INSTALLING QLIK INSIGHT BOT NLU

Qlik Insight Bot™
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Contents

Introduction

Qlik Insight Bot NLU is a brain of Qlik Insight Bot. It is responsible to understand what user is asking and looking for. Qlik Insight Bot NLU performs classification and featurization of the queries asked by the user which is needed to form appropriate response by Qlik Insight Bot.

The purpose of this document is to guide you how to install Qlik Insight Bot NLU.

Prerequisite

To install Qlik Insight Bot NLU, you will need below listed items installed/on-hand.

- Docker should be installed
- Docker Compose Utility
- Docker Compose File
  (should be available with Qlik Insight Bot installation package)
- A docker login credential which is mentioned in license email to access Qlik Insight Bot NLU private images

Changing the Root Directory of Docker Image Installation (optional)

By default, all docker images are installed at "*/var/lib/docker*" directory. However, if required, you can change the default image installation directory by following below instruction.

1. Change the current directory to *etc/docker*.

```
cd /etc/docker/
```

2. Create and open **daemon.json** file in edit mode.

```
nano daemon.json
```

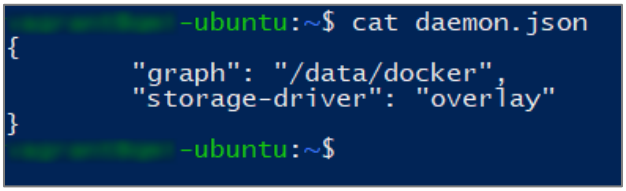
3. Copy below lines and paste the same in the editor.

```
{
          "graph": "<directory where you want to install images>",
          "storage-driver": "overlay"
}
```

4. Press **ctrl + x** to exit the editor.
5. Press **Y** to save changes.
6. Make sure the file name is **daemon.json**, press **Enter**.
7. Let's make sure that the file is created with required content.

```
cat daemon.json
```

8. The output will be like following



9. Reload the docker daemon settings.

```
sudo systemctl daemon-reload
```

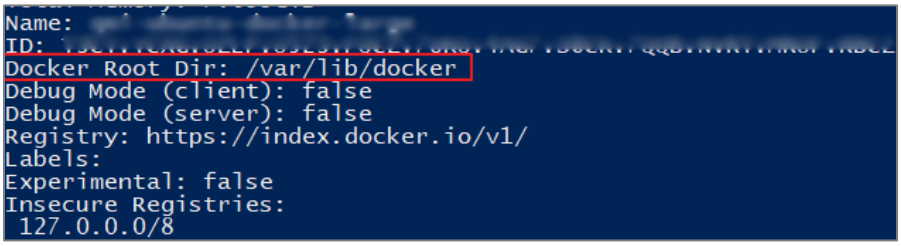
10. Restart docker.

```
sudo systemctl restart docker
```

11. Make sure that the root directory has been changed successfully.

```
docker info
```

12. Check the path of **Docker Root Dir** in output of previous command.



Set Database Password

Qlik Insight Bot NLU stores metadata of an application into PostgreSQL database on a Linux machine. User can set the password of his choice from **docker-compose.yml** file. Below are the steps to set the password.

1. Open docker-compose.yml in text editor
2. Locate POSTGRES_PASSWORD parameter in the file as shown below. It is at two places.

```
db:
  image: qlik-docker-insightbot.bintray.io/nlu_db:1.2.0
  container_name: "nlu_db"
  volumes:
  - db-data:/var/lib/postgresql/data
  environment:
    POSTGRES_DB: "NLU_DB"
    POSTGRES_PASSWORD: "<add password here>"
  networks: ['qib-network']
```

```
nlu:
  image: qlik-docker-insightbot.bintray.io/nlu:1.2.0
  restart: always
  container_name: "qib_nlu"
  networks: ['qib-network']
  ports:
  - "5000:5000"
  volumes:
  - nlu-data:/nlu/data/
  - qib-license:/nlu/data/configuration_data/
  environment:
    POSTGRES_HOST: nlu_db
    isHttps: "True"
    CertificatePath: "/nlu/Certificates/"
    NLU_DATABASE: "NLU_DB"
    POSTGRES_PASSWORD: "<add password here>"
  depends_on:
    - db
    - duckling
```

3. Replace the placeholder of password **<add password here>** by password of your choice.
4. Save the file.

Installing Qlik Insight Bot NLU

Qlik Insight Bot NLU is required to be installed on a Linux machine. Follow the below steps to install the NLU on Linux machine.

