on server where Qlik Insight Bot Engine Service is running.
   b. Folder *C:\ProgramData\Qlik Insight Bot* on Qlik Insight Bot machine must be accessible by Qlik Sense. It should be shared within two machines to same user. If you don't want to share, copy this folder on Qlik Sense machine at same location.

Note: Webchat is not supported in IE.

S

3. Configuring Webchat to Qlik Sense

For the version QSEfW Feb 2020 and later, the webchat service is integrated in the Qlik Sense itself, so it is not required to install separately.

If you are using QSEfW June 2019 to Nov 2019, you must install Qlik Insight Bot Webchat Service separately which is available on download site.

Follow the integration steps based on the QSEfW version you are using.

3.1 Qlik Sense April 2020

Configure appsettings.json

You must install the Qlik Insight Bot Feb 2020 Patch 1 to enable bot on QSEfW April 2020.

You must be logged in as a windows administrator to make changes to this file. In multi node architecture, you will have to follow below steps on all nodes.

1. On the Qlik Insight Bot server, go to *C:\ProgramData*, copy the folder **Qlik Insight Bot**, and paste the copied folder to the same location on the Qlik Sense server or you can share **Qlik Insight Bot** folder with Qlik Sense service user.
2. On the Qlik Sense server, go to *C:\Program Files\Qlik\Sense\QibWebchatService* and open **appsettings.json** in a text editor as administrator.
3. Under **QIBPath**, enter the location of the system file (usually ***C:\\ProgramData\\Qlik Insight Bot*** or shared path like ***\\\\<QIB-Machine-Name>\\Qlik Insight Bot***) and save the file.
4. Go to C:\inetpub\wwwroot\qlikinsightbotengineservice, and in the file web.config, set the value of a variable "EnableChatIconAccess" to 'True'.
   Go to C:\inetpub\wwwroot\qlikinsightbotengineservice, and in the file web.config, set the value of a variable "EnableChatIconAccess" to 'True'.
5. Restart the **Qlik Sense Service Dispatcher** and **Qlik Sense Proxy** service.

3.2 Qlik Sense February 2020

Configure appsettings.json

You must be logged in as a Windows administrator to make changes to this file. In multi node architecture, you will have to follow below steps on all nodes.

1. On the Qlik Insight Bot server, go to *C:\ProgramData\Qlik Insight Bot\Configuration*, copy the file System.xml, and move the copied file to the same location on the Qlik Sense server. Or you can share **Qlik Insight Bot** folder with Qlik Sense service user.
2. On the Qlik Sense server, go to *C:\Program Files\Qlik\Sense\QibWebchatService* and open **appsettings.json** in a text editor.
3. Under **QIBSystemPath**, enter the location of the system file (usually ***C:\\ProgramData\\Qlik Insight Bot\\Configuration*** or shared path like ***\\\\<QIB-Machine-Name>\\Qlik Insight Bot\\Configuration***) and save the file.
4. Restart the **Qlik Sense Service Dispatcher** and **Qlik Sense Proxy** service.

3.3 Qlik Sense Jun 2019 – Nov 2019

You must install Qlik Insight Bot Webchat Service separately and it is available on download site.

The Webchat service can be installed on any machine – either on a machine where Qlik Sense server is installed or on a machine where Qlik Insight Bot components are installed, or it can be installed on any non-Qlik Sense or non-Qlik Insight Bot machine. Based on the installation location of a Webchat service, appropriate configurations must be done.

Below scenarios describe which configurations needed to be performed.

I. Qlik Insight Bot, Webchat service and Qlik Sense server are installed on same machine

If everything resides on a same machine, there are no configurations needed to be performed except virtual proxy.

Virtual Proxy settings:

1. Open **QMC**.
2. Go to **Virtual Proxies** under **Configure System** on left pane.
3. In **Host white list** section, add the host name of the Qlik Sense server.
4. Restart the **Qlik Sense Service Dispatcher** and **Qlik Sense Proxy** service.

II. Qlik Insight Bot (with Webchat Service) and Qlik Sense server installed on separate machine

If Qlik Insight Bot components are installed on a different machine than the Qlik Sense server and the Webchat service resides with Qlik Insight Bot components, there are no configurations needed to be performed except virtual proxy.

Virtual Proxy settings:

1. Open **QMC**.
2. Go to **Virtual Proxies** under **Configure System** on left pane.
3. In **Host white list** section, add the host name of – Qlik Sense server, QIB machine.
4. Select the virtual proxy (from which hub should be accessible) and click **Edit**. If there is no virtual proxy available, create a new one –
    - Click **Create new**
    - Add appropriate **Description**
    - Leave **Prefix** blank
    - Add appropriate **Session cookie header name**. e.g. **X-Qlik-Session-Central**
5. Apply below settings under **Advanced** property –
    - Add appropriate **Session cookie domain** name e.g. **.qliktech.com**
    - Add below in **Additional response headers** –
        - **Access-Control-Allow-Origin: https://<webchat service url>:4431**
        - **Access-Control-Allow-Credentials: true**
    - In **Host white list** section, add the host name of –
        - Qlik Sense server machine, Qlik Insight Bot machine and machine where Webchat service is installed.
6. Click **Apply**.
7. Repeat step 2-5 for each proxy node on which Qlik Sense hub should be accessible.
8. Restart Qlik Insight Bot Webchat Service.

