

PREPARING THE SYSTEM



Qlik 
Insight  Bot

Qlik Insight Bot™

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Introduction

Certain things are needed prepared before installing Qlik Insight Bot. The purpose of this document is to guide you to keep the required items ready before proceeding the Bot installation.

Exporting Qlik Sense Client Certificate

The Qlik Sense “Client” certificate will be used by Qlik Insight Bot Services to authenticate the Qlik Sense user for any communication.

Follow below mentioned steps for exporting certificate from QMC.

1. Open Qlik Management Console (QMC), go to **Certificate** under **Configuration System** on left pane.
2. Click **Add machine name** and add your machine name. The machine name will be the **Host name**.

For Multi-Node env, machine name should be the **Host name** of the respective node. You will require the certificate for all nodes.

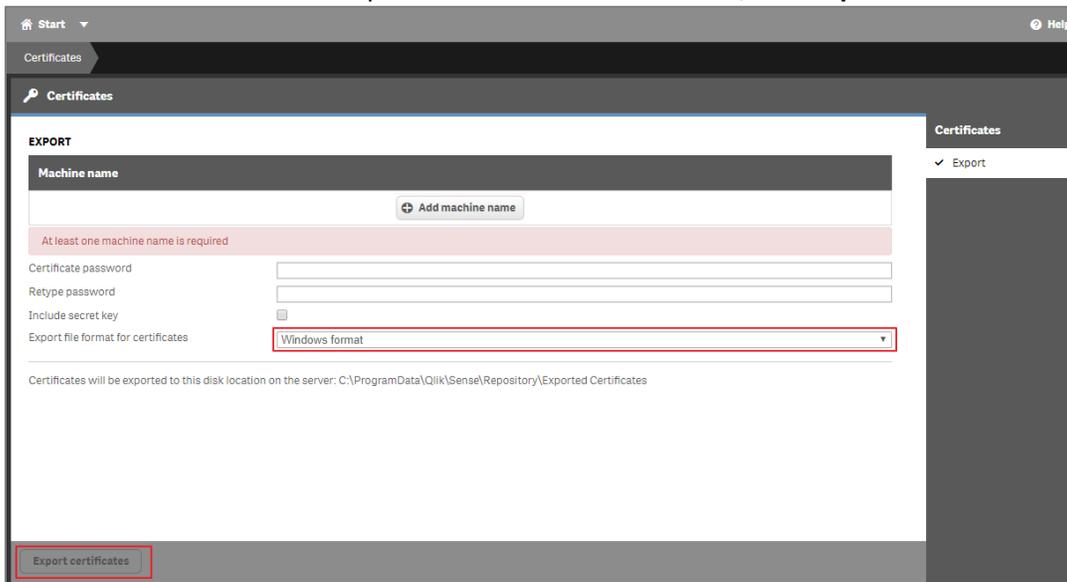
Note: Do not set any password.

The screenshot shows the 'EXPORT' section of the 'Certificates' page in the QMC. The 'Machine name' field is empty, and a red box highlights the 'Add machine name' button. A red error message states 'At least one machine name is required'. Other fields include 'Certificate password', 'Retype password', 'Include secret key' (checkbox), and 'Export file format for certificates' (dropdown menu set to 'Windows format'). A server path is displayed at the bottom: 'C:\ProgramData\Qlik\Sense\Repository\Exported Certificates'.

3. Check “Include secret key”.

The screenshot shows the 'EXPORT' section of the 'Certificates' page in the QMC. The 'Include secret key' checkbox is checked, highlighted with a red box. The 'Machine name' field is still empty, and the 'Add machine name' button is visible. The error message 'At least one machine name is required' is still present. The 'Export file format for certificates' dropdown is set to 'Windows format'.

4. Select **Windows Format** as “Export file format for certificates”, click **Export Certificates**.



5. Certificates will be exported on the machine where Qlik Sense Server is installed. The physical path where certificates will be stored is as below -

C:\ProgramData\Qlik\Sense\Repository\Exported Certificates\<Machine Name>

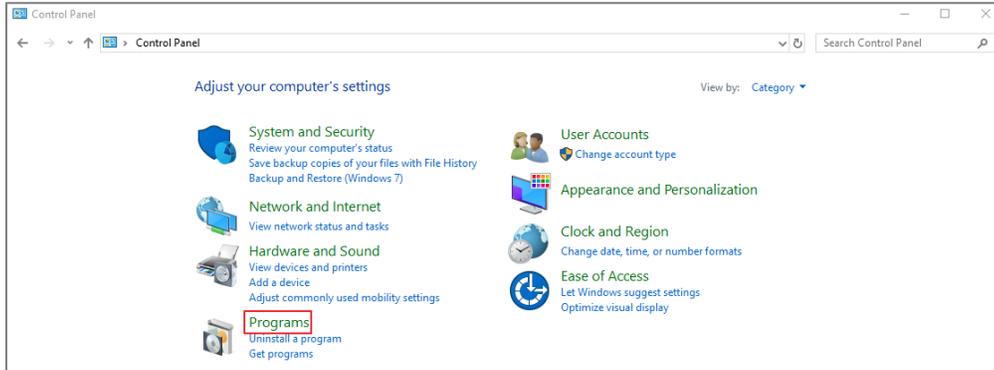
For more detailed steps you can refer to – [Exporting certificates through the QMC](#)

