





# Spring boot restful HTTPS request with SSL certificate

Step 1: Download Client Certificate which should contain .p12/.pfx file and Passphrase (ask client to provide the Passphrase):

	nxws-pre.mo2o.com_client-web	Security Certificate
	nxws-pre.mo2o.com_client-web	Personal Information Exchange
	nxws-pre.mo2o.com_client-web.key	KEY File
	nxws-pre.mo2o.com_client-web.pem	PEM File

Step 2: Run keytool command to generate keystore. When keytool command is successful then the file will be stored in C:\Users\[YOUR\_ACCOUNT]\[NEW\_KEYSTORE\_NAME.jks]

```
keytool -importkeystore -v -srckeystore [PATH_CLIENT_CERTIFICATE/file.p12] -srcstoretype PKCS12 -destkeystore [NEW_KEYSTORE_NAME.jks] -deststoretype JKS
```

**After running above command, it will prompt with questions:**

Enter destination keystore password: changeit Default password  
Re-enter new password: changeit  
Enter source keystore password: [Client Certificate Passphrase]

Step 3: To check keystore is successfully generated

```
keytool -list -v -keystore C:\Users\[YOUR_ACCOUNT]\[NEW_KEYSTORE_NAME.jks]
```

**After running above command, it will prompt with questions:**

Enter keystore password: changeit

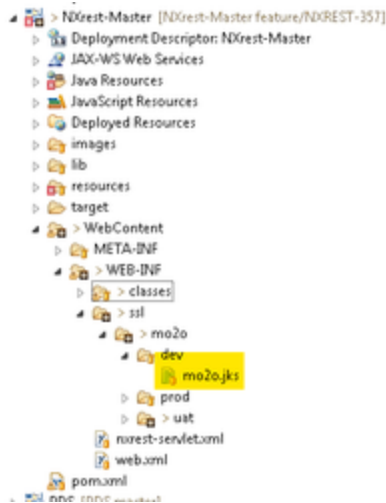
```
A keytool -list -v -keystore C:\Users\mmohamed\test.jks
Enter keystore password:
Keystore type: JKS
Keystore provider: SUN

Your keystore contains 1 entry

Alias name: 1
Creation date: 04-Dec-2018
Entry type: PrivateKeyEntry
Certificate chain length: 1
Certificate[1]:
Owner: EMAILADDRESS=web@mo2o.com, CN=nxws-pre.mo2o.com, OU=NationalExpress, O=MO2O, L=Madrid, ST=MD, C=ES
Issuer: EMAILADDRESS=mo2o@mo2o.com, CN=nxws-pre.mo2o.com, OU=NationalExpress, O=MO2O, L=Madrid, ST=MD, C=ES
Serial number: 57be5313239dfac3
Valid from: Wed Nov 16 11:37:39 GMT 2016 until: Mon Nov 15 11:37:39 GMT 2021
Certificate fingerprints:
   MD5:  15:5A:8A:08:E8:C2:91:F8:12:92:73:27:42:81:3D:99
   SHA1: 4C:3D:08:42:05:32:10:65:AF:FA:56:7C:0A:EA:D4:95:01:CD:80:34
   SHA256: 45:CA:7B:37:A5:0B:AA:F1:26:3A:7C:08:54:ED:56:DF:E5:5B:74:4B:44:9A:D2:04:77:9D:3C:11:A2:FC:91:31
Signature algorithm name: SHA256withRSA
Subject Public Key Algorithm: 2048-bit RSA key
Version: 1

*****
*****
```

Step 4: Place keystore into the Spring boot workplace:



Step 5 : change in YML file add jks file location and Client Certificate Passphrase

```
*application.yml
126 umbraco:
127   nearestStationUrl:
128     from: https://www.nationalexpress.com/umbraco/api/stationsapi/nearby
129     to: https://www.nationalexpress.com/umbraco/api/stationsapi/nearby
130   mobileOneTwoOne:
131     hashRequestEndpointUrl: https://nxws-uat.mo2o.com/en/v1/purchaseAck/post
132     keystorePath: ../ssl/mo2o/uat/mo2o-uat.jks
133     keystorePassword: changeit
134     certPassPhrase: Client Certificate Passphrase |
135   covergenius:
136     skus: H61H001,H61H002,H61H003
137
138   featureSwitches:
139     linkTicketFlag: false
140     travelTicketEmail: true
141     esbConfirmationEmail: false
142
```

Step 6: Last step making a call https request

```
keystorePath = "ssl/mo2o/dev";
```

```
keystorePassword = "changeit";
```

```
certPassPhrase = "[Client Certificate Passphrase]";
```

```
SSLContext sslContext = SSLContextBuilder.create().loadKeyMaterial(ResourceUtils.getFile("classpath:" + keystorePath), keystorePassword.toCharArray(), certPassPhrase.toCharArray()).build();
```

```
HttpClient client = HttpClients.custom().setSSLContext(sslContext).build();
```

```
HttpComponentsClientHttpRequestFactory requestFactory = new HttpComponentsClientHttpRequestFactory(client);
```

```
RestTemplate restTemplate = new RestTemplate(requestFactory);
```

```
HttpHeaders headers = new HttpHeaders();
```

```
headers.setContentType(MediaType.APPLICATION_JSON);
```

```
HttpEntity<MO2OHashRequestCommand> requestEsbEntity = new HttpEntity<>(payload, headers);
```

```
ResponseEntity<MO2OHashResponseCommand> responseMo2o = restTemplate.exchange(hashRequestEndpointUrl, HttpMethod.POST, requestEsbEntity, MO2OHashResponseCommand.class);
```

Coach to Mo2o Environment details :

which mo2o env will be used by our which env is detailed below :

**DT5, DT3, PERF, DT2, DT4** is pointing to <https://nxws-uat.mo2o.com/en/v1/purchaseAck/post>  
**PROD** is pointing to <https://nxws.mo2o.com/en/v1/purchaseAck/post>

**Note : THIS ONLY BE TESTABLE on STABLE(DT3) .**