Qlik Sense Settings :

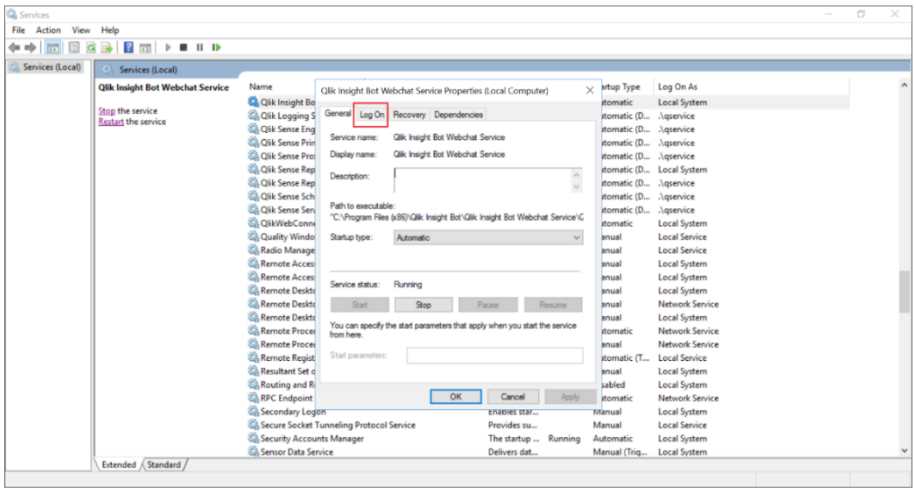
1. Go to *C:\Program Files\Qlik\Sense\ServiceDispatcher*.
2. Open the **services.conf** in text editor.
3. Go to **[hub.parameters]** section.
   a. Uncomment **insight bot uri** i.e. remove **//** from the starting of the statement.
   b. Replace "**HOSTNAME**" with the hostname on which Qlik Insight Bot Webchat service is installed.
   c. Replace "**PORT**" with 4431.
   d. Now, the URI should be like – *https://example.com:4431/connection*
4. Save and close the file
5. Restart the **Qlik Sense Service Dispatcher** and **Qlik Sense Proxy** service.

III. Qlik Insight Bot (Webchat Service is not on QIB server) and Qlik Sense server installed on separate machine

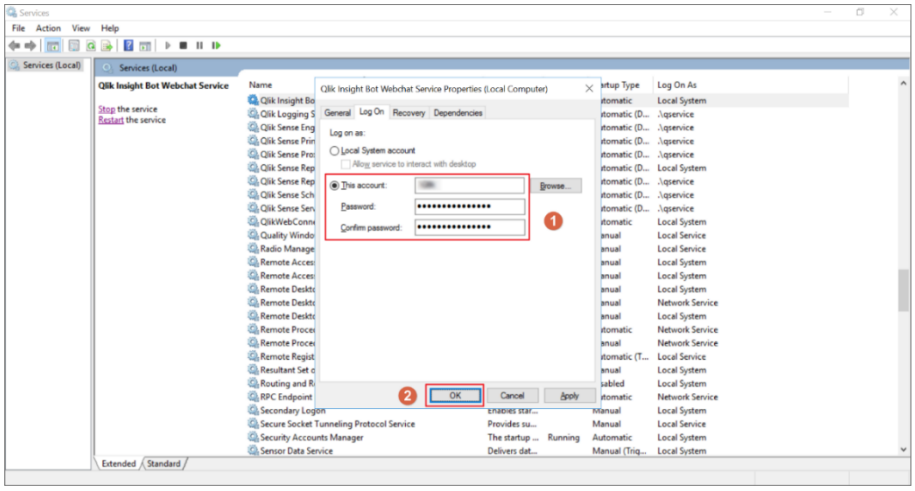
If both Qlik Insight Bot and Qlik Sense server are installed on separate machines and the Webchat service doesn't reside on Qlik Insight Bot machine i.e. the Webchat service is installed on Qlik Sense server or any other non-Qlik Insight Bot machine, there are needed several configurations to be done.

Follow below steps to configure the Webchat service.

A. Change the service user of Qlik Insight Bot Webchat Service
   1. Go to **Services** on a server where **Qlik Insight Bot Webchat Service** is installed.
   2. Right click on the Webchat service and select **Properties**.
   3. Select **Log On** tab.



   4. Select **This Account** option and enter the **service user** credentials, click **OK**.



This will change the log on account of Webchat Service from Local System user to the Service User of your domain.

B. Share the Qlik Insight Bot folder from Qlik Insight Bot Server
   1. Locate *C:\ProgramData* on a server where Qlik Insight Bot components are installed.
   2. Share the **Qlik Insight Bot** folder with a **service user** of your domain using which service is running.

