CONFIGURING WEBCHAT AND QLIK SENSE EXTENSION

Contents

Introduction

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. You no longer need to stick to a specific chat platform to know the facts about your data. The chat extension gives you the liberty to talk to your data within your Qlik Sense app.

Similarly, integrating the Qlik Insight Bot Webchat to Qlik Sense Hub allows you to talk with Qlik Insight Bot without opening any Qlik Sense app.

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

Prerequisites

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: Refer Appendix I to convert PFX into CRT and KEY
3. If Qlik Insight Bot and Qlik Sense are installed on a separate server
   A Service User: If the 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**.

Download

You can download the zip of Qlik Sense Extension and Webchat for Qlik Sense Hub from **Add On** tab of the **Qlik Insight Bot Configuration** application.

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

Configuring Webchat Service

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.

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.

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.
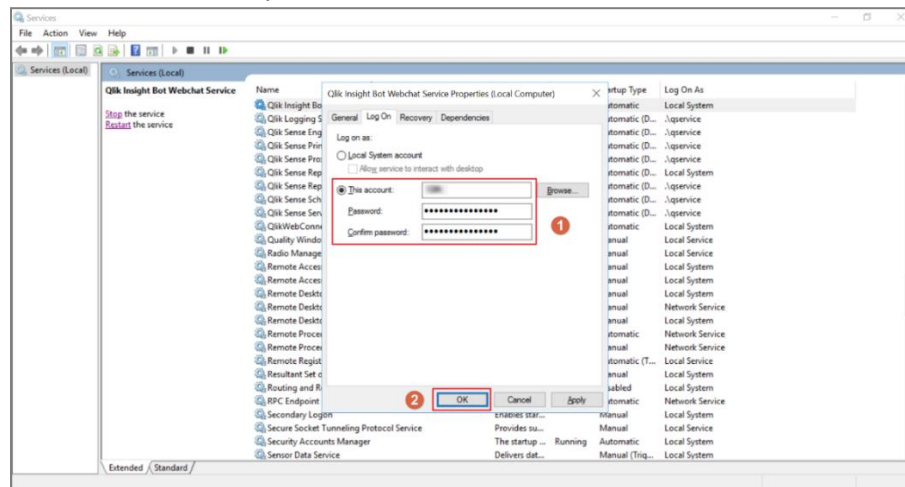
     Follow below steps to configure the Webchat service.

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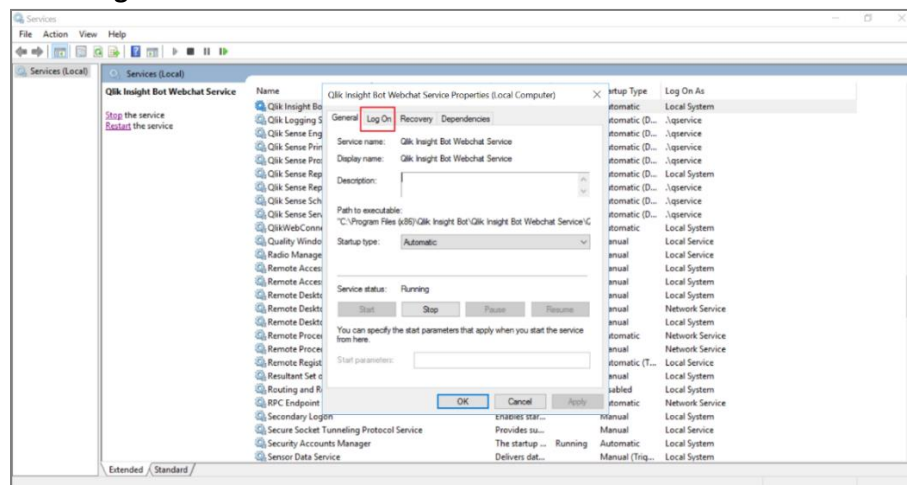
4. Select **This Account** option and enter the **service user** credentials, click **OK**.

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**".

Virtual Proxy settings:
   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** –
         o **Access-Control-Allow-Origin: https://<webchat service url>:4431**
         o **Access-Control-Allow-Credentials: true**
      - In **Host white list** section, add the host name of –
         o 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.

Integrating Webchat to Qlik Sense Hub

Follow the integration steps based on the Qlik Sense version you are using.

Note: In multi node environment, below steps are needed to be performed on each proxy node from which hub will be accessed.

