MANUAL

How to use the CDC Health Survey Web App

Summary

This document would walk you through on how to quickly start using the health survey within a smart on FHIR sandbox, this document would also include diagrams and database schemas for the Health Survey App

Table of Contents

CDC-Population-Health-Informatics-Framework Health Survey Web App Manual

Introduction

EHRs and other health information technology offer opportunities to advance chronic disease management and prevention. EHRs and other HIT systems store and exchange data in different ways, that limits the ability to have applications and services that can be used in multiple settings.

There is a need for national standard framework for data and technical transactions, and a sense for how all these systems fit together. For this reason, the CDC Center for Chronic Disease Prevention and Health Promotion is developing a Population Health Informatics Framework. Our team developed a SMART on FHIR patient facing app module that would allow a patient to complete a survey and the HAPI FHIR server back end can store these responses into a questionnaire response resource in real time.

Project Details

Project Name

CDC-Population-Health-Informatics-Framework

GitHub Link

https://github.gatech.edu/gt-hit-fall2016/CDC-Population-Health-Informatics-Framework

Team Name

FLO Rider

Team Member

Kevin Hall, Xiqian Han, Eloin Porras

How to use our App

System Requirement

An Internet enabled computer

The app supports the following Web Browsers:

• Chrome

• Firefox

• Internet Explorer

• Safari

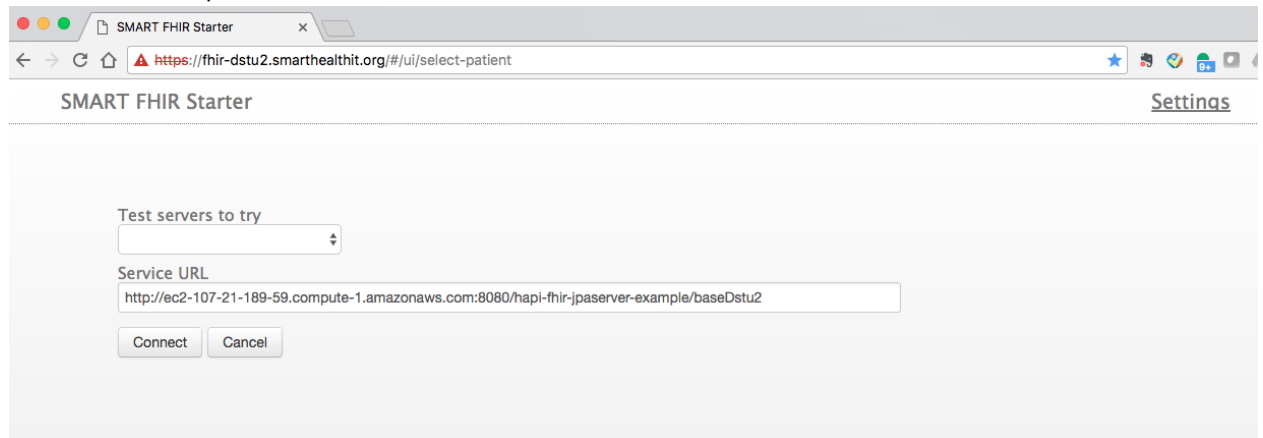# Launch our apps through the Smart on FHIR public sand box

1. Sign into the sandbox at https://fhir-dstu2.smarthealthit.org/, either by creating your own account or by using our demo account (**Username**: florider, **Password**: lexihan).
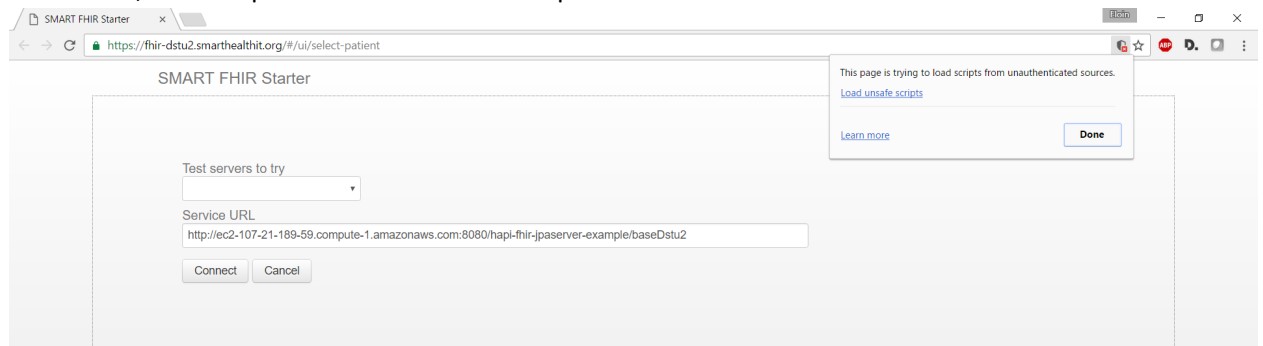
2. Click the **setting** and replace your Service URL with the following
http://ec2-107-21-189-59.compute-1.amazonaws.com:8080/hapi-fhir-jpaserver-example/baseDstu2
As shown in the picture below

