FHIR Intermediate Course

MODULE 4: SMART on FHIR and CDS-Hooks

Assignments

Course Overview

Module I: Implementation Guides

Most relevant FHIR Implementation Guides: Argonaut & IPS
Argonaut Development and Roadmap
Argonaut Data Query IG: Scope, Use Cases
Argonaut Provider Directory IG: Scope, Use Cases
IPS FHIR IG: Scope, Use Cases

Module II: FHIR Clients

General Guidelines for FHIR Clients
FHIR Clients in JavaScript / C# / Java [1 - Elective]

Module III: FHIR Facades

Why use FHIR Server Facade: your system on FHIR
Specific FHIR Servers (FHIR Facade)
Facade Use Case / Scenarios
Facade Architecture / Patterns
Where to put the FHIR Facade
System Integration / Integration Engine / Bus / Messaging
Facade in Java / Node.JS [1 - Elective]

Module IV: FHIR Applications

Smart-On-FHIR
CDS-Hooks
Integration with Smart-On-FHIR / CDS-Hooks [1 - Elective]

SMART on FHIR and CDS-Hooks

How to run the project

In order to understand a little more, we suggest you execute the project that integrates SMART on FHIR with CDS-Hooks.

The entire package includes 3 services.

- The CDSS HOOK service

- FHIR server.

- The SMART on FHIR application,

To run the CDSS service and the FHIR server, you need to have the Java Runtime Environment installed. You can download it from the site.

Once installed,

To run the SMART application, you must have a web server that points to the folder that contains the project's index.html and using port 8085. The application can be accessed through the address http://localhost:8085/index.html. It is important to use this port, so that you do not have to make any modifications to the code. If for any reason this port is found busy, NEW_PORT must be replaced with the chosen port in the following locations:

- **ehr.js file is located at** smart\ehr\js

```
1. $('#prescriptions-section').click(function(){
2.     window.location.href =
   'http://localhost:NEW_PORT/launch.html?launch=Sssa121313&iss=http://loca
   lhost:8080/fhir';
3. });
```

- **launch.html** is located at smart\

```
1.  FHIR.oauth2.authorize({
2.              clientId: "prescriptions_app",
3.              scope: [
4.                  "launch",
5.                  "openid fhirUser",
6.                  "patient/MedicationRequest.*",
7.                  "user/Medication.read"
8.              ].join(" "),
9.              redirectUri: "http://localhost:NEW_PORT/index.html",
10.             serverUrl: fhirServiceUrl
11.         });
```

If you don't have a web server on your computer, we suggest https://fenixwebserver.com/ which is extremely easy to use.

This project interacts with a CDSS service that will allow you to use the CDS-Hooks standard to make a decision on the dosage of a medicine.

Once the CDSS service (Java application using Spring Boot) is running, it will be running on port 8084 as indicated in the application.properties file. The CDSS service also interacts with the FHIR server.

Finally, you must run the FHIR server we used in the previous unit since our SMART application will retrieve, create and update FHIR resources. Remember that this project defaults to port is 8080. If you had to modify this port because it was busy, then you have to modify the ehr.js file found in smart\ehr\js, replacing NUEVO_PUERTO with the chosen port.

```
1. $('#prescriptions-section').click(function(){
2.     window.location.href =
   'http://localhost:8085/launch.html?launch=Sssa121313&iss=http://localhos
   t:NEW_PORT/fhir';
3. });
```