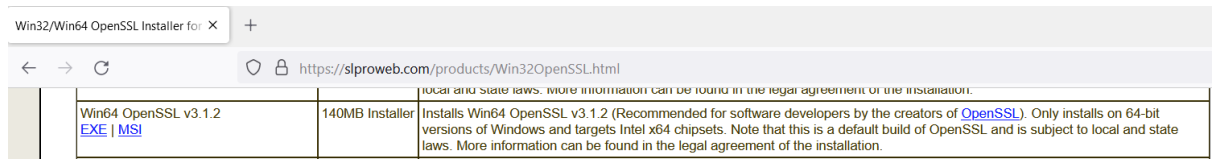
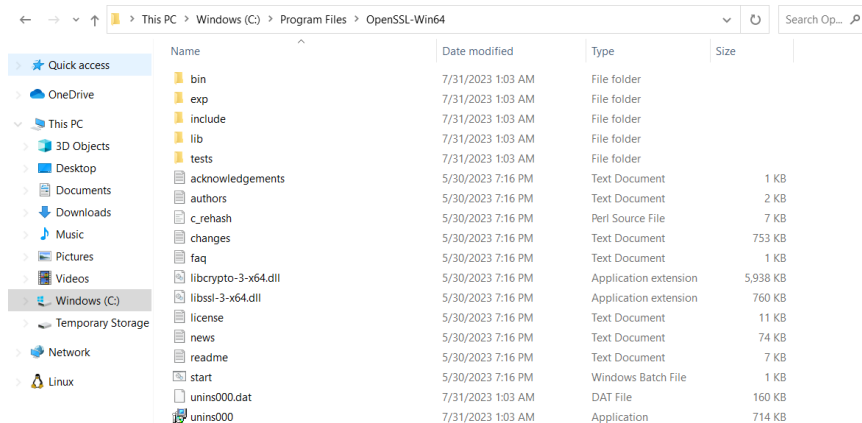


Procedure for connecting Epic FHIR

1. Download SSL for Windows.



2. Identify the location of the SSL program files in the local desktop environment.



3. Open Command Prompt and set the path to the bin folder.

```
C:\Users\vaitesswar\Desktop>set PATH=%PATH%; "C:\Program Files\OpenSSL-Win64\bin"
```

4. Run `openssl genrsa -out privatekey.pem 2048` command to create private key.

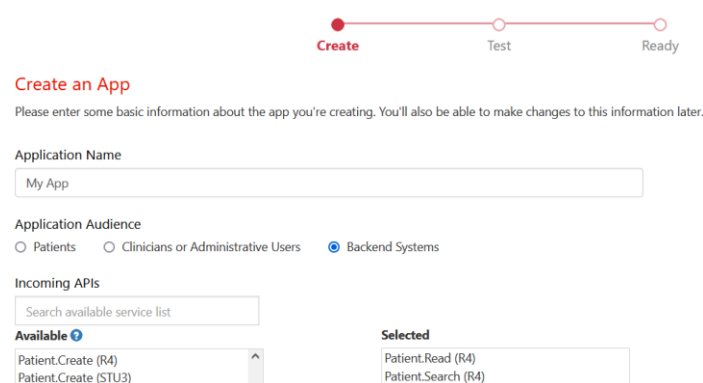
```
C:\Users\vaitesswar\Desktop>openssl genrsa -out privatekey.pem 2048
```

5. Run `openssl req -new -x509 -key privatekey.pem -out publickey509.pem -subj '/x=0/CN=myapp'` command to create corresponding public key.

```
C:\Users\vaitesswar\Desktop>openssl req -new -x509 -key privatekey.pem -out publickey509.pem -subj '/x=0/CN=myapp'  
req: Skipping unknown subject name attribute "x"
```

6. Create a new application in Epic FHIR with the following configurations.

- Application Name: MyApp
- Application Audience: Choose Backend Systems
- Incoming APIs: Choose as shown below.



7. Upload public key created using OpenSSL and save the application.

Sandbox JWT Signing Public Key ?

Upload Public Key

Save

Cancel

8. Choose “R4” for SMART on FHIR version and choose “Save and Ready for Sandbox”.

Sandbox JWT Signing Public Key ?

54AE89791693F4303E0810269D86120989407ED

Remove Public Key

SMART on FHIR Version ?

☐ DSTU2 ☐ STU3 ☒ R4

FHIR ID Generation Scheme ?

☒ Use Unconstrained FHIR IDs ☐ Use 64-Character-Limited FHIR IDs for USCDI v1 FHIR Resources

Summary

Patient Application

Thumbnail

Add Thumbnail

☐ I accept the terms of use of open.epic.
Check the box above to enable the Save & Ready for Production button.

Client IDs for this app **will NOT** be automatically downloaded to customer systems upon marking it ready for production. ?

Note: Your app will be available to customers upon marking it ready for production. At that time, the app cannot be edited.

Delete App

Cancel

Save & Ready for Sandbox

Save & Ready for Production

9. Get the “Non-Production Client ID” from Epic FHIR.

Non-Production Client ID

ca786b00-aa78-4002-9c49-99a00d449edc

10. Update the “sub” and “iss” fields in code with the Client ID.

```
"iss": "ca786b00-aa78-4002-9c49-99a00d449edc", // Client ID
"sub": "ca786b00-aa78-4002-9c49-99a00d449edc", // Client ID
```

11. Follow the code example in “EHR_Integration_Sample.ts” file to connect to Epic FHIR and get patient data.

```
EXPLORER  TS server.ts  TS app.ts  TS EHR_Integration_Sample.ts  TS app.tests

BACKEND  .scannerwork  config  controllers  TS appointmentController.ts  TS doctorController.ts  TS patientController.ts  coverage  graphql  models  node_modules  restAPI  .env  .gitignore  app.tests  TS app.ts  EHR_Integration_Sample.ts  jest.config.js  mongoDBMemory.ts  package-lock.json  package.json  privatekey.pem  publickey509.pem  TS server.ts  sonar-project.properties

TS EHR_Integration_Sample.ts > login
1  var jwt = require('jsonwebtoken');
2  var fs = require('fs');
3  var axios = require('axios');
4
5  // Encoding
6  const curTime = Math.ceil(Date.now()/1000); // in seconds (NOT MILLISECONDS)
7
8  const claims = {
9    "iss": "ca786b00-aa78-4002-9c49-99a00d449edc", // Client ID
10   "sub": "ca786b00-aa78-4002-9c49-99a00d449edc", // Client ID
11   "aud": "https://fhir.epic.com/interconnect-fhir-oauth/oauth2/token",
12   "jti": Math.random().toString(21).slice(2), // unique identifier
13   "exp": curTime + 240, // 4 minutes from now (expiration time integer for this authentication JWT, expressed in seconds)
14   "nbf": curTime - 1, // Time integer before which the JWT must not be accepted for processing, expressed in seconds
15   "iat": curTime // Time integer for when the JWT was created, expressed in seconds
16 }
17
18 const privateKey = fs.readFileSync("privatekey.pem");
19 const JWT = jwt.sign(claims, privateKey, { algorithm: 'RS384' });
20 console.log(JWT);
21
22 // Decoding
23 const publicKey = fs.readFileSync("publickey509.pem");
24 var decoded = jwt.verify(JWT, publicKey);
25 //console.log(decoded);
26
27 // HTTP Requests
```