3. The test server we have setup uses normal HTTP and since the sandbox uses HTTPS, you will encounter a mixed content error. You must disable browser page protection to run against our test server, an example of how to disable this protection is shown below in Chrome

This page is trying to load scripts from unauthenticated sources.

Load unsafe scripts

Learn more   Done
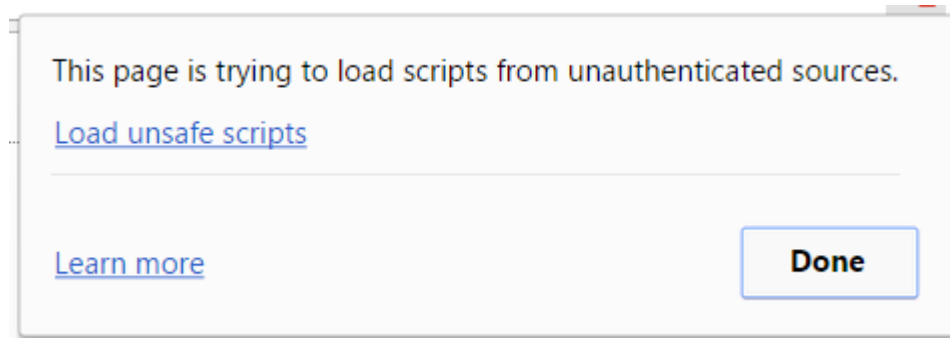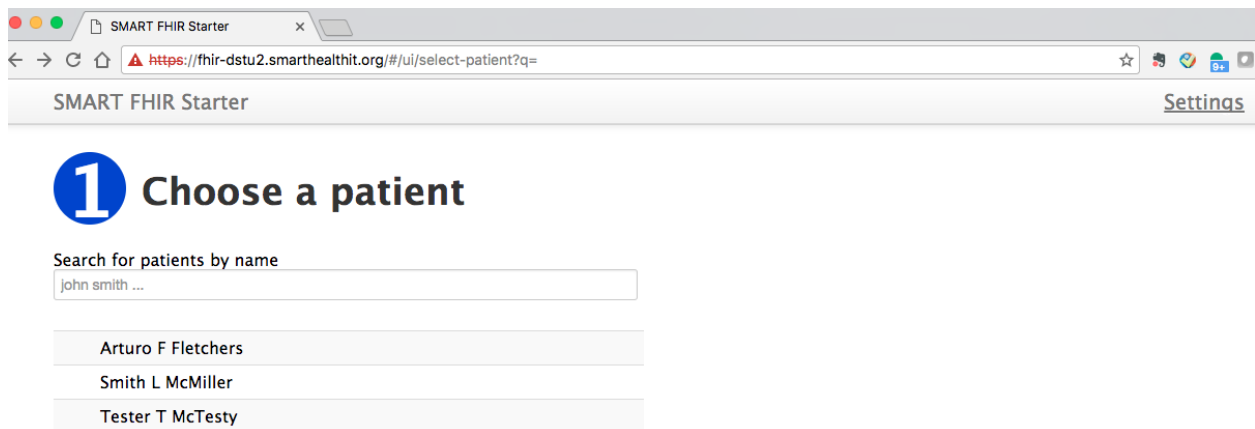
4. Click on "**Load unsafe scripts**" and then click "**Connect**"
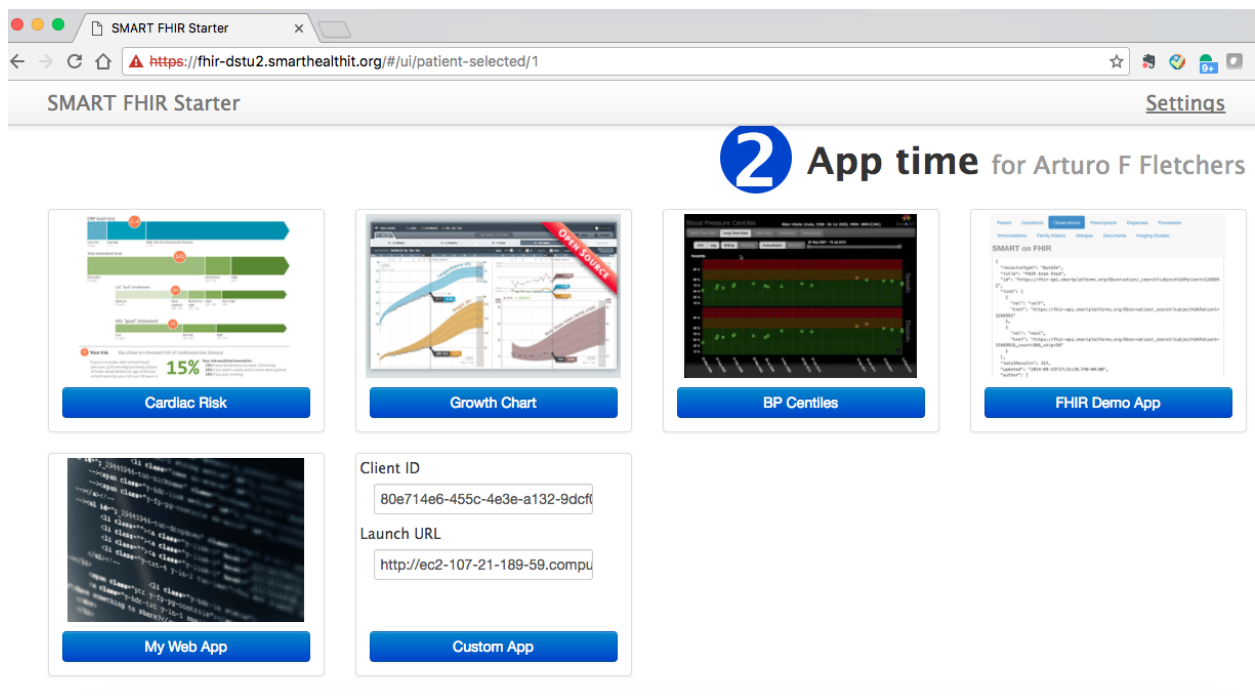
5. Select a **patient**, such as Smith L McMiller.

