



# Team 55: National Firefighter Registry

In Collaboration with CDC-  
NIOSH

10/31/2020

# Team 55: Personnel

## Team 55 Members:

- James Davis
- Haolong Yan
- Rahul Nowlakha
- Joe Kurokawa
- Traver Clifford
- Eric Mammoser

## CDC Mentors:

- Jill Raudabaugh
- Breanna Newton

## GT Mentor:

- Elizabeth Shivers

# Agenda

- JSON Parser Update
- XML Parser Update
- DB Update
- Deployment Status
- QA Update
- Project Screenshots
- Project Plan Update
- Project Plan Details
- Plans for Upcoming Weeks

# JSON Parser Update

- Fixed issue with NDJSON parsing on Docker container
- This task is now completed

# XML Parser Update

- Looked into conversion from XML to dict/JSON, but the formats are still slightly different
  - Will no longer pursue this route
  - Instead, will handle differences in DB insertion tactically
- This task is completed

# DB Insertion Update

- Worked on mapping FHIR resource elements to database fields (partially complete)
- Wrote initial DB insertion code for JSON
- Addressed QA feedback on DB insertion code

# Deployment Status

- Per CDC's direction, we are delivering a local solution hosted on a Docker container, not hosting through HDAP
- Docker Container is up and running with both the Python code executing and MS SQL DB stood up
- Able to access Docker SQL DB with appropriate port mapping via Tableau
- One oddity: sometimes have to interactively rerun `entrypoint.sh` within Docker container to have our Firefighter DB created successfully

# Deployment Details

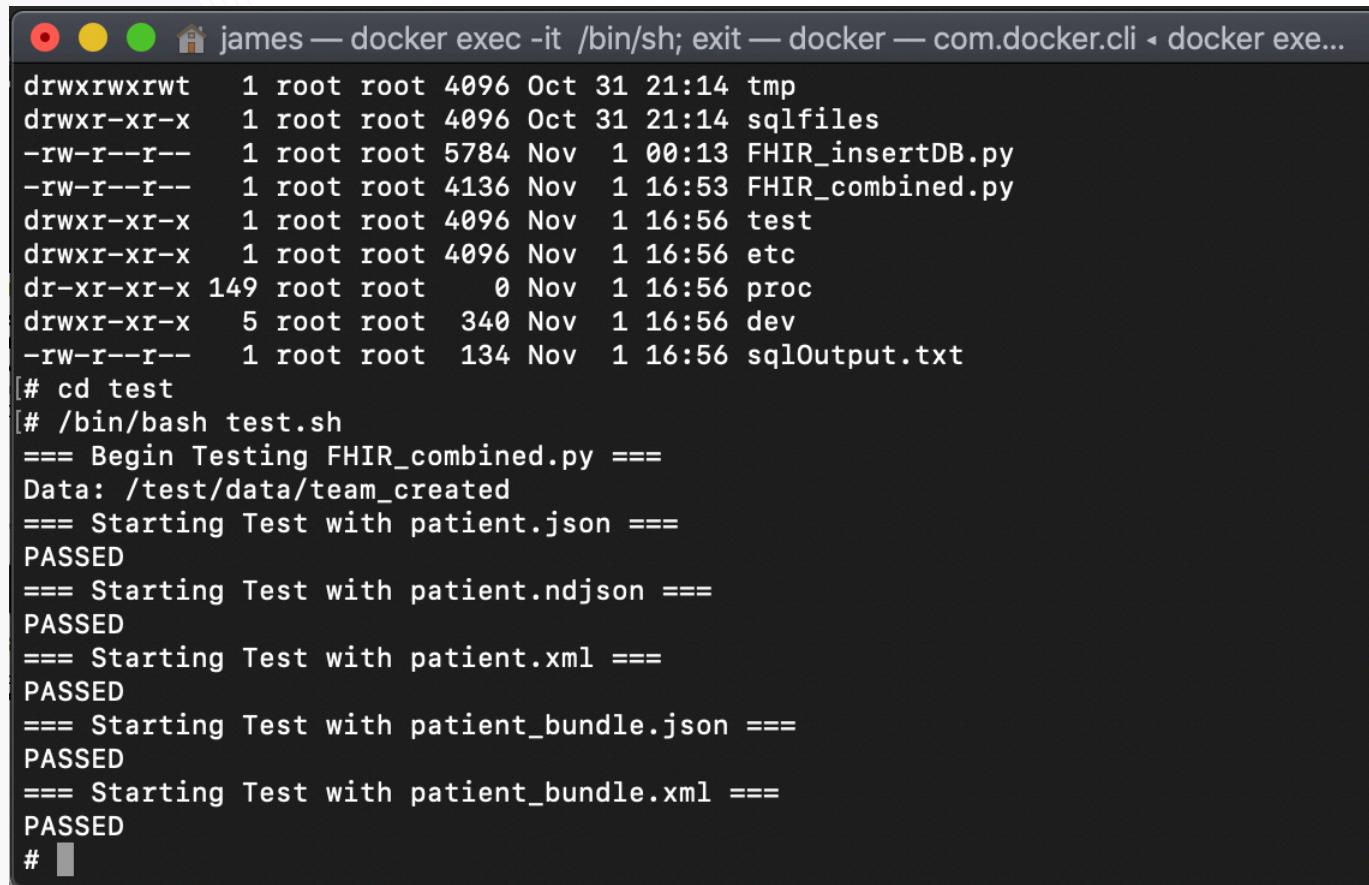
- Run `docker build --tag nfr .` from the app directory
- Run `docker run -p 80:1433 nfr`
  - Can either add `-it /bin/bash`, or from Docker GUI launch CLI to get a bash shell
- Within Docker:
  - To run `test.sh`:
    - `cd test; /bin/bash test.sh`
  - To run DB insertion code:
    - `python3 FHIR insertDB.py test/data/cdc_created/NFR_Firefighter_PatientResource.json`
- Within Tableau connect to localhost, 80 with credentials sa/Password!123