Configuring IIS

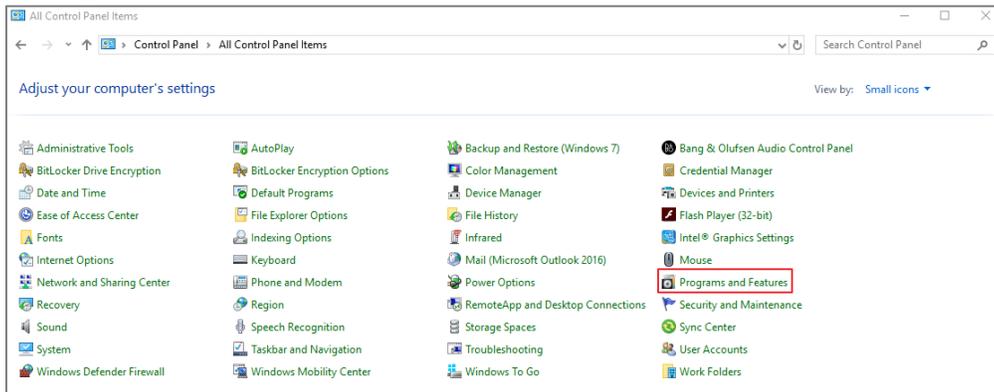
To host the Qlik Insight Bot Web Services on IIS, it is required to enable certain features of IIS. Follow the steps below for the same –

For Windows 8 and 10

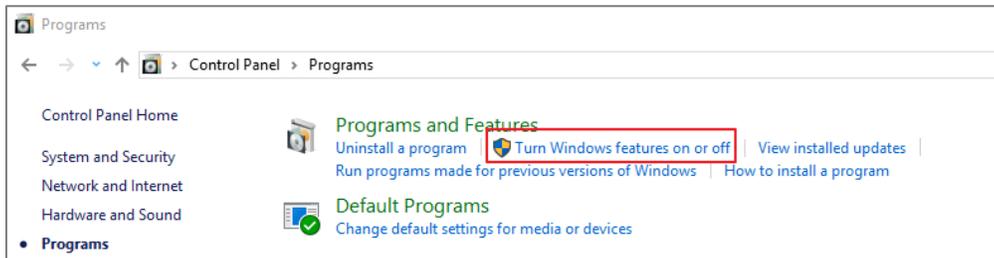
1. Open **Control Panel**.
2. Select **Programs**.



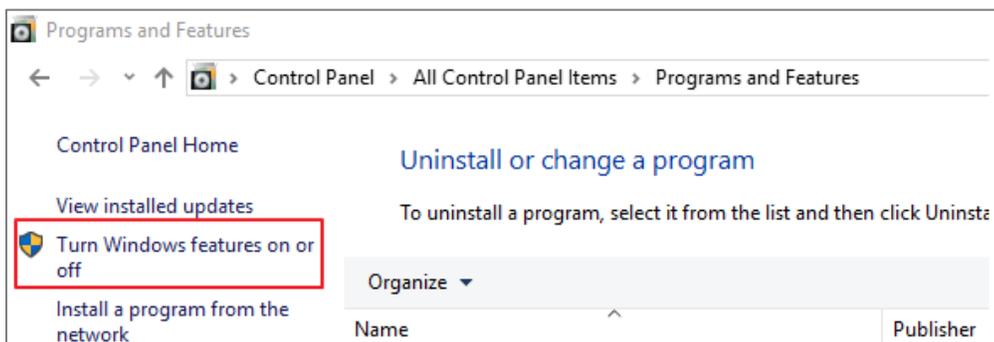
Or Programs and Features.



3. Select **Turn Windows features on or off**.



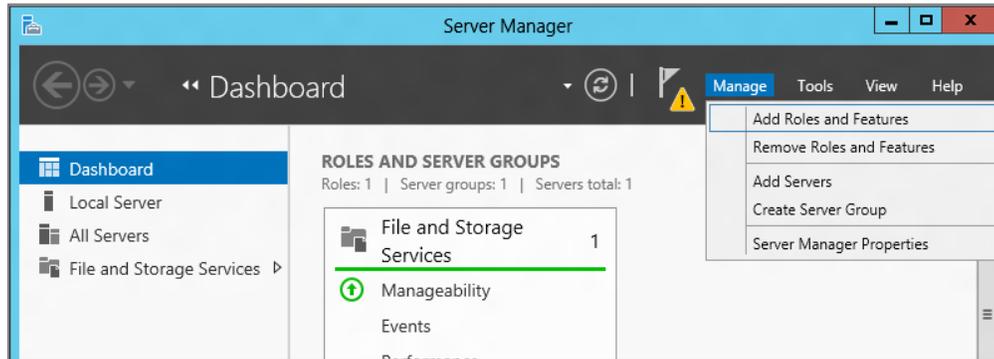
-OR-



4. Select below listed features.
 - In Internet Information Services
 - In Web Management Tools
 - IIS Management Console
 - In World Wide Web Services
 - In Application Development Features
 - a) .NET Extensibility 4.5
 - b) ASP
 - c) ASP.NET 4.5
 - d) CGI
 - e) ISAPI Extensions
 - f) ISAPI Filters
 - g) WebSocket Protocol
 - In Common HTTP Features
 - a) Default Document
 - b) Direct Browsing
 - c) HTTP Errors
 - d) Static Content
 - In Health and Diagnostics
 - a) HTTP Logging
 - b) Request Monitor
 - c) Tracing
 - In Performance Features
 - a) Static Content Compression
 - In Security
 - a) Request Filtering
 - b) Windows Authentication
5. Click **OK**.