C. Modify Configuration file with shared folder path
   1. Locate *C:\Program Files (x86)\Qlik Insight Bot\Qlik Insight Bot Webchat Service* on a Qlik Server where the Qlik Insight Bot Webchat Service is installed.
   2. Open "**config.json**" file in a text editor.
   3. Change the ROOT PATH value - "**C:\\ProgramData\\Qlik Insight Bot**" with the path of Qlik Insight Bot's shared folder on Qlik Insight Bot server.
      The ROOT PATH (Network Path) should look like "**\\\\<QIB machine name>\\Qlik Insight Bot**".

<u>Virtual Proxy settings:</u>

1. Open **QMC**.
2. Go to **Virtual Proxies** under **Configure System**.
3. Select the virtual proxy (from which hub should be accessible) and click **Edit**. If there is no virtual proxy available, create a new one –
   - Click **Create new**
   - Add appropriate **Description**
   - Leave **Prefix** blank
   - Add appropriate **Session cookie header name**. e.g. **X-Qlik-Session-Central**
4. Apply below settings under **Advanced** property –
   - Add appropriate **Session cookie domain** name e.g. **.qliktech.com**
   - Add below in **Additional response headers** –
     - **Access-Control-Allow-Origin: https://<webchat service url>:4431**
     - **Access-Control-Allow-Credentials: true**
   - In **Host white list** section, add the host name of –
     - Qlik Sense server machine, Qlik Insight Bot machine and machine where Webchat service is installed.
5. Click **Apply**.
6. Repeat step 2-5 for each proxy node on which Qlik Sense hub should be accessible.

7. Restart Qlik Insight Bot Webchat Service.

Qlik Sense Settings :

1. Go to *C:\Program Files\Qlik\Sense\ServiceDispatcher*.
2. Open the **services.conf** in text editor.
3. Go to **[hub.parameters]** section.
   a. Uncomment **insight bot uri** i.e. remove **//** from the starting of the statement.
   b. Replace "**HOSTNAME**" with the hostname on which Qlik Insight Bot Webchat service is installed.
   c. Replace "**PORT**" with 4431.
   d. Now, the URI should be like – *https://example.com:4431/connection*
4. Save and close the file
5. Restart the **Qlik Sense Service Dispatcher** and **Qlik Sense Proxy** service.

4. Configuring the Chat Extension

4.1 Download

You can download the zip of Qlik Sense Extension from the **Add On** tab of the **Qlik Insight Bot Configuration** application. There are two versions of Qlik Sense Chat Extension.

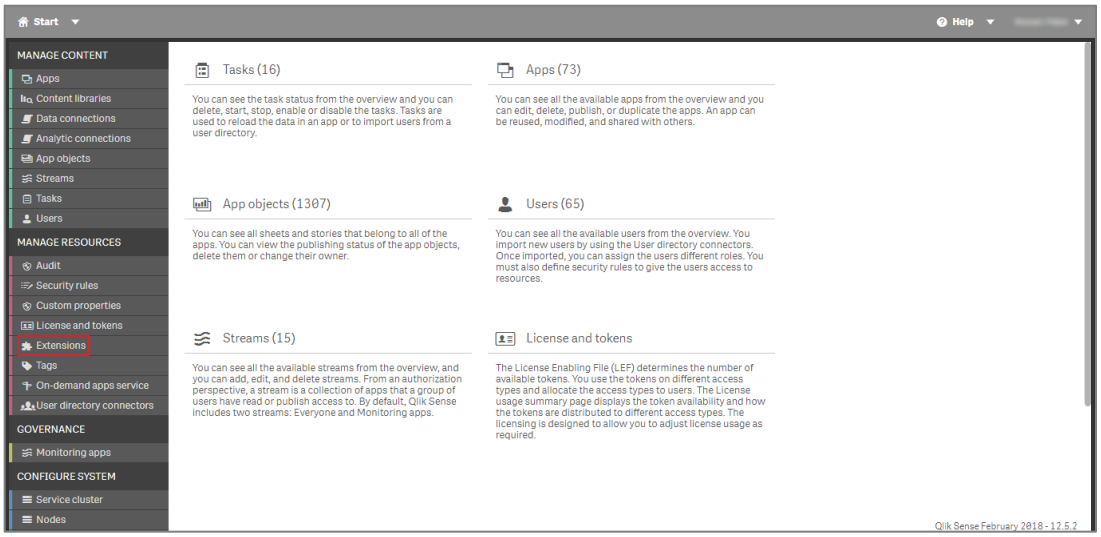
1. For QSEfW Feb 2020
2. For QSEfW June 2019 to Nov 2019

Note: If you make any change in the Qlik Insight Bot Configuration application related to webchat service, you are required to re-download and re-configure the Qlik Sense Extension.