Qlik Sense February 2018

1. Go to "**C:\Program Files\Qlik\Sense\Client\hub\external\requirejs**", take a backup of "**require.js**".
2. Replace the "**require.js**" file with the one you have in the zip file.
3. Copy and Paste below listed files to the same location.
   a. configuration.js
   b. webchatauth.js
   c. webchathub.js
4. Go to "**C:\Program Files\Qlik\Sense\Client\hub**", take a backup of "**hub.js**".
5. Replace the "**hub.js**" file with the one you have in the zip file.
6. Restart the **Qlik Sense Proxy** service first and then **Qlik Insight Bot Webchat** service.

Qlik Sense April 2018 to April 2019

1. Go to "**C:\Program Files\Qlik\Sense\Client\hub**", take a backup of "**hub.js**".
2. Replace the "**hub.js**" file with the one you have in the zip file.
3. Copy and Paste below listed files to the
   "**C:\Program Files\Qlik\Sense\Client\hub\external\requirejs**" location.
   a. configuration.js
   b. webchatauth.js
   c. webchathub.js
4. Restart the **Qlik Sense Proxy** service first and then **Qlik Insight Bot Webchat** service.

Qlik Sense June 2019 to Nov 2019 (QIB Webchat integrated to Qlik Sense)

Qlik Sense and Qlik Insight Bot Webchat service installed on same machine

If you are not able to see the Qlik Insight Bot chat option in Qlik Sense hub, restart the **Qlik Sense Proxy service**.

#### Qlik Sense and Qlik Insight Bot Webchat service installed on different machines under same domain

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**.
6. Restart **Qlik Sense Proxy** service.
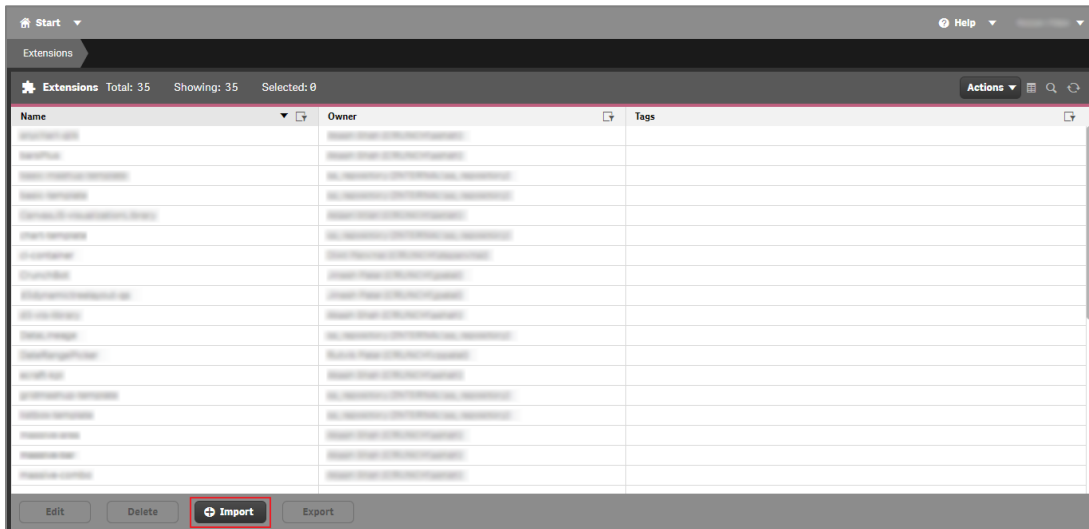
Configuring Chat Extension

Installation

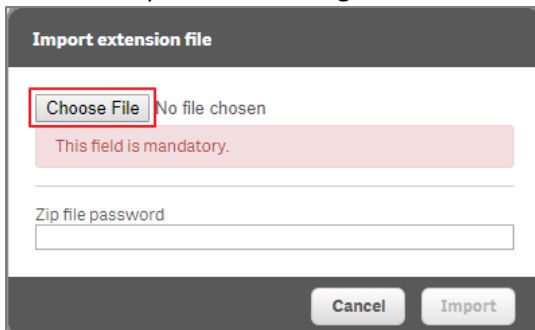Follow below steps to install the extension.

1. Open Qlik Management Console (QMC) of Qlik Sense server on which you want to configure Qlik Insight Bot chat extension.