For Windows Server 2012 and later

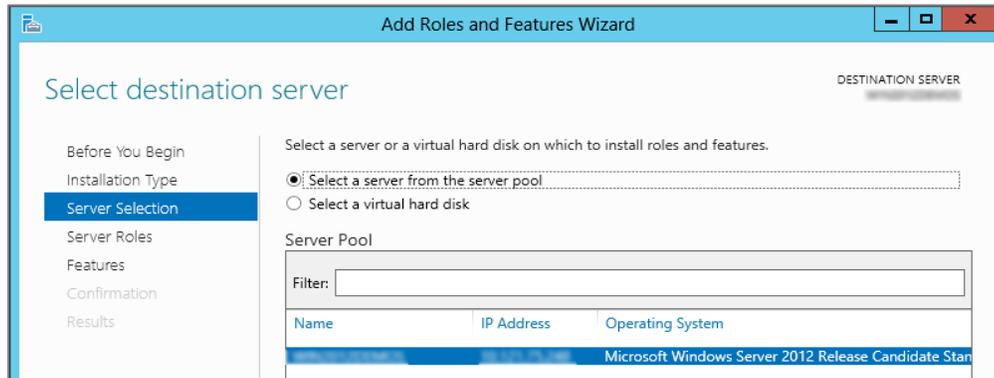
1. Open **Server Manager**.
2. Click **Add Roles and Features** in Manage menu.



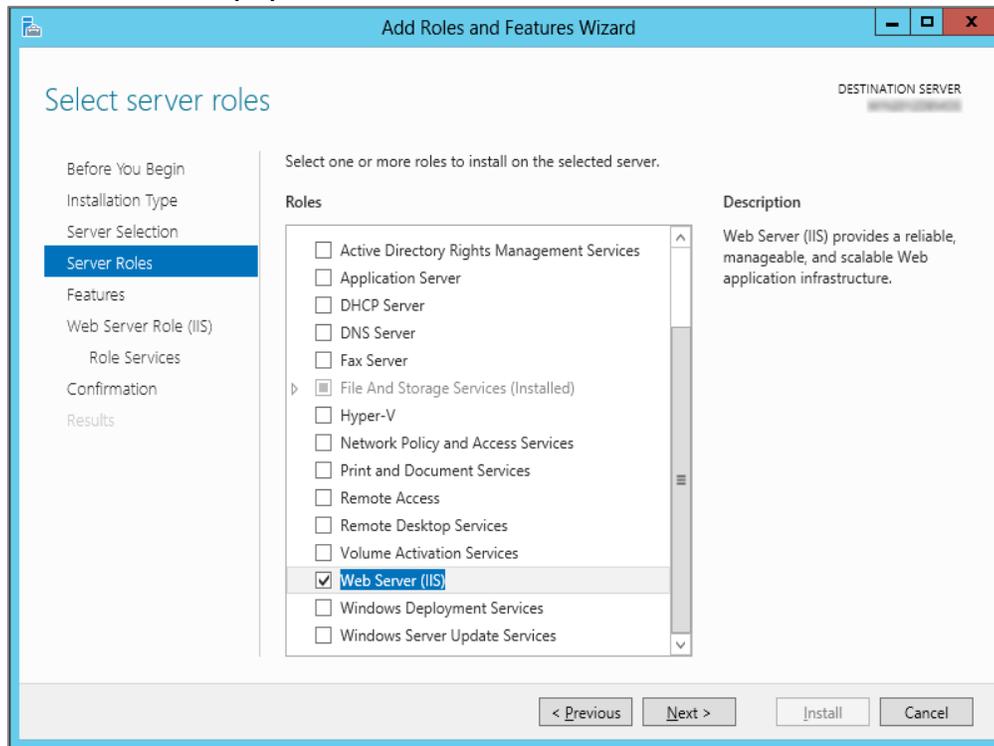
3. Click **Next**.
4. Select **Role-Based or Feature-Based Installation** and click **Next**.



5. Select the appropriate server (local is selected by default) as shown and click **Next**.



6. Select **Web Server (IIS)** and click **Next**.



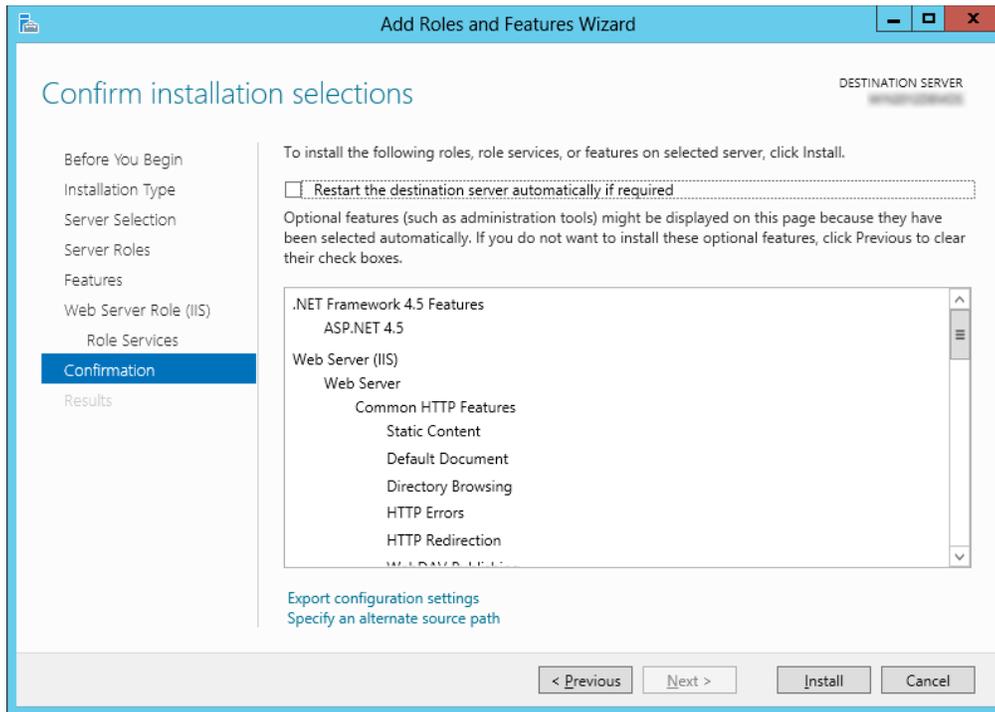
7. Ignore the **Features** tab and go on.