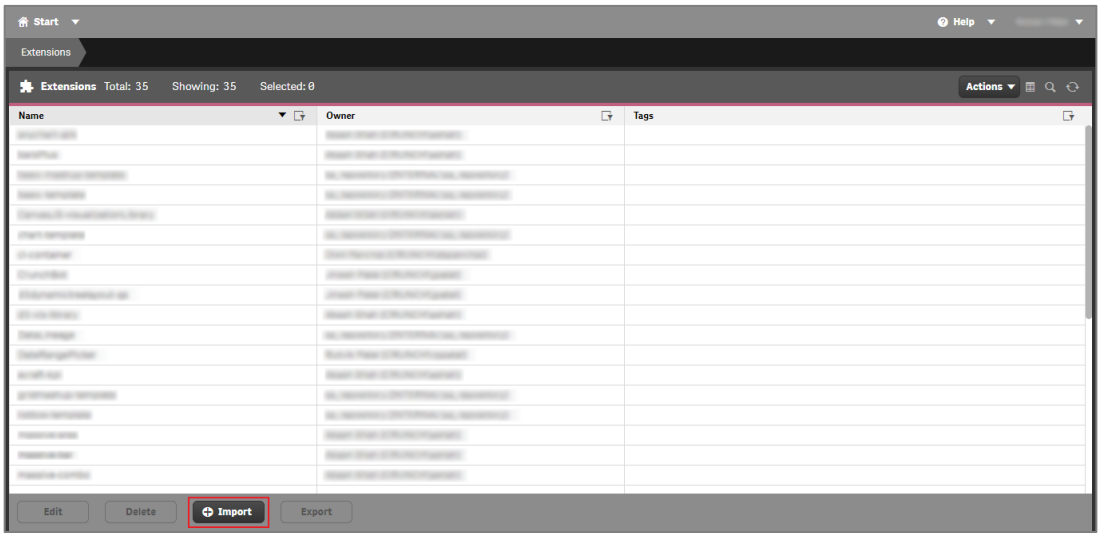
4.2 Installation

Follow below steps to install the extension.

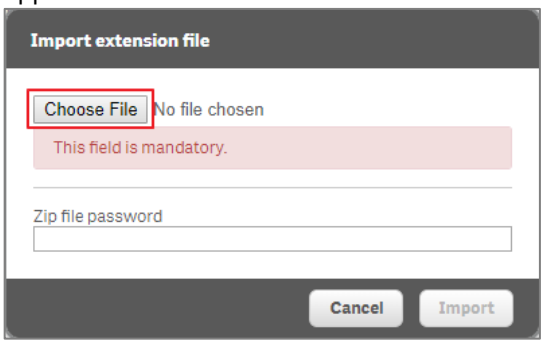
1. Open Qlik Management Console (QMC) of Qlik Sense server on which you want to configure Qlik Insight Bot chat extension.
2. Go to **Extensions** under Manage Resources on left pane.



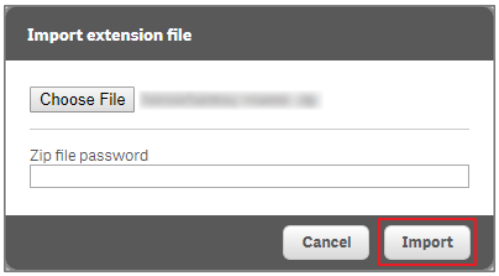
3. Click **Import** to import Qlik Insight Bot chat extension.


Start
Help
Extensions
Extensions Total: 35 Showing: 35 Selected: 0
Actions
Name
Owner
Tags
Edit
Delete
Import
Export

4. Select the zip file of Qlik Insight Bot chat extension you have downloaded from Configuration Application.



5. Leave the **zip file password** field blank, click **Import** to import zip file.

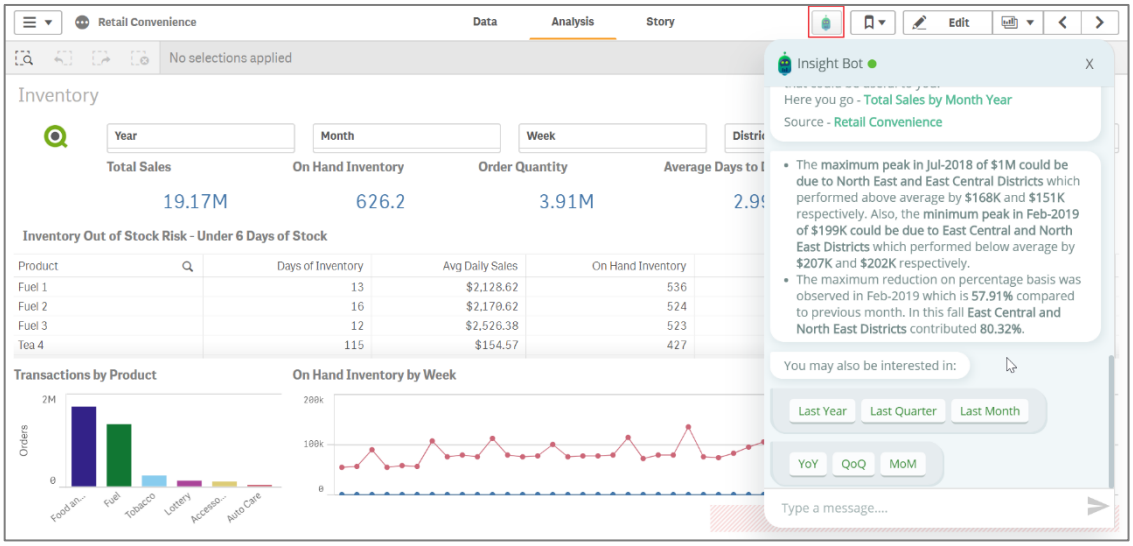


6. Once imported successfully, you can see **QlikInsightBotV2** in **Name** column.

Qlik Insight Bot Chat Extension should be ready to use.