1. Place the file named **docker-compose.yml** on Linux box at desired location.
2. Open the yml file in text editor and change the below parameters in the file and save them.

   Note: NLU can run with/without HTTPS.

Version	The version of **Docker Compose File** which is **3.6** by default. Check the compatibility with your Docker engine from here.
isHttps	If set true, the NLU runs on HTTPS else on HTTP.
Certificate path	Provide the physical path of SSL certificate (.pem) before the "**:**" sign under **volumes** section if you want to bind your own domain certificate. e.g. <Directory where the certificate is stored>:/nlu/Certificates/ **Note: If no certificate provided, the NLU will generate a self-signed certificate automatically.** **If you are giving certificates, then make sure that docker image user can modify your directory of the certificate. You can do that by applying 777 permission to the certificate folder in your host machine.**

3. Once you make above changes in yml file, open **Terminal**, change the directory and point it where the yml file is stored.
4. Login to Docker. Use the username and password provided in the License Email.

```
docker login -u {username} -p {password} https://qlik-docker-insightbot.bintray.io
```

   In case you encounter "Access Denied" error at the time of login, use below command and try to login once again.

   If you are installing NLU in the **Ubuntu machine**:

```
sudo apt install gnupg2 pass
```

   If you are installing NLU in the **CentOS Machine**:

```
sudo yum install gnupg
```

   If you are installing NLU in the **RHEL Machine**:

```
sudo yum install gnupg
```

   In case you encounter "docker.socket file does not have permission" error, use below commands and try to login once again.

```
sudo chgrp docker /lib/systemd/system/docker.socket
sudo chmod g+w /lib/systemd/system/docker.socket
```

5. Execute below command to install Qlik Insight Bot NLU.

```
docker-compose up
```

   Above command fetches the images from docker repository and execute them. The name of the images is –

   1. qlik-docker-insightbot.bintray.io/nlu_db
   2. qlik-docker-insightbot.bintray.io/nlu_duckling
   3. qlik-docker-insightbot.bintray.io/nlu

If during the installation of Qlik Insight Bot NLU, you see the message “NLU is exited with code 0”, use below commands to restart the process.

```
Ctrl + C
docker-compose up
```

If the above command fails to fetch the images aforementioned, it is required to pull all the images manually using below command.

```
docker pull <image name>
```

Below command gives you list all fetched images

```
docker images
```

Execute below command to install Qlik Insight Bot NLU.

```
docker-compose up
```

Qlik Insight Bot NLU should be up and running now.

Scheduling Docker Restart

You can also set a schedule to restart docker. The reason of restarting docker is to release unused memory. On each restart, Docker automatically load the latest available model.

Use below set of command to schedule the restart.

1. Edit a Crontab file. The crontab is a list of commands that you want to run on a regular schedule, and also the name of the command used to manage that list.

```
crontab -e
```

2. Schedule the time to restart docker.

```
59 23 * * 1-7 docker restart <NLU container name>
Min Hr      Days-in-week
```

   By default, the <NLU container name> will be **qib_nlu**.

3. Press Esc to exit from edit mode of Crontab file, press **:wq** to save the changes made in file.
4. To see the list of Cron jobs.

```
crontab -l
```

Appendix I – Converting certificates from pfx to pem format

In order to convert **pfx** file to **pem** file you need to follow below instruction and for that you are going to need **open SSL** which you can download it from here.

1. Open Bin where openssl.exe is installed. Copy and Paste **pfx** and **key** files of SSL certificate of server on which you are going to install Qlik Insight Bot NLU to this directory.
2. Run **openssl.exe** as an administrator.
3. Execute below commands one after another.

```
pkcs12 -in <your_file.pfx> -nocerts -out NluEnc.key
```

   - Enter the certificate password 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 NluEnc.key -out nlu_key.pem
```

   - Enter the pass phase (set earlier)

```
pkcs12 -in <your_file.pfx> -clcerts -nokeys -out nlu_crt.pem
```

   - Enter the certificate password one more time.

These commands will generate –
nlu_key.pem and **nlu_crt.pem** which will be required during Qlik Insight Bot NLU installation.

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