8. Click **next**.

9. Select below listed features and click **next**.

- In Web Server
 - In Common HTTPS Features
 - a) Default Document
 - b) Direct Browsing
 - c) HTTP Errors
 - d) Static Content
 - In Health and Diagnostics
 - a) HTTP Logging
 - b) Request Monitor
 - c) Tracing
 - In Performance Features
 - a) Static Content Compression
 - In Security
 - a) Request Filtering
 - b) Windows Authentication
 - In Application Development Features
 - a) .Net Extensibility 4.5
 - b) ASP
 - c) ASP.NET 4.5
 - d) CGI
 - e) ISAPI Extensions
 - f) ISAPI Filters
 - g) WebSocket Protocol
- In Management Tools
 - IIS Management Console

10. Click **Install**.

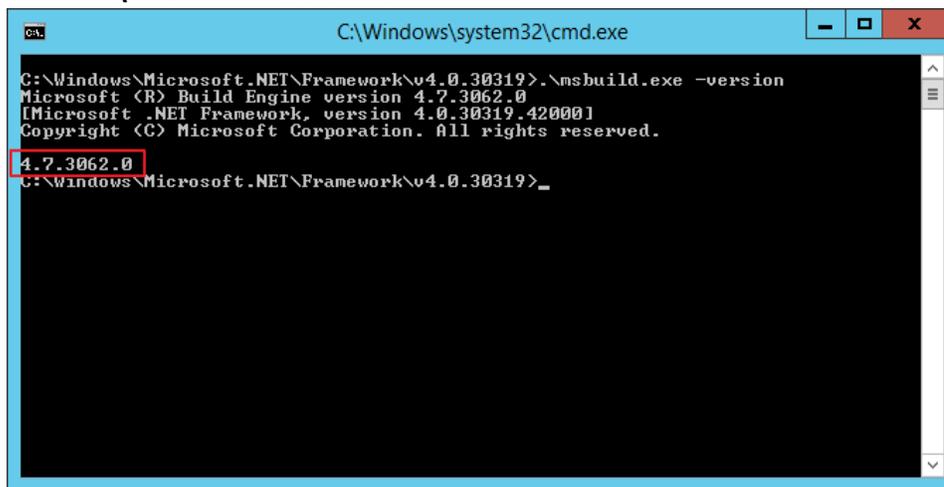


11. Once installation completed, click **Close**.
For detailed guide visit [this](#).

.NET Framework 4.7.1

Check which .NET Framework is installed on your machine.

1. Open **CMD**.
2. Go to **C:\Windows\Microsoft.NET\Framework\v4.0.30319** directory.
3. Execute **.\MSBuild.exe -version** command.



```
C:\Windows\system32\cmd.exe
C:\Windows\Microsoft.NET\Framework\v4.0.30319>.\msbuild.exe -version
Microsoft (R) Build Engine version 4.7.3062.0
[Microsoft .NET Framework, version 4.0.30319.420001
Copyright (C) Microsoft Corporation. All rights reserved.
4.7.3062.0
C:\Windows\Microsoft.NET\Framework\v4.0.30319>_
```

If you don't have .NET Framework 4.7.1 installed on your machine, download the same from [here](#) and follow the installation steps.