6. Then you can launch the "The Custom App" by inputting the following credentials for our app
   Client ID: 80e714e6-455c-4e3e-a132-9dcf0e90db08
   Launch URL: http://ec2-107-21-189-59.compute-1.amazonaws.com:8080/fhir-app/launch2.html
7. Click the "**Custom App**" to launch the app

Conducting a Health Survey and submitting the survey

1. Once you launch the app, it will **display** the welcome page of the survey. As shown in picture below, you can choose **CDC Test Survey 1** and it will load the survey questions.
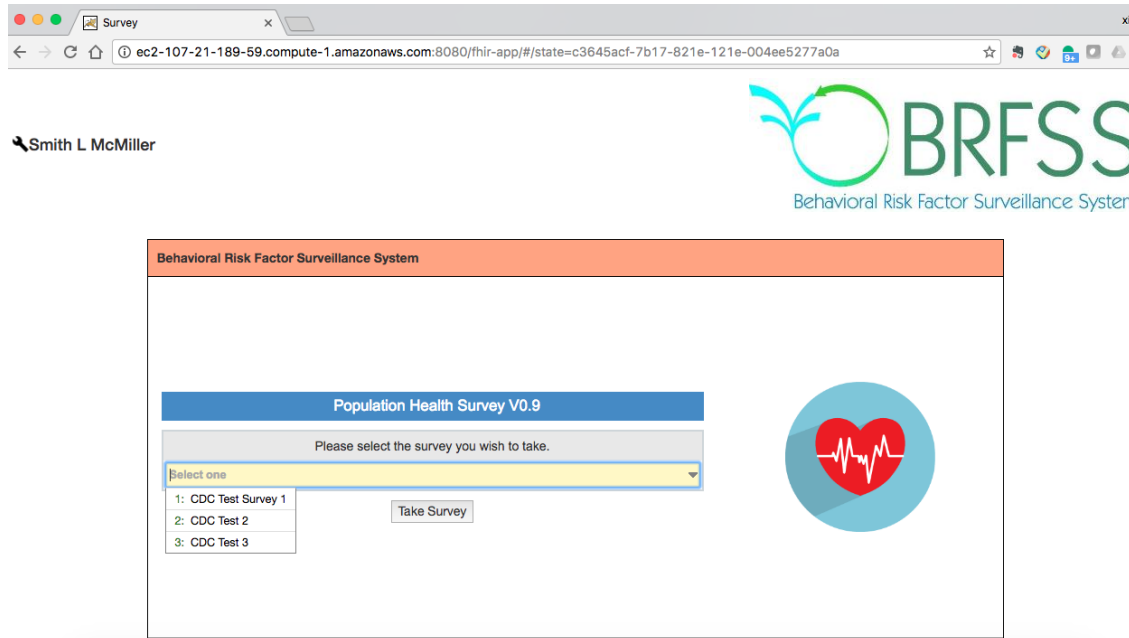
2. You can use the **clipboard** (middle button) to check the status of your survey. Once you finish one section, you can use the **arrow buttons** to proceed to the previous/next section. If there are no more questions when proceeding to the next section, you have the option to **submit** the survey or review your answers. When the survey is **submitted**, the Questionnaire Response representing the survey will be automatically stored at the HAPI FHIR server.
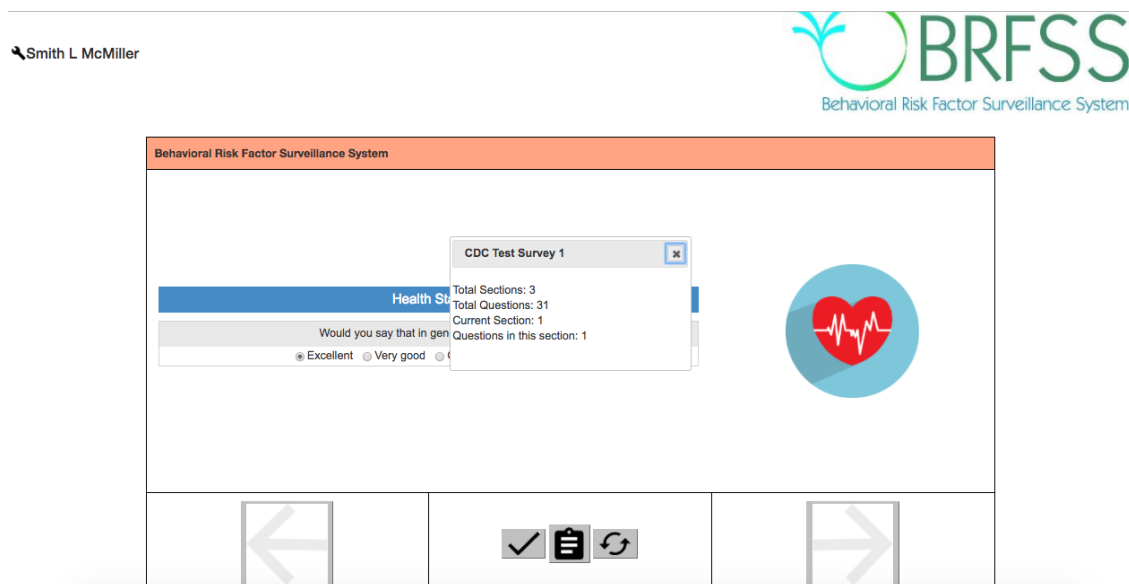
Fetch the Survey Results from HAPI FHIR server

1. You can visit our fully deploy HAPI FHIR server by visiting the following URL:
   http://ec2-107-21-189-59.compute-1.amazonaws.com:8080/hapi-fhir-jpaserver-example/home?encoding=null&pretty=true