# QA Update

- Initial QA of parsers implemented with all tests passing
- Identified bug in NDJSON code when executed on Docker container (fixed)
- Reviewed and fed back issues associated with DB insertion code

# QA Screenshot

- Docker test suite for each data format



```
james — docker exec -it /bin/sh; exit — docker — com.docker.cli ▾ docker exe...

drwxrwxrwt  1 root root 4096 Oct 31 21:14 tmp
drwxr-xr-x  1 root root 4096 Oct 31 21:14 sqlfiles
-rw-r--r--  1 root root 5784 Nov  1 00:13 FHIR_insertDB.py
-rw-r--r--  1 root root 4136 Nov  1 16:53 FHIR_combined.py
drwxr-xr-x  1 root root 4096 Nov  1 16:56 test
drwxr-xr-x  1 root root 4096 Nov  1 16:56 etc
dr-xr-xr-x 149 root root    0 Nov  1 16:56 proc
drwxr-xr-x  5 root root  340 Nov  1 16:56 dev
-rw-r--r--  1 root root  134 Nov  1 16:56 sqlOutput.txt
[# cd test
[# /bin/bash test.sh
== Begin Testing FHIR_combined.py ===
Data: /test/data/team_created
== Starting Test with patient.json ===
PASSED
== Starting Test with patient.ndjson ===
PASSED
== Starting Test with patient.xml ===
PASSED
== Starting Test with patient_bundle.json ===
PASSED
== Starting Test with patient_bundle.xml ===
PASSED
# ]]
```