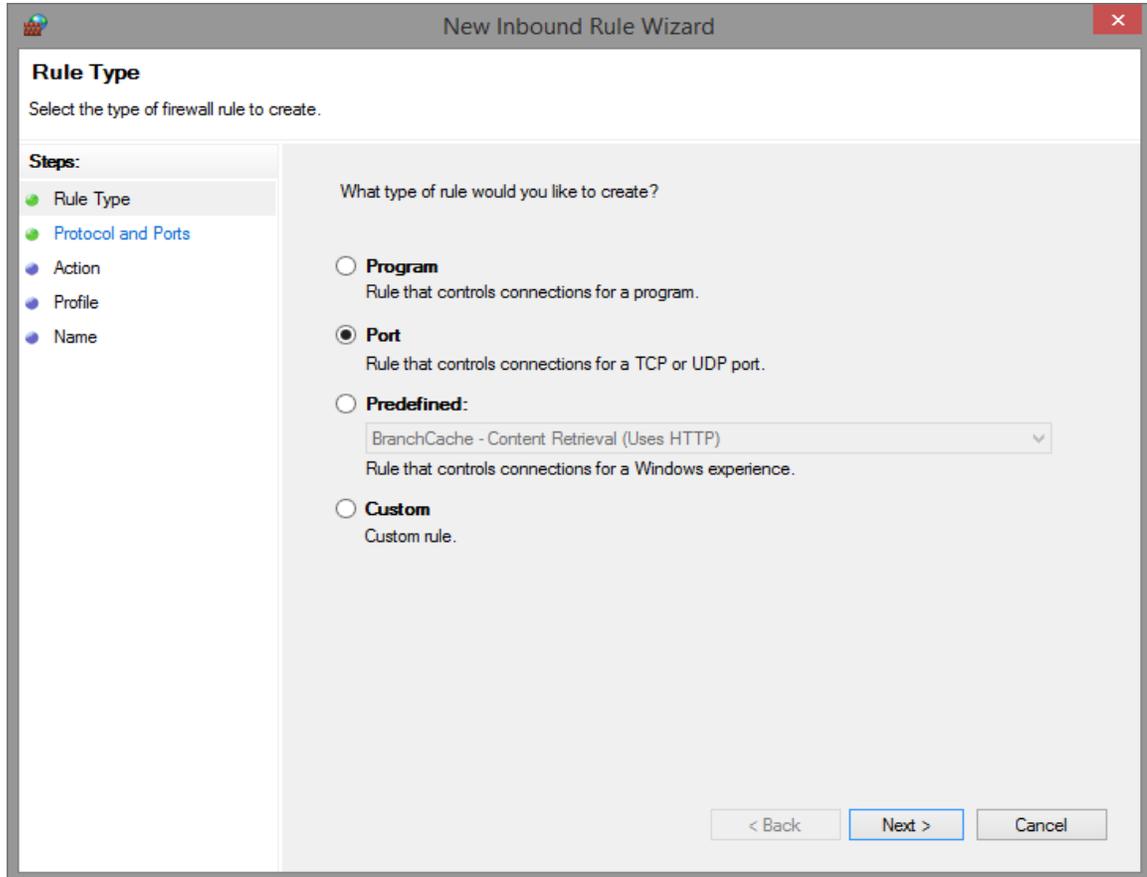
Opening the Required Ports in Firewall

Ports 443, 4431, 4434, 4435(optinal), 5000 are required to open in firewall to access Qlik Insight Bot web services from outside the Network.

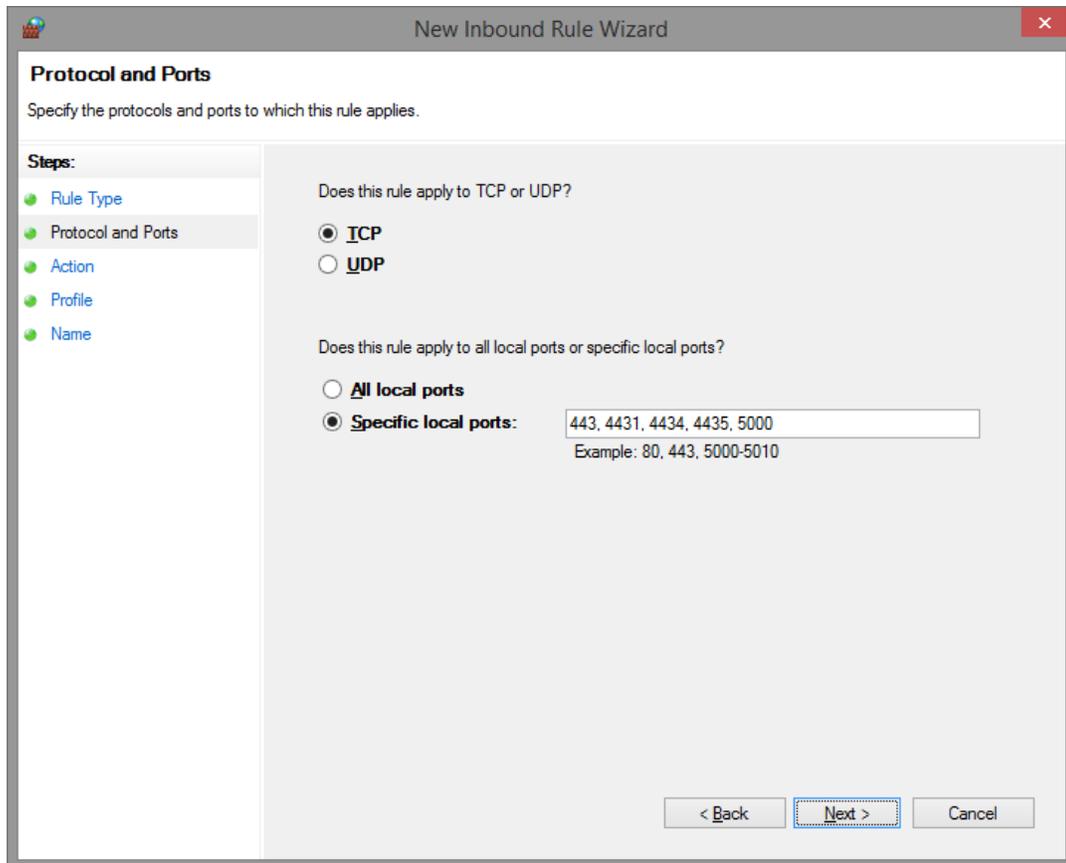
If Qlik Insight Bot is installed on a different machine from Qlik Sense Server, ports 443, 4242, 4747 and 4243, 9200 are required to open in firewall where Qlik Sense Server is installed.