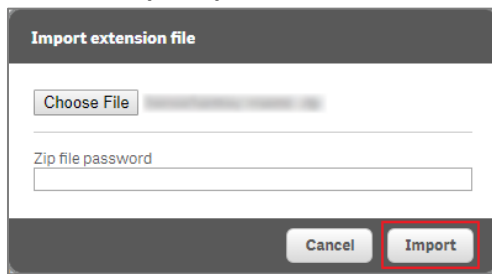2. Go to **Extensions** under Manage Resources on left pane.
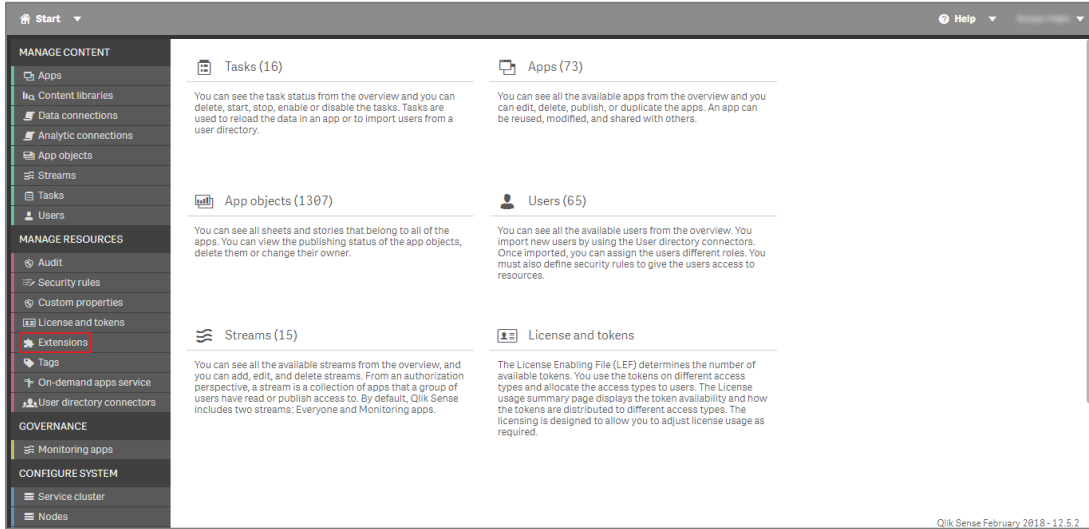
3. Click **Import** to import Qlik Insight Bot chat extension.

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

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.

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.
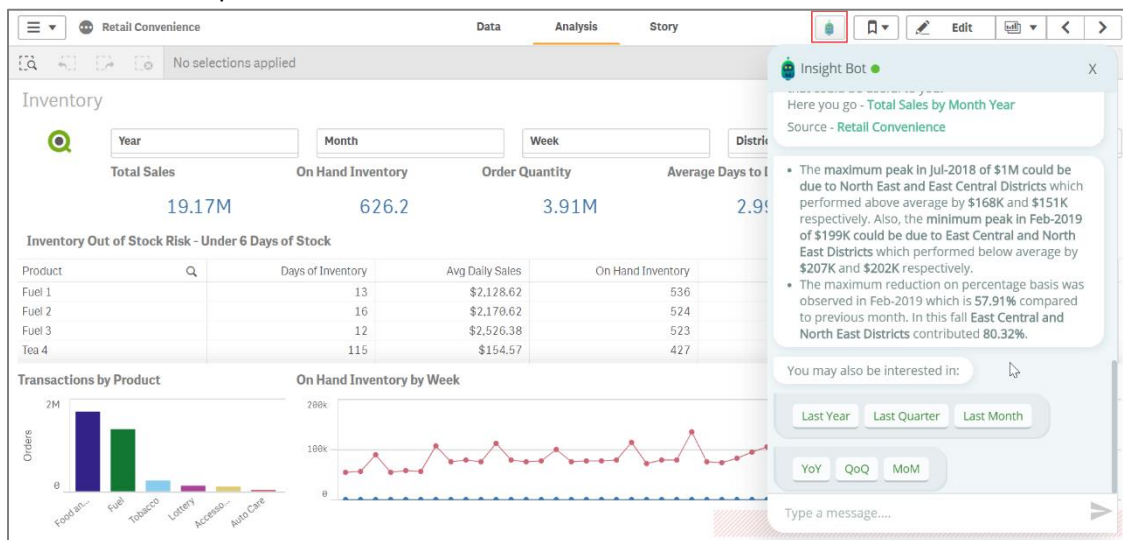

Note: The extension is only compatible with Qlik Sense Server edition and not the Desktop edition.