2. You might have noticed there are currently three test patients in our server and several questionnaire responses. As shown below, you can fetch specific patient's response or all of them.
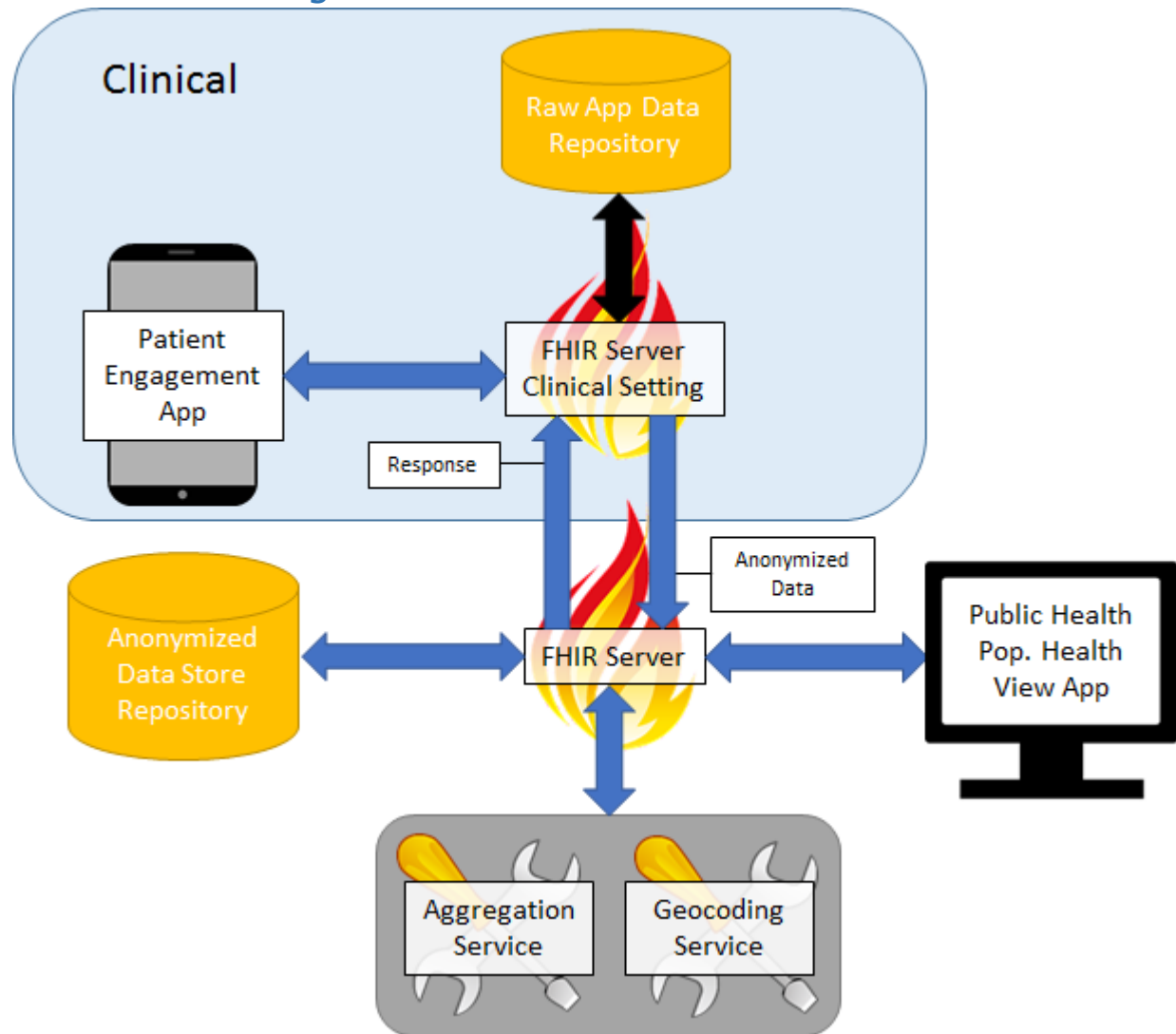
Architectural Diagram

Clinical

Raw App Data Repository

Patient Engagement App

FHIR Server Clinical Setting

Response

Anonymized Data

Anonymized Data Store Repository

FHIR Server

Public Health Pop. Health View App

Aggregation Service

Geocoding Service

Database Schema

subanswer

subanswer_id: int
content: varchar
ischeck: int
istype: int
isradio:int
question_id: int (foreign key)
answer_id: int(foreign key)
code: int

question

question_id: int
content: varchar
section_id(foreign key): int
answer_layout: varchar
ishidden:int
nextquestion_id: int
resource: text
parameter: text
cardinality: varchar

question_answer

id:int
question_id(foreign key):int
answer: varchar
answer_order: int
istype: int
hassubanswer:int
hassubquestion:int
subquestion_id:int
code: varchar
range: varchar

section

section_id: int
section_name: varchar

survey

id: int
title: varchar
section: int[]

Reference

1. http://docs.smarthealthit.org/
2. http://www.cdc.gov/brfss/