Follow the steps below –

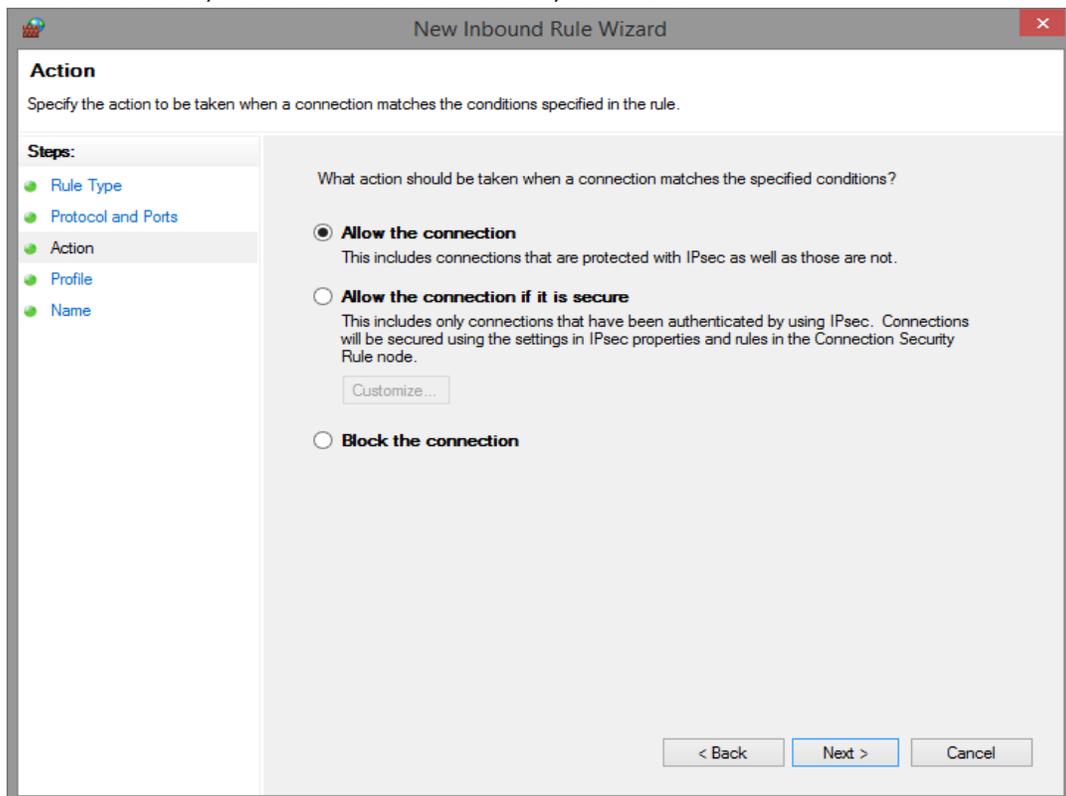
1. Open Windows firewall. Click **Advanced settings** from left pane.
2. Click **Inbound Rules**.
3. Click **New Rule...** under **Actions** in right pane.
4. Select **Port** option, click **Next**.



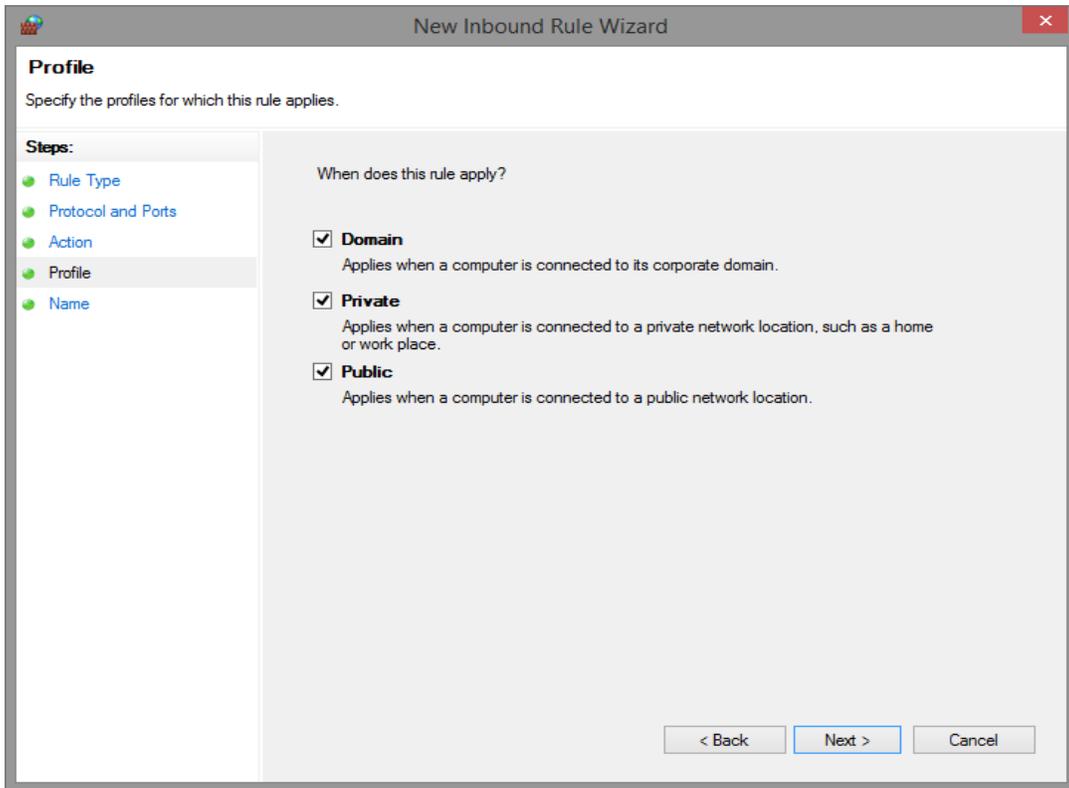
- In **Protocol and Ports** section, select **TCP**, **Select Specific local ports** and enter **443, 4431, 4434, 4435, 5000**, click **Next**.