4.3 How to use

1. Open Qlik Sense application on which you want to use Qlik Insight Bot chat extension.
2. Drag **Qlik Insight Bot** from custom objects -> Extensions, drop it on every sheets of an application.
3. Once you drag and drop Qlik Insight Bot chat extension on each sheet, you will see a button with bot icon on the top of the sheet.

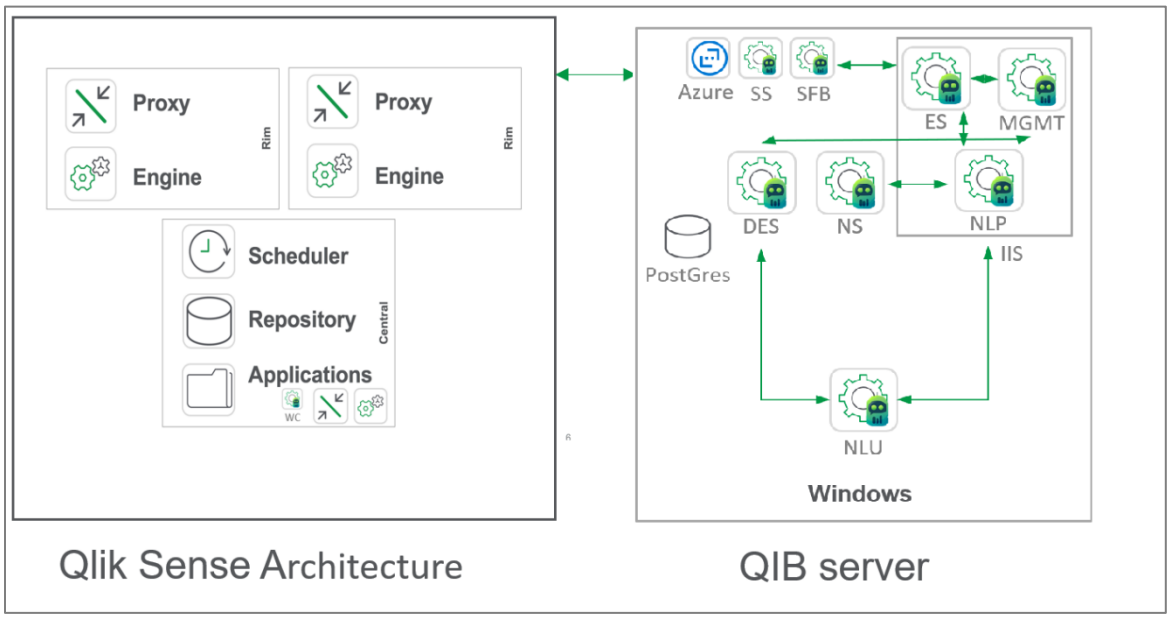


5. Sample QSEfW and QIB Architectures

Below are the sample scenarios of multi node QSEfW of version June 2019 to Nov 2019 and configuration of webchat on hub/ extension. For QSEfW Feb 2020 and April 2020, follow the steps from Qlik Sense February 2020 and Qlik Sense April 2020 on each node.

5.1 Multi-Node Qlik Sense Environment with Webchat service installed on Central node

In enterprises, Qlik Sense architecture consists of one or more nodes where on each node, all or specific services run.



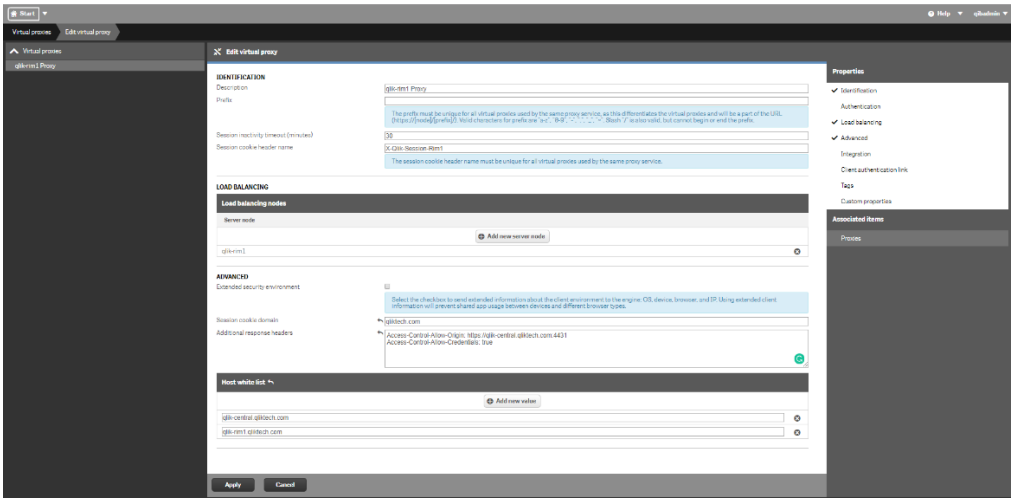
In this scenario, below are the servers which reside under the same domain and network. Hub can be accessed from each of the proxy.

