Automation Implementation document

Execution:

Github Url : https://github.com/qa2pavan/Digicert_project

1. Open the above public GitHub url and copy the Digicert_project clone url
2. Create a folder in your machine and do git bash – clone the above project
3. Open eclipse and import Digicert_project into your workspace, refresh the project incase if any errors
4. Navigate to testNG.xml file and run as TestNG suite

Implementation :

As shown below it is Maven project with below folder structure

Main:

generatex509Cert.java class generates new cert

validate_x509Cert.java reads the certificate and also having few action methods to validate certificate

Test:

CertificateDataDriverTest -3 Testcases- Implementing **data-driven testing** using TestNG's **@DataProvider** to test multiple certificates

CertificateStructureValidationTest – 6 Testcases -
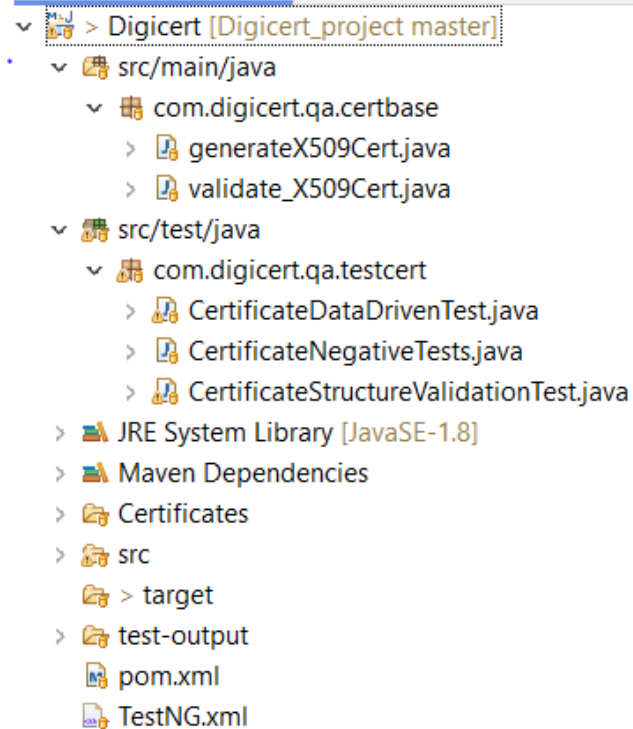
Validates: Common Name (CN)

     Issuer

     Expiration Date (not expired)

     Signature Algorithm

CertificateNegativeTest –4 Testcases- validate few negative test cases

Certificates to test are stores under Certificates folder

v ᴹⱼ > Digicert [Digicert_project master]

    v 🗂 src/main/java

        v 🖽 com.digicert.qa.certbase

            > 🗎 generateX509Cert.java

            > 🗎 validate_X509Cert.java

    v 🗂 src/test/java

        v 🗂 com.digicert.qa.testcert

            > 🗎 CertificateDataDrivenTest.java

            > 🗎 CertificateNegativeTests.java

            > 🗎 CertificateStructureValidationTest.java

    > ➡️ JRE System Library [JavaSE-1.8]

    > ➡️ Maven Dependencies

    > 🗁 Certificates

    > 🗁 src

    🗁 > target

    > 🗁 test-output

    🗎 pom.xml

    🗎 TestNG.xml

Reports:

The below TestNG report shows there are total 13 test cases out of which 4 negative testcases. Intentionally failing the negative testcases which validates malformed and expired certificate.

Test	# Passed	# Skipped	# Failed	Time (ms)	Included Groups	Excluded Groups
			Certificate Validation Suite			
Test1	9	0	4	131		

Class	Method	Start	Time (ms)
	Certificate Validation Suite		
	Test1 — failed		
com.digicert.qa.testcert.CertificateNegativeTests	testCertificateExpiry	1742053721340	4
	testCertificateExpiry_WithSpecificDate	1742053721346	4
	testMalformedCertificate	1742053721351	4
	testWeakCertificateKeySize	1742053721356	3
	Test1 — passed		
com.digicert.qa.testcert.CertificateDataDrivenTest	testCertificateExpiration	1742053721332	3
	testCertificateExpiration		
	testCertificateExpiration		
com.digicert.qa.testcert.CertificateStructureValidationTest	testValidateCertExpirydate	1742053721254	29
	testValidateCertSignatureAlgorith	1742053721284	5
	testValidateCertVersion	1742053721290	4
	testValidateCertificate	1742053721295	4
	testValidateCommanName	1742053721300	4
	testValidateIssuer	1742053721304	5

Test1

com.digicert.qa.testcert.CertificateNegativeTests#testCertificateExpiry

Exception
java.lang.AssertionError: The certificate is expired - expected [true] but found [false]   at com.digicert.qa.testcert.CertificateNegativeTests.testCertificateExpiry(CertificateNegativeTests.java:34) ... Removed 28 stack frames

back to summary

com.digicert.qa.testcert.CertificateNegativeTests#testCertificateExpiry_WithSpecificDate

Note: Due to time constraint this project is limited to validate the above scenarios, I can further enhance optimize this project if I get some more time.