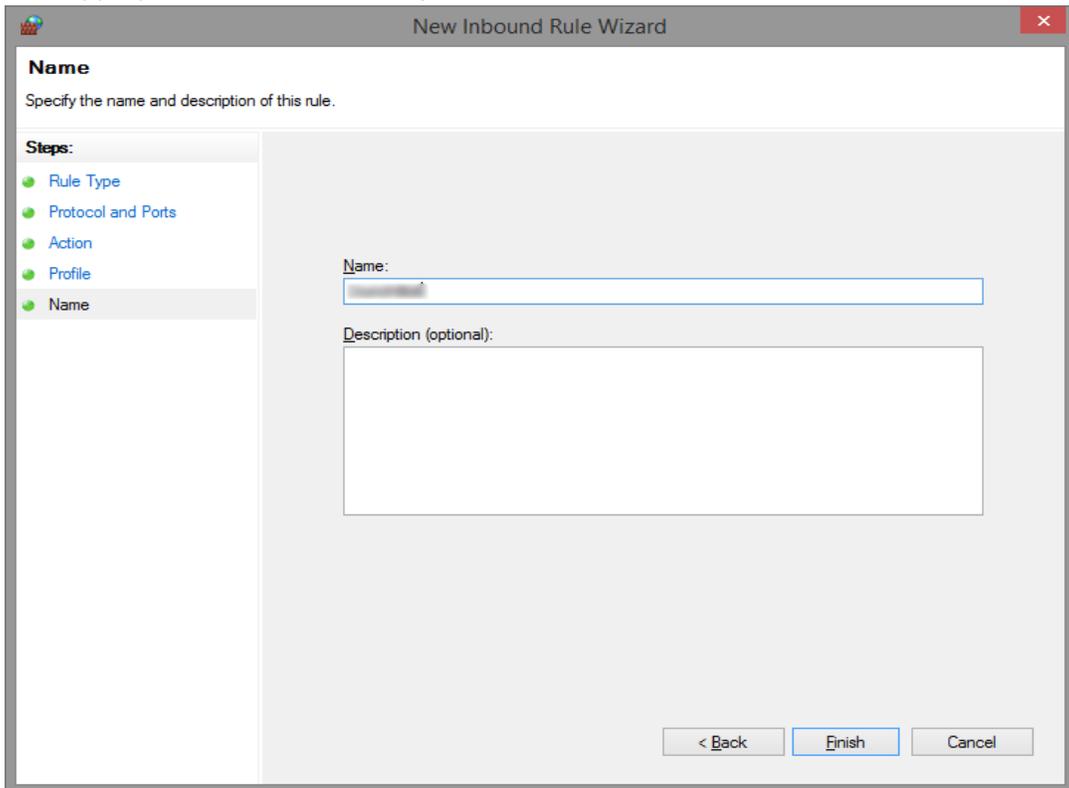
- In **Action** section, select **Allow the connection**, click **Next**.



7. In **Profile** section, check for **Domain, Private** and **Public**, click **Next**.



8. Give Appropriate **Name** and **Description**, click **Finish**.



9. Follow the same steps to set **Outbound Rules** for the ports mentioned above. Also, change the action to **Allow the connection** at the time of creating Outbound Rule.

Important: Make sure the ports used by Qlik Sense Services must be opened in Firewall.

SSL Certificate

A valid SSL certificate, a certificate with certificate authority (CA), will be assigned to Qlik Insight Bot Web services and to Qlik Insight Bot NLU in order to exchange the information securely between client-server and Qlik Insight Bot NLU-other components respectively.

Right to create a sheet in Qlik Sense

When user asks a question to get a chart which is not already present in master visualizations, QIB creates on-the-fly chart. The on-the-fly chart object is created in a new sheet of Qlik Sense app. Hence, it is required to have a sheet creation permission to the user who is interacting with QIB. If user don't want to create chart in Qlik Sense, no need to set this rule. This will not affect the QIB response.

Below rules needs an update permission:

1. Stream
2. CreateAppObjectsPublishedApp

Installing Docker and Docker Compose on Linux

Docker Compose is a tool for defining and running multi-container Docker applications. With Compose, you can use a YAML file to configure application's services. Then, with a single command, you can create and start all the services from the configuration.

Below are the steps to download Docker installation package from the official Docker repository. Connect to Linux shell and execute following commands.

Important: Make sure the command is in a single line only.

On Ubuntu

Installing Docker

1. First, let's ensure if the download is valid using the command below.

```
$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg |  
sudo apt-key add -
```

2. Now, you need to add Docker repository to APT sources.

```
$ sudo add-apt-repository "deb [arch=amd64]  
https://download.docker.com/linux/ubuntu $(lsb_release -cs)  
stable"
```

3. After adding Docker repository to APT sources, update the package database with the Docker packages from the newly added repository.

```
$ sudo apt-get update
```

4. Before installing make sure that you are installing from the Docker repository instead of the default Ubuntu repository.

```
$ apt-cache policy docker-ce
```

you should see the output similar to the below -

```
docker-ce:  
  Installed: (none)  
  Candidate: 18.06.1~ce~3-0~ubuntu  
  Version table:  
   18.06.1~ce~3-0~ubuntu 500  
   500 https://download.docker.com/linux/ubuntu  
xenial/stable amd64 Packages
```

5. Install Docker.

```
$ sudo apt-get install -y docker-ce
```

6. Docker should be installed now. Check that it's running.

```
$ sudo systemctl status docker
```

you should see the output similar to the below -

```
docker.service - Docker Application Container Engine
  Loaded: loaded (/lib/systemd/system/docker.service; enabled;
         vendor preset: enabled)
  Active: active (running) since Thu 2018-10-18 20:28:23 UTC;
         35s ago
  Docs: https://docs.docker.com
  Main PID: 13412 (dockerd)
  CGroup: /system.slice/docker.service
          └─13412 /usr/bin/dockerd -H fd://
             └─13421 docker-containerd --config
                /var/run/docker/containerd/containerd.toml
```