Sample Architecture and Configuration in Multi-Node Qlik Sense Environment

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

Below is a sample scenario of multi node Qlik Sense environment and configuration of webchat on hub/ extension.
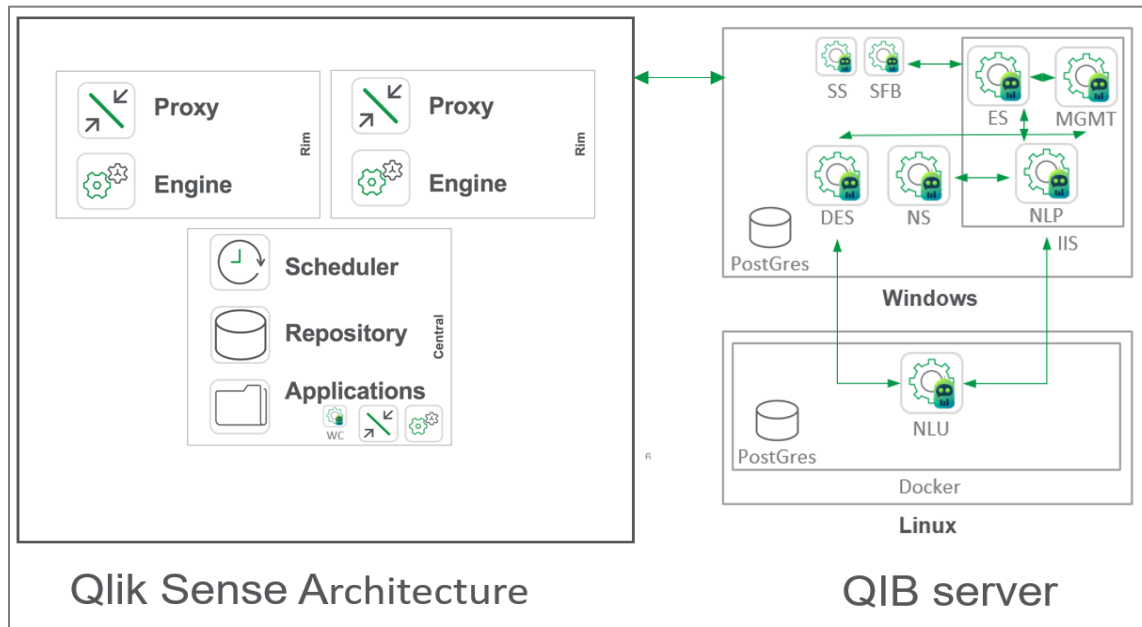
In this scenario, below are the servers which reside under the same domain and network. Hub can be accessed from each of the proxy.

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**.
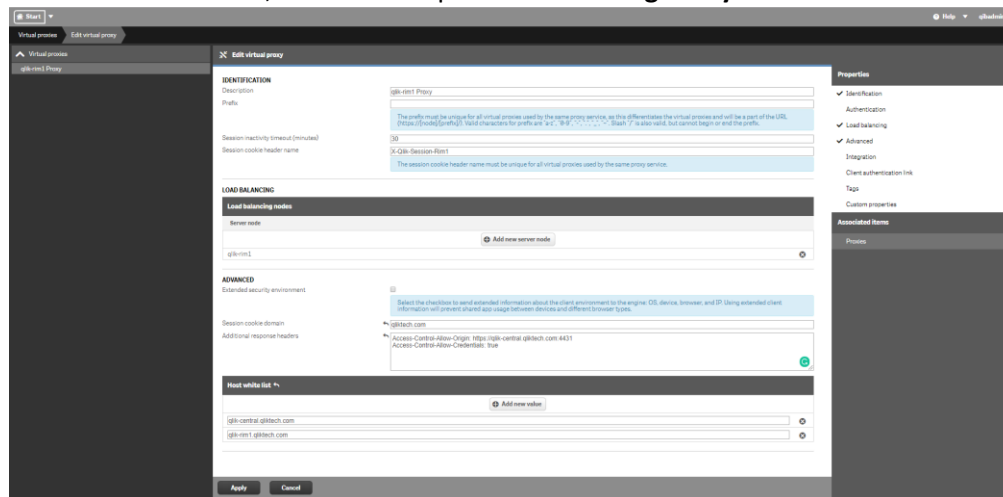
    c. Under **Identification** property
        i. Add appropriate **Description**.
        ii. Add appropriate **Prefix**.
        iii. Add appropriate **Session cookie header name**. e.g. **X-Qlik-Session-Rim1**
    d. Under **Advanced** property
        i. Set appropriate session cookie domain. e.g. **.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.

