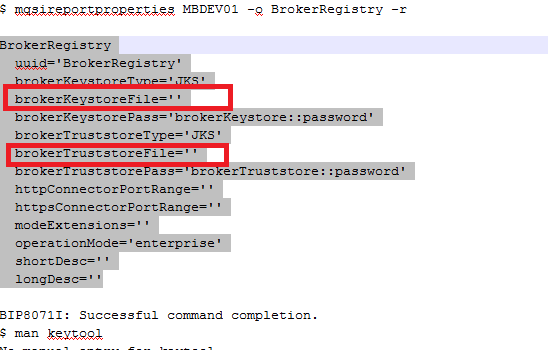
**Creating and configuring a public and private key using keytool to make a HTTPS call through Message broker:**

1. Run the mqsireportproperies command to check the whether keystore file and truststore file is exist.

mqsireportproperties MBDEV01 -o BrokerRegistry -r



Currently, we don’t have both the files so we need to create a keystore file using keytool command.

1. traverse to the path where we are creating the keystore file.

/opt/ibm/mqsi/8.0.0.2/jre16/bin

1. Execute the below command to create a keystore file.

keytool -genkey -alias <broker name> -keystore <broker name>.jks -keysize 2048

/opt/ibm/mqsi/8.0.0.2/jre16/bin/keytool -genkey -alias MBDEV01 -keystore MBDEV01.jks -keysize 2048

3. Enter password: coach1234

4. Then it will ask for security related question, need to answer for that

What is your first and last name?

[Unknown]: MBDEV01

What is the name of your organizational unit?

[Unknown]: IS

What is the name of your organization?

[Unknown]: COACH

What is the name of your City or Locality?

[Unknown]: US

What is the name of your State or Province?

[Unknown]: NY

What is the two-letter country code for this unit?

[Unknown]: US

Is CN=MBDEV01, OU=IS, O=COACH, L=US, ST=NY, C=US correct? (type "yes" or "no")

After you provide answers to the above questions, you will be prompted to verify that all are correct, as shown below. If all are correct, enter Yes:

[no]: yes

5. To check whether the keystore entry is added, need to list the keystore entries, To list the keystore entries enter the below command

Keytool –list –keystore BROKER1.jks

/opt/ibm/mqsi/8.0.0.2/jre16/bin/keytool -list -keystore MBDEV01.jks

6. Need to check whether truststore file is exist under the /opt/ibm/mqsi/8.0.0.2/jre16/lib/security/cacerts(currently we don’t have access to /opt directory, hence we are copying this cacerts(truststore file )to /home/mqm/

7. Now we have both keystore and truststore files in the below location

/home/mqm/MBDEV01.jks

/home/mqm/cacerts

8. Now we need to add those files to broker registry by using the below command

Add broker keystore file to broker registry

mqsichangeproperties BROKER1 -o BrokerRegistry -n brokerKeystoreFile -v /home/brkr/BROKER1.jks

mqsichangeproperties MBDEV01 -o BrokerRegistry -n brokerKeystoreFile -v /home/mqm/MBDEV01.jks

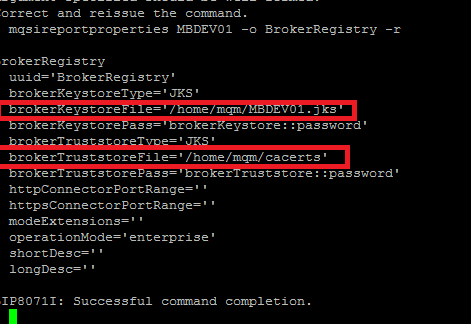
Add broker truststore file to broker registry

mqsichangeproperties BROKER1 -o BrokerRegistry -n brokerTruststoreFile -v /opt/IBM/mqsi/7.0/jre16/lib/security/cacerts

mqsichangeproperties MBDEV01 -o BrokerRegistry -n brokerTruststoreFile -v /home/mqm/cacerts

9. Once the above commands are executed, keystore and truststore files will be added to the broker registry, to confirm issue the below command.

mqsireportproperties MBDEV01 -o BrokerRegistry -r



10. If we are able to see both the files are added, then we need to set the password for both the files, for that we need to stop the broker and issue the below command.

Set the registry password for keystore

mqsisetdbparms BROKER1 -n brokerKeystore::password -u temp -p changeit

mqsisetdbparms MBDEV01 -n brokerKeystore::password -u coach -p coach1234

Set the registry password for truststore

mqsisetdbparms BROKER1 -n brokerTruststore::password -u temp -p changeit

mqsisetdbparms MBDEV01 -n brokerTruststore::password -u coach -p coach1234

11. Start the broker.

12 .Now we need to import the public key to trust store by using the below the command

keytool –import –alias %alias% -file %file% -keystore %keystore%

/opt/ibm/mqsi/8.0.0.2/jre16/bin/keytool -import -alias ultipro -file /home/mqm/UltiproKey-sscert.pem -keystore /home/mqm/cacerts

13. Configure the SSL protocol

mqsichangeproperties BROKER1 -e <EG Name> -o HTTPSConnector -n sslProtocol -v SSLv3

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o HTTPSConnector -n sslProtocol -v SSLv3

13. Above configuration is enough is to set the broker level. If we need to create a new Execution group(EG) also, we can deploy the PI in to that and the same will work(ne need to configure again) It’s a onetime setup. If we are setting to EG level configuration, and we are creating a new EG we need to follow the below steps to configure again for new EG.

**EG level setup:**

1. Follow steps to ???????///

2. For 1-way auth:

a. mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n truststoreType -v JKS

b. mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n truststoreFile -v <fully qualified path to truststore>

c. mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n truststorePass -v brokertruststore::password

d. mqsisetdbparms <Broker name> -n brokertruststore::password -u temp -p <password>

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n truststoreType -v JKS

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n truststoreFile -v /home/mqm/cacerts

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n truststorePass -v brokerTruststore::password

mqsisetdbparms MBDEV01 -n brokerTruststore::password -u coach -p coach1234

3. For 2-way auth:

mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n keystoreType -v JKS

mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n keystoreFile -v <fully qualified path to keystore>

mqsichangeproperties <Broker name> -e <EG name> -o ComIbmJVMManager -n keystorePass -v brokerKeystore::password

mqsisetdbparms <Broker name> -n brokerKeystore::password -u temp -p <password>

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n keystoreType -v JKS

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n keystoreFile -v /home/mqm/MBDEV01.jks

mqsichangeproperties MBDEV01 -e VE\_ULTIPRO -o ComIbmJVMManager -n keystorePass -v brokerKeystore::password

mqsisetdbparms MBDEV01 -n brokerKeystore::password -u coach -p coach1234

1. Stop and start the broker.

**Addings:**

1. delete certificate command from keystore

keytool -delete -alias <-alias> -keystore <-keystore>

keytool -delete -alias ultipro -keystore /home/mqm/MBDEV01.jks

**References:**

1. <http://www.ibm.com/developerworks/websphere/library/techarticles/1205_bhat/1205_bhat.html>
2. https://www.ibm.com/developerworks/community/blogs/aimsupport/entry/do\_you\_have\_my\_certificate\_websphere\_message\_broker\_soap\_nodes?lang=en