1. Central Node – qlik-central.qliktech.com (All services + Webchat Service)
2. Rim Node – qlik-rim.qliktech.com (Proxy + Engine)
3. Rim1 Node – qlik-rim1.qliktech.com (Proxy + Engine)
4. Qlik Insight Bot Server – qib.qliktech.com

Follow below steps to enable the webchat on hub.

1. Webchat service must be installed on the Central Node and the steps needed to be performed are mentioned in Integrating webchat to Qlik Sense Hub section**.**
2. The client certificate of all nodes should be placed and renamed on Qlik Insight Bot server in **C:\ProgramData\Qlik Insight Bot\Certificates** folder. The client certificate should be renamed with the hostname of a node.
   e.g. If hostname is "**qlik-central**", the client certificate should be named as "**qlik-central.pfx**".

3. Virtual proxies need to be created for each rim node from where the Qlik Sense hub will be accessed (If virtual proxies are already available, skip to **d**)
   Follow Below steps to create a virtual proxy for a rim node.
   a. Go to **QMC**.
   b. Select **Virtual Proxies**, from the left pane under **Configure System**.

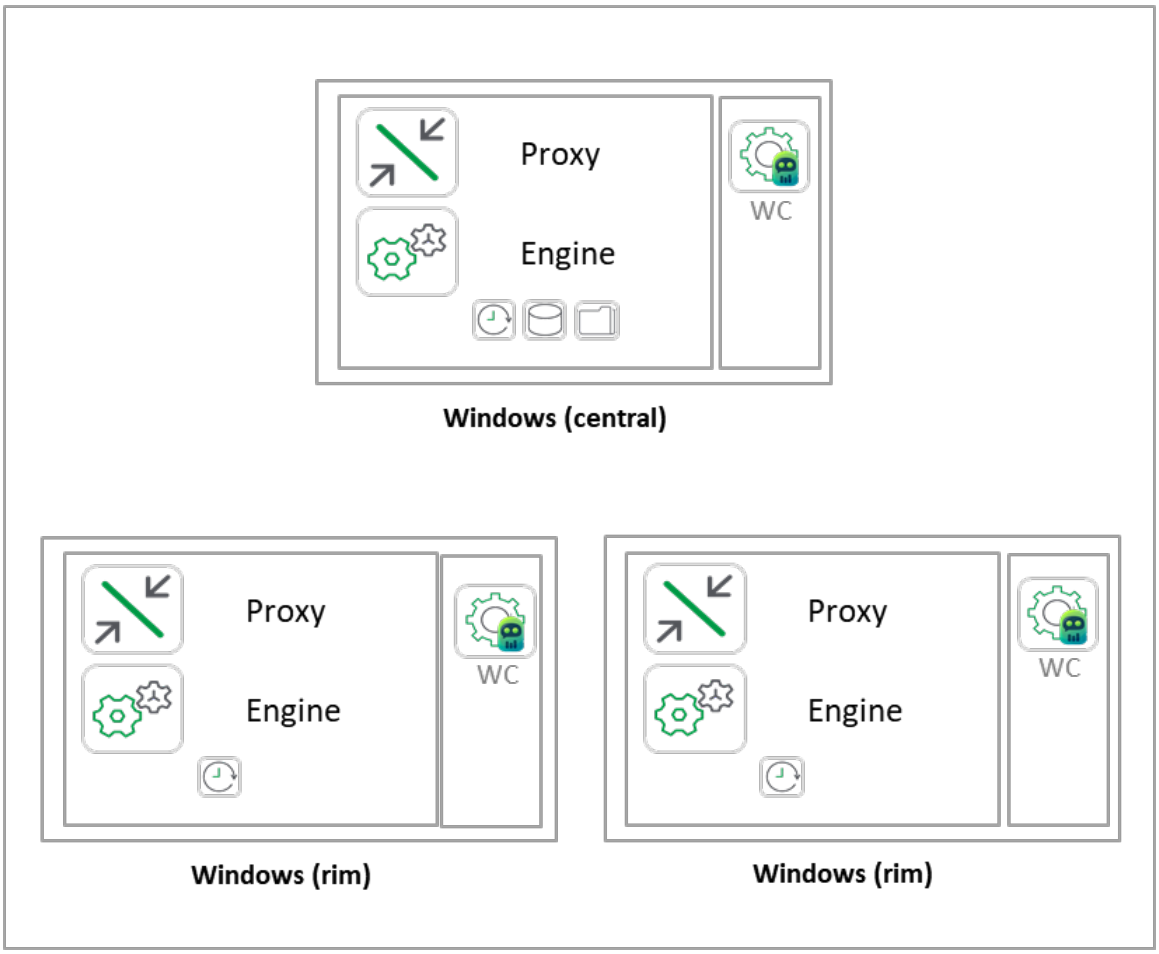


   c. Under **Identification** property
      i. Add appropriate **Description**.
      ii. Add appropriate **Prefix**.
      iii. Add appropriate **Session cookie header name**. e.g. **X-Qlik-Session-Rim1**
   d. Under **Advanced** property
      i. Set appropriate session cookie domain. e.g. **.qliktech.com**
      ii. Set the additional response headers as below –