Qlik Sense multi node environment with Webchat service installed on all nodes
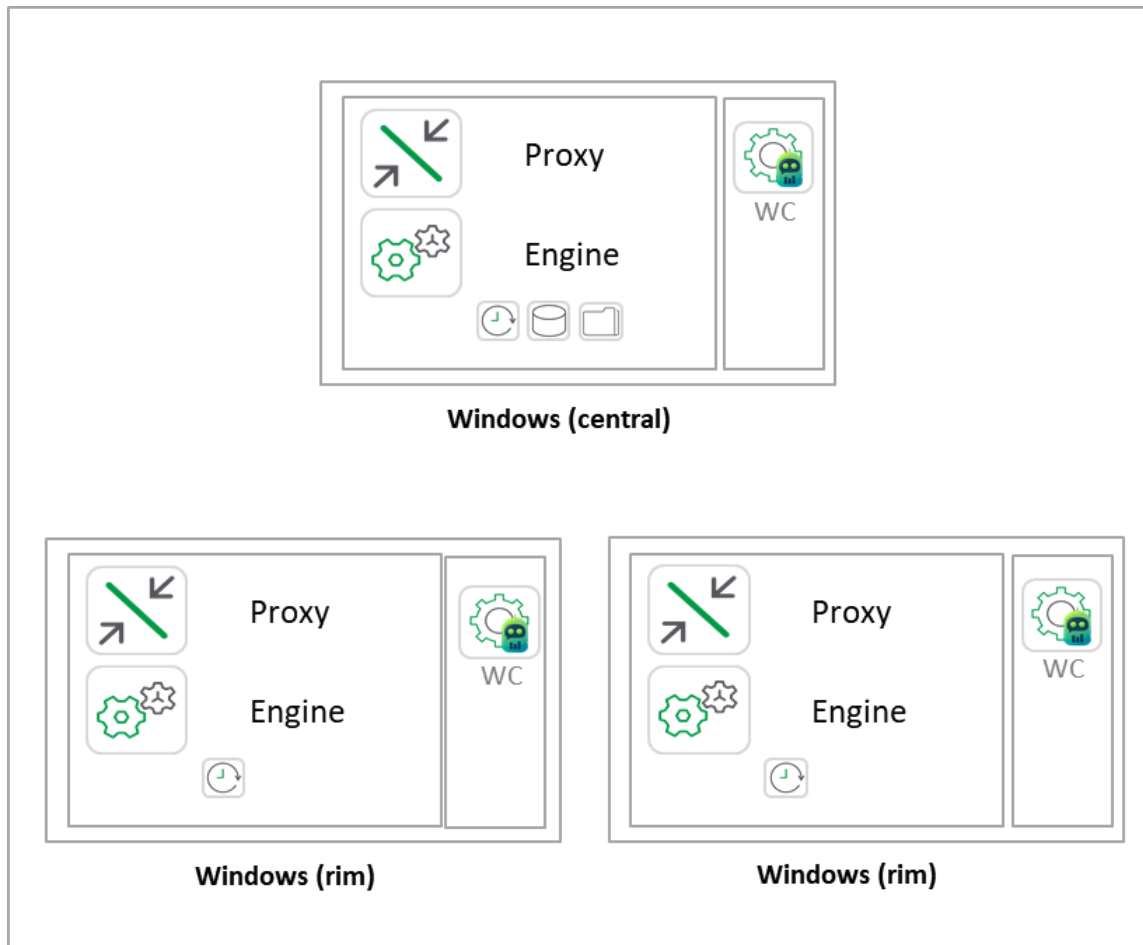

Below configuration needs to be done for Qlik Insight Bot Webchat Service.

