FSI402 Builders Session Instructions

Pre-requisite

1. This workshop should be executed in us-east-1 (Virginia)

2. Download ratingfiles.zip file to your laptop & unzip it
   https://builders-session-2019.s3.amazonaws.com/ratingfiles.zip

3. Login as an AWS administrator and launch the CloudFormation template named Template_1.json. Make a note of the [bucket suffix] value that you enter. The AWS administrator account must have at least these permissions:
   i. IAMFullAccess
   ii. PowerUserAccess

4. Once Template_1.json is deployed, click on your user name in the navigation bar and chose Switch Role. For Account specify your own AWS account number, for Role and Display Name specify CloudEng. Launch the CloudFormation template named Template_2.json.

5. Once Template_2.json is deployed, click on your user name in the navigation bar and chose Switch Role. For Account specify your own AWS account number, for Role and Display Name specify RaaSDeveloper. Launch the CloudFormation template named Template_3.json.

RaaS Lab

1. Create SSM Parameter:
   i. As RaaSDeveloper launch the Cloud9 instance named builder-environment
   ii. Open the Step A – Set SSM Parameter.txt file
   iii. Replace "jlucking" with the [bucket suffix] that you chose when running the Template_2.json CloudFormation template
   iv. Run the commands one at a time in a Cloud9 Terminal window

2. Copy Data Files:
   i. Open the Step B - Copy Data Files to S3.txt file
   ii. Run the four commands one at a time in a Cloud9 Terminal window

3. Create Lambda Layer and four Lambda functions:
   i. Open the Step C - Create Lambdas.txt file
   ii. cