CONFIGURATION GUIDES › ADMINISTRATION & SECURITY

REST API Calls Using X.509 Certificate-Based Authentication

Applicare 9.2 · Updated August 30, 2024 · **Pending technical review**

X.509 Certificate-Based Authentication

X.509 Cert-based authentication provides an easy and secure way to access Applicare REST APIs. Below are the details on enabling it.

1. Bring down the Applicare controller.

2. Navigate to **<Applicare controller home directory>\server\conf** and open the **server.xml** file.

3. Add a new connector as detailed below, specifying the **Keystore** and **Truststore** file paths password and set the **clientAuth** to true.

<Connector protocol="HTTP/1.1" port="8444" maxThreads="200" scheme="https" secure="true" SSLEnabled="true" keystoreFile="**<keystorefile.jks>**" keystorePass="**password**" truststoreFile="**<truststorefile.jks>**" truststorePass="**password**" **clientAuth="true"** sslProtocol="TLS" />

Example:

```
<Connector
protocol="HTTP/1.1"
port="8444" maxThreads="200"
scheme="https" secure="true" SSLEnabled="true"
keystoreFile="E:\Applicare\MySQL\keystore.jks" keystorePass="123456"
truststoreFile="E:\Applicare\MySQLtruststore.jks" truststorePass="123456"
clientAuth="true" sslProtocol="TLS" />
```

4. Restart the Applicare Controller.

Request content details

```yaml
Method Type: POST
Content-Type: application/json
REST_API_URL: Controller_Protocol://Controller_IP:Controller_Port/applicare/restapi
REQUEST_BODY: REST API details to fetch
CA_CERTIFICATE_FILE: CA Certificate file for SSL.
CLIENT_CERTIFICATE_FILE: Client Certificate file for client side authentication. (.p12) file
PassphrasePassword: Password for the .p12 file at the time of file generation.
```

Request Content Information

```
TEXT
Content-Type: application/json
```

```
TEXT
Success Response
{"status":"success","details":[{"name": "Google","state": "Failed"}]}

Failed Response
{"status":"error","details":[{"error": "Unauthorized. Token is missing or invalid"}]}

status – It displays the response is success or failure
details – Response message (JSON Array)
```

cURL Command Syntax

HTTPS:

curl --cacert **CA_CERTIFICATE_FILE** --cert **CLIENT_CERTIFICATE_FILE:PassphrasePassword** -H "Content-Type: application/json" -X POST -d **REQUEST_BODY REST_API_URL**

Fields:

CA_CERTIFICATE_FILE : Location of the **.crt** (or) **.pem** certificate file

CLIENT_CERTIFICATE_FILE: Client certificate file with **.p12** extension

PassphrasePassword: Passphrase for the client certificate file

REQUEST_BODY: Details of the REST API request

REST_API_URL: Controller_Protocol://Controller_IP:Controller_Port/applicare/restapi

```
TEXT
Controller_Protocol: Applicare Controller running protocol (http or https)
Controller_IP: Applicare Controller running IP or domain name
Controller_Port: Applicare Controller running Port
```

For example, Consider the following values:

CA_CERTIFICATE_FILE: D:\applicare.pem

.P12_FILE: D:\client.p12

PassphrasePassword: clientpass

REST_API_URL: `https://localhost:8443/applicare/restapi`

REQUEST_BODY details for Various API

1. To retrieve the status of all active synthetic transactions

```
TEXT
{"\q\":\"syntheticAllTransactionStatus\"}
```

cURL Example

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d **{\"q\":\"syntheticAllTransactionStatus\"}** **https**://**localhost**:**8444**/applicare/restapi

Response

```
TEXT
{"status":"success","details": [{"name": "Google","state": "Failed"},
{"name": "google","state": "Queued"},{"name": "Json","state":"Success"}]}
```

name - Synthetic Transaction Name

state - State of the transaction. (Success, Failed or Queued)

2. To retrieve details of all active synthetic transactions

```
TEXT
{\"q\":\"syntheticAllTransactionDetails\"}
```

cURL Example

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d **{\"q\":\"syntheticAllTransactionDetails\"}** **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details":[{"group": "Default","app": "Applicare",
"name": "Google","node": "ApplicareAdmin","state": "Failed","lastChecked": 1657724700000,
"executionTime": 21040,"message": ""},{"group": "Default","app":"","name": "Json",
"node": "ApplicareAdmin","state": "Success","lastChecked":1657724700000,
"executionTime": 316,"message": ""}]}
```

group - Group Name

app - Application Name

name - Synthetic Transaction Name

node- In Which Node it executes

state - State of the transaction. (Success, Failed or Queued)

lastChecked - Last execution time

executionTime - Time taken for the transaction. Value in milliseconds

3. To retrieve transaction status based on transaction names

```
TEXT
{\"q\":\"syntheticTransactionStatus\",\"txnname\":\"TXN_NAME1,TXN_NAME2\"}
```

TXN_NAME1, TXN_NAME2 - Name of synthetic transactions

cURL Example

a. To get the transaction status for single transaction

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionStatus**\",\"**txnname**\":\"**00001**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details": [{"name": "00001","state": "Failed"}]}
```

b. To get the transaction status for multiple transactions

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionStatus**\",\"**txnname**\":\"**00001,00002**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details": [{"name": "00001","state": "Failed"},
{"name": "00002","state":"Success"}]}
```

4. To retrieve the transaction status based on applications

```
TEXT
{\"q\":\"syntheticTransactionStatus\",\"appname\":\"APP_NAME1,APP_NAME2\"}
```

APP_NAME1, APP_NAME2 - Name of the Application which synthetic transactions was assigned.

cURL Example

a. To get the transaction status for single application

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionStatus**\",\"**appname**\":\"**TestApp**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details":[{"name":"00004","state":"Queued"},
{"name":"10jmeter","state":"Success"}]}
```

b. To get the transaction status for multiple applications

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionStatus**\",\"**appname**\":\"**TestApp,Applicare**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details":[{"name":"00004","state":"Queued"},
{"name":"10jmeter","state":"Success"},{"name":"Error","state":"Failed"},
{"name":"Google","state":"Failed"}]}
```

5. To get the transaction details based on transaction names

```
TEXT
{\"q\":\"syntheticTransactionDetails\",\"txnname\":\"TXN_NAME1,TXN_NAME2\"}
```

TXN_NAME1, TXN_NAME2 - Name of synthetic transactions

cURL Example

a. To get the transaction details for single transaction

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionDetails**\",\"**txnname**\":\"**00001**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
TEXT
{"status":"success","details":[{"group":"Default","app":"","name":"00001","node":"Agent1",
"state":"Queued","lastChecked":0,"executionTime":0,"message":""}]}
```

b. To get the transaction details for multiple transactions

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"syntheticTransactionDetails\",\"**txnname**\":\"**00001,00002**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
YAML
{"status":"success","details":[{"group":"Default","app":"","name":"00001","node":"Agent1",
"state":"Queued","lastChecked":0,"executionTime":0,"message":""},
{"group":"Default","app":"","name":"00002","node":"ApplicareAdmin","state":"Success",
"lastChecked":1657878180000,"executionTime":116720,"message":""}]}
```

6. To get the transaction details based on applications

```
TEXT
{\"q\":\"syntheticTransactionDetails\",\"appname\":\"APP_NAME1,APP_NAME2\"}
```

APP_NAME1, APP_NAME2 - Name of the application to which the synthetic transactions are assigned.

cURL Example

a. To get the transaction for single application

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionDetails**\",\"**appname**\":\"**TestApp**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
YAML
{"status":"success","details":[{"group":"Default","app":"TestApp","name":"00004",
"node":"Agent2","state":"Queued","lastChecked":0,"executionTime":0,"message":""},
{"group":"Default","app":"TestApp","name":"10jmeter","node":"ApplicareAdmin",
"state":"Success","lastChecked":1657879080000,"executionTime":1469,"message":""}]}
```

b. To retrieve transaction details for multiple applications

curl --cacert **D:\applicare.pem** --cert **D:\client.p12:changeit** -H "Content-Type: application/json" -X POST -d {\"q\":\"**syntheticTransactionDetails**\",\"**appname**\":\"**TestApp,Applicare**\"} **https**://**localhost**:**8443**/applicare/restapi

Response

```
YAML
{"status":"success","details":[{"group":"Default","app":"TestApp","name":"00004",
"node":"Agent2","state":"Queued","lastChecked":0,"executionTime":0,"message":""},
{"group":"Default","app":"TestApp","name":"10jmeter","node":"ApplicareAdmin",
"state":"Success","lastChecked":1657879080000,"executionTime":1469,"message":""},
{"group":"Default","app":"Applicare","name":"Error","node":"ApplicareAdmin",
"state":"Failed","lastChecked":1657879020000,"executionTime":24432,"message":""},
{"group":"Default","app":"Applicare","name":"Google","node":"ApplicareAdmin",
"state":"Failed","lastChecked":1657879080000,"executionTime":21031,"message":""}]}
```