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**

Troubleshooting the Qlik Insight Bot Webchat service errors

1. If Bot doesn't respond
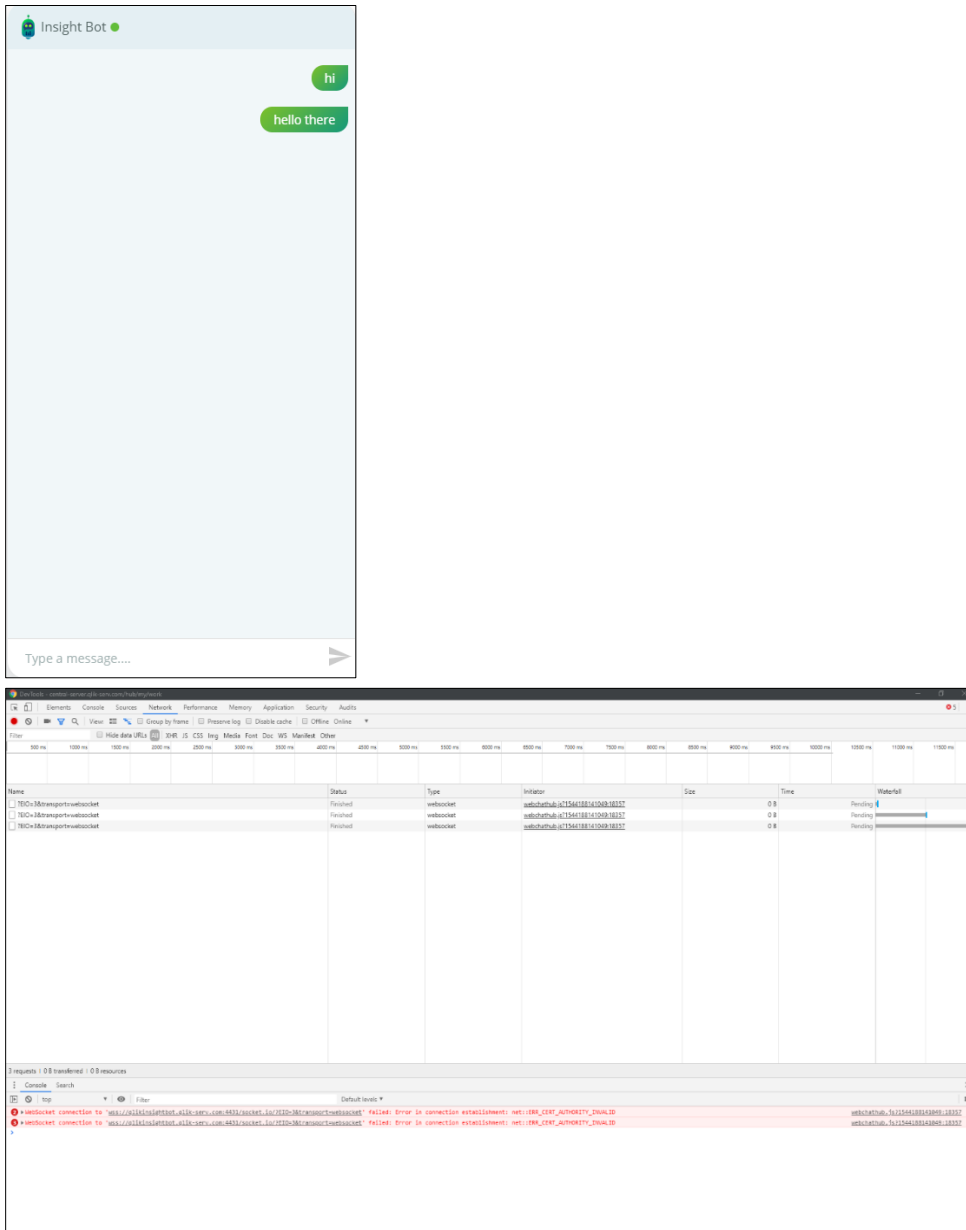
Reason:
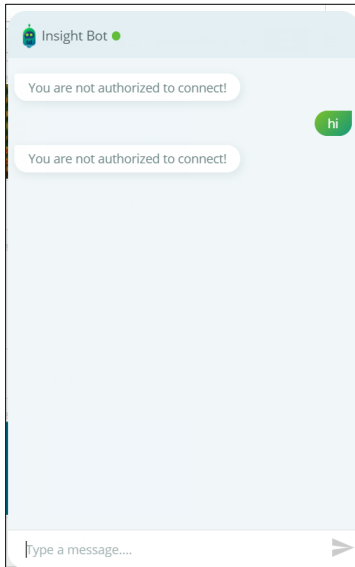
    a. Qlik Insight Bot Webchat service is not accessible from the machine you are working.

    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).

--- EOD ---