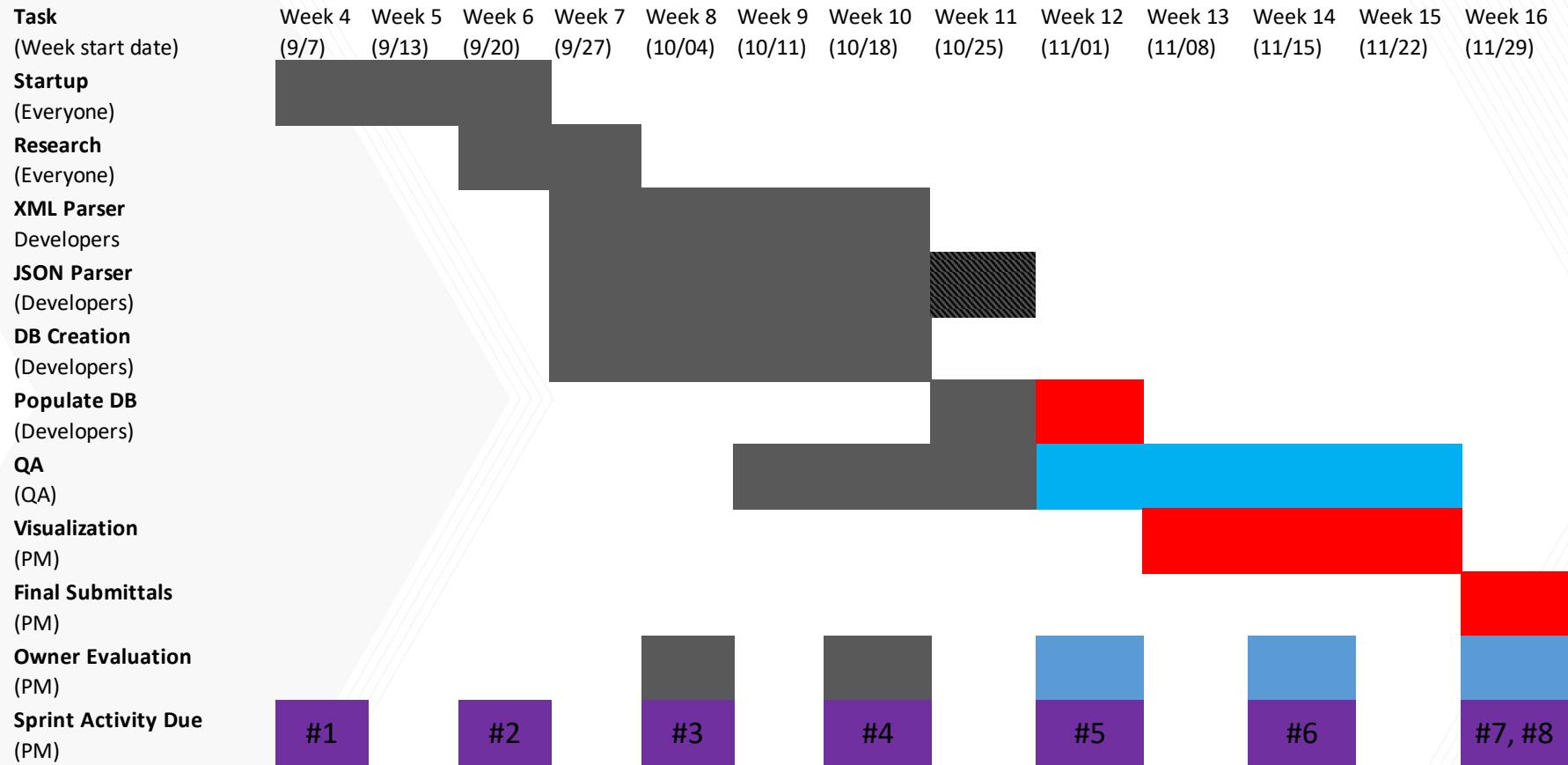
# Tableau Screenshot

- Below shows two patients: one from CDC, the other from HL7's patient resource example

The screenshot shows the Tableau desktop application interface. The title bar reads "Tableau - Book1". On the left, the sidebar displays "Connections" (localhost,80 Microsoft SQL Server), "Database" (FIREFIGHTER selected), and "Table" (Worker, WorkerRace). A "New Custom SQL" and "New Union" option are also present. The main workspace shows a query result for the "Worker" table under the "FIREFIGHTER" connection. The table has 10 columns: Birth Date, Birth Day, Birth Month, Birth Place City, Birth Place Country, Birth Place State ..., Birthyear, Comments, and Create Date. Two rows of data are visible: one row with values 6/9/1990, 09, 06, null, null, null, 1990, null, null, null and another with 2/20/1987, 20, 02, null, null, null, 1987, null, null, null.

Birth Date	Birth Day	Birth Month	Birth Place City	Birth Place Country	Birth Place State ...	Birthyear	Comments	Create Date
6/9/1990	09	06	null	null	null	1990	null	null
2/20/1987	20	02	null	null	null	1987	null	null

# Project Plan Update



10/31/2020

# Project Plan Details

- One week slip on JSON as we had to debug and fix NDJSON on Docker; closed this issue out
- Anticipate the need to extend DB mapping by an extra week
  - Need to seek some clarification on CDC-provided fields from Jill
  - Only downstream dependency on this task is visualization, but CDC's requested visualization only relies on the Patient's fire department being known, so we can work this in parallel

# Plans for Future Weeks

- Continue mapping FHIR resources to DB fields to support DB population
  - Clarify with Jill on some fields
- Update DB insertion code to support XML data
- Find more data sources (possibly from Jill) to insert into DB for visualization
- Look into how to deliver local Tableau dashboard to CDC