Executing the Docker Command without Sudo

1. By default, running the docker command requires root privileges, that is, you must prefix the command with **sudo**. It can also be run by a user in the docker group, which is automatically created during the installation of Docker.
2. If you want to avoid typing sudo whenever you run the docker command, add your username to the docker group:

```
$ sudo usermod -aG docker ${USER}
```

3. To apply new group membership:

```
$ su - ${USER}
```

4. This will ask to enter password to continue. To confirm user is added to the docker group.

```
$ id -nG
```

Installing Docker Compose

1. To download and install the latest version of Docker Compose execute below commands one after another.

```
$ sudo curl -L
"https://github.com/docker/compose/releases/download/1.23.1/docker-
compose-${uname -s}-${uname -m}" -o /usr/local/bin/docker-compose
$ sudo chmod +x /usr/local/bin/docker-compose
```

-OR-

1. If you encounter any error or an issue, execute below set of commands to do the same.

```
$ sudo apt-get -y install python-pip
$ sudo pip install docker-compose
```

2. Check the installation is successfully completed or not

```
$ docker-compose --version
```

For detailed guide visit [this](#).

On CentOS

Setting up the repository

1. Open terminal of your Linux machine.
2. First, install required packages.

```
$ sudo yum install -y yum-utils device-mapper-persistent-data lvm2
```

3. Use the following command to set up the stable repository.

```
$ sudo yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
```

Installing Docker

1. Install the latest version of the Docker CE and containerd. Also, type “Y” whenever it prompts for your permission.

```
$ sudo yum install docker-ce docker-ce-cli containerd.io
```

2. Once the docker package is installed, use below commands to start the docker demon and enable it to automatically start at boot time.

```
$ sudo systemctl start docker
```

```
$ sudo systemctl enable docker
```

3. Verify that the docker service is running.

```
$ sudo systemctl status docker
```

You should see the output similar to the below -

```
docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service;
   disabled; vendor preset: disabled)
   Active: active (running) since Thu 2019-01-24 14:46:55
   CET; 7h ago
     Docs: https://docs.docker.com
    Main PID: 7399 (dockerd)
      Tasks: 25
     Memory: 251.6M
    CGroup: /system.slice/docker.service
           └─ 7399 /usr/bin/dockerd -H fd://
```

Executing the Docker Command without Sudo

1. By default, running the docker command requires root privileges, that is, you must prefix the command with **sudo**. It can also be run by a user in the docker group, which is automatically created during the installation of Docker.
2. If you want to avoid typing sudo whenever you run the docker command, add your username to the docker group:

```
$ sudo usermod -aG docker ${USER}
```

3. To apply new group membership:

```
$ su - ${USER}
```

4. This will ask to enter password to continue. To confirm user is added to the docker group.

```
$ id -nG
```

Installing Docker Compose

1. To download and install the latest version of Docker Compose execute below commands one after another.

```
$ sudo curl -L  
"https://github.com/docker/compose/releases/download/1.23.1/docker-  
compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose  
$ sudo chmod +x /usr/local/bin/docker-compose
```

-OR-

1. If you encounter any error or an issue, execute below set of commands to do the same.

```
$ sudo yum install python-pip  
$ sudo pip install docker-compose
```

2. Check the installation is successfully completed or not

```
$ docker-compose -version
```

On RHEL

Setting up the repository

1. Open terminal of your Linux machine.
2. Use the following commands to set up the stable repository.

```
$ sudo yum install -y yum-utils
$ sudo yum-config-manager --add-repo
https://download.docker.com/linux/centos/docker-ce.repo
$ sudo yum makecache fast
```

Installing Docker

1. Install the latest version of the Docker CE. Also, type “Y” whenever it prompts for your permission.

```
$ sudo yum -y install docker-ce
```

If you get **container-selinux >= 2:2.74 requires** error from above command, change the **notify-only** flag in **/etc/yum/pluginconf.d/search-disabled-repos.conf** from 1 to 0. By doing this, it will automatically fetch the required packages then try to run above command.

2. Let’s verify that the docker service is running.

```
$ sudo systemctl status docker
```

You should see the output similar to the below -

```
docker.service - Docker Application Container Engine
  Loaded: loaded (/usr/lib/systemd/system/docker.service;
disabled; vendor preset: disabled)
  Active: active (running) since Thu 2019-01-24 14:46:55
CET; 7h ago
  Docs: https://docs.docker.com
  Main PID: 7399 (dockerd)
  Tasks: 25
  Memory: 251.6M
  CGroup: /system.slice/docker.service
          └─ 7399 /usr/bin/dockerd -H fd://
```

Executing the Docker Command without Sudo

1. By default, running the docker command requires root privileges, that is, you must prefix the command with **sudo**. It can also be run by a user in the docker group, which is automatically created during the installation of Docker.
2. If you want to avoid typing sudo whenever you run the docker command, add your username to the docker group:

```
$ sudo usermod -aG docker ${USER}
```

3. To apply new group membership:

```
$ su - ${USER}
```

4. This will ask to enter password to continue. To confirm user is added to the docker group.

```
$ id -nG
```

Installing Docker Compose

1. To download and install the latest version of Docker Compose execute below commands one after another.

```
$ sudo curl -L
"https://github.com/docker/compose/releases/download/1.23.1/docker-
compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
$ sudo chmod +x /usr/local/bin/docker-compose
```

-OR-

1. If you encounter any error or an issue, execute below set of commands to do the same.

```
$ sudo yum install python-pip
$ sudo pip install docker-compose
```

If you get error from the above commands, please install epel using below command and try to follow above steps.

```
$ sudo yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
```

2. Check the installation is successfully completed or not

```
$ docker-compose -version
```

--- EOD ---