Access-Control-Allow-Origin: <webchat service url> e.g. https://qlik-central.qliktech.com:4431
Access-Control-Allow-Credentials: true

      iii. Add the host address of central node in **Host white list**. E.g. qlik-central.qliktech.com
4. Click **Apply**.
5. Restart the Qlik Insight Bot Webchat service.

5.2 Multi-Node Qlik Sense Environment with Webchat service installed on all nodes

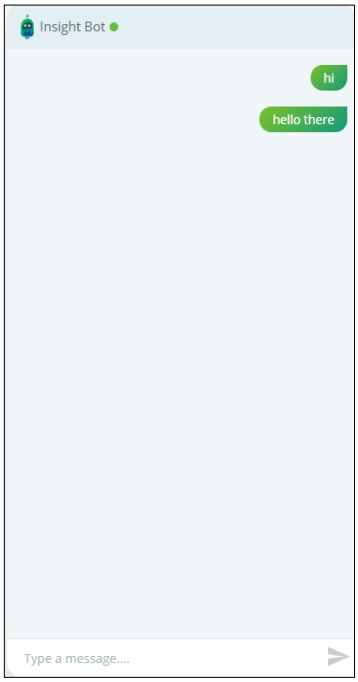


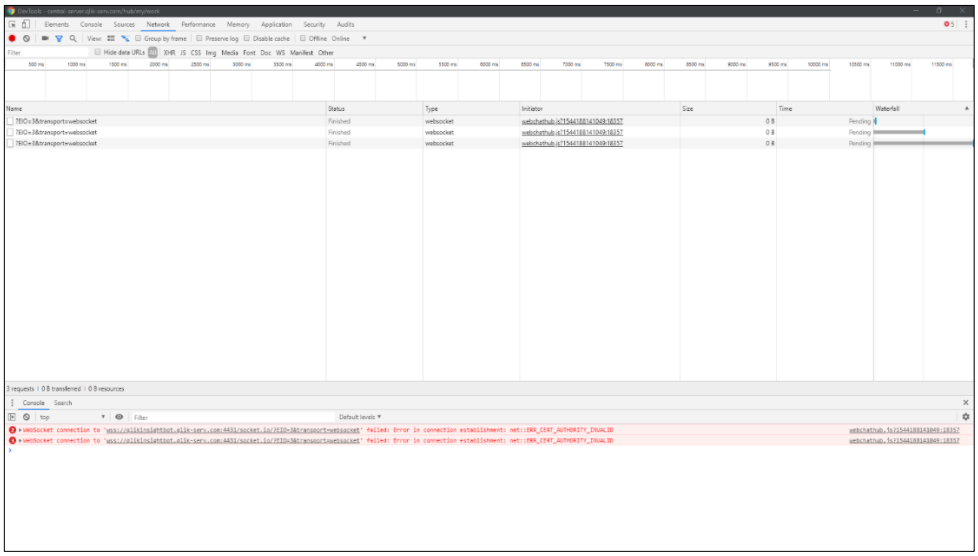
Below configuration needs to be done for Qlik Insight Bot Webchat Service in case of QSEfW version June 2019 to Nov 2019.

1. Machines on which Qlik Insight Bot Webchat service and other Qlik Insight Bot services are installed, must be under the same domain.
2. Qlik Insight Bot Webchat service must be running using the same domain user.
3. Qlik Insight Bot Webchat service must have access to the "**C:\ProgramData\Qlik Insight Bot**" folder.
4. Export the Client certificate of all associated proxy using host name of that proxy. Place those all certificates on QIB server at **C:\ProgramData\Qlik Insight Bot\Certificates** location.
   e.g. If hostname of associate proxy is "**qlik-central**", the client certificate should be "**qlik-central.pfx**".
5. For webchat on Hub, follow steps – Integrating Webchat in Qlik Sense Hub on all rim nodes.
6. On each node, the Qlik Insight Bot Webchat service URL is needs to be changed in **configuration.js** file located at **C:\Program Files\Qlik\Sense\Client\hub\external\requirejs**
   The URL must be of node where Qlik Insight Bot Webchat service is running followed by port 4431.
   e.g. If service is running on central node and its address is qlik-central.qliktech.com, the URL should be like **https://qlik-central.qliktech.com:4431**

6. Troubleshooting the Qlik Insight Bot Webchat service errors

1. If Bot doesn't respond





Reason:

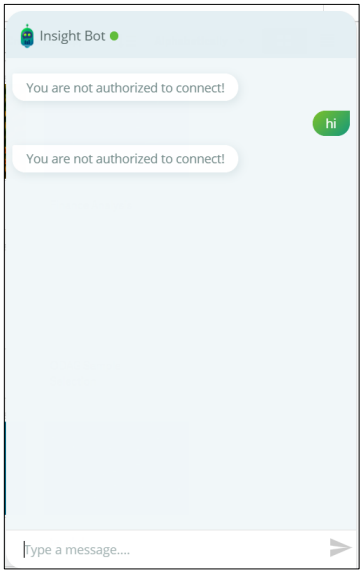
a. Qlik Insight Bot Webchat service is not accessible from the machine you are working.
b. Open dev-hub of browser, if there is an error in connection establishment, reason could be the self-signed certificate or an invalid certificate.

Solution:

First check that the Qlik Insight bot Webchat service is running or not. If not, start the service.

A valid SSL certificate signed by certificate authority should be bound with the Qlik Insight Bot Webchat service.

2. When you get message like "**You are not authorized to connect**".



Open log file of Qlik Insight Bot Webchat service. If you find the error like below

Case 1:

```
2019-06-17 11:13:45.926|INFO|anonymous_user|QPS object is already initialized.
2019-06-17 11:13:45.927|INFO|anonymous_user|Access denied. Unauthorized access for 'https://qlikrim.qliktest.com (192.168.1.159)' Host (IP) - Session is Empty/Not Found.
2019-06-17 11:13:48.126|INFO|anonymous_user|Session does not exist.
2019-06-17 11:13:48.160|INFO|anonymous_user|Session disconnected.
2019-06-17 11:14:33.516|INFO|anonymous_user|Reading port..
```

Reason:

Qlik User Session is not passed or validated with the Qlik Insight Bot Webchat service.

Solution:

Make sure the Virtual proxy in QMC is configured properly. If not reconfigure it. (as mentioned above).

Case 2:

```
2019-06-17 10:27:30.360|INFO|anonymous_user|Took QRS url successfully.
2019-06-17 10:27:30.360|INFO|anonymous_user|Initializing QPS & QRS objects.
2019-06-17 10:27:30.360|INFO|anonymous_user|Fetching data from Qlik Sense.
2019-06-17 10:27:30.375|ERROR|anonymous_user|HTTPSConnectionPool(host='qlikcentral.qliktest.com', port=4242): Max retries exceeded with url: /qrs/about?Xrfkey=FPvxfUkiMGGU7FO9 (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object at 0x0000025353F02978>: Failed to establish a new connection: [Errno 11001] getaddrinfo failed',))
2019-06-17 10:27:30.375|ERROR|anonymous_user|Unable to fetch whitelisted domains and session data from Qlik Sense Server.
2019-06-17 10:28:01.139|INFO|anonymous_user|Reading port..
```

Reason:

a. Qlik Insight Bot Webchat service is not able to connect with repository service.
b. Qlik Insight Bot Webchat service may not bound with the proper certificate.

Solution:

Webchat service should be bound with proper certificate. Also, add the host name along with IP address in to the hosts file located at "**C:\Windows\System32\drivers\etc**".

Case 3:

```
2019-06-17 11:16:24.321|INFO|anonymous_user|QPS object is already initialized.
2019-06-17 11:16:24.322|INFO|anonymous_user|Request origin host is 'qlikrim.qliktest.com'
2019-06-17 11:16:24.322|INFO|anonymous_user|Request origin is 'qlikrim.qliktest.com',It is not white listed for proxy qlikcentral.
2019-06-17 11:16:24.323|ERROR|anonymous_user|No valid Qlik active session found
2019-06-17 11:16:26.277|INFO|anonymous_user|Session does not exist.
2019-06-17 11:16:26.299|INFO|anonymous_user|Session disconnected.
```

Reason:

IP address or Host name is not added in the virtual proxy.

Solution:

Add IP address or Host name in virtual proxy to the host white list in the virtual proxy in QMC.

3. When you get message like "**Please clear cookie and cache and try again!**"

Reason:

There might be multiple active Qlik session for Qlik Insight Bot Webchat service.

Solution:

Clear browser cookies and restart the session.

Appendix I - Convert PFX certificate into CRT and KEY

You will need **OpenSSL** (download it from here) to generate the KEY and CRT files.

1. Open Bin where openssl.exe is installed.
2. Put the **PFX** file to aforementioned directory.
3. Execute **openssl.exe** as an administrator.
4. Run below commands

```
pkcs12 -in <certificate name>.pfx -nocerts -out webchatencrypted.key
```

- Enter the certificate password if and hit enter. If no password had been set for the certificate, hit enter.
- Set the pass phase. Its length must be no shorter than 4.

```
rsa -in webchatencrypted.key -out webchat.key
```

- Enter the pass phase (set earlier)

```
pkcs12 -in <certificate name>.pfx -clcerts -nokeys -out webchat.crt
```

- Enter the certificate password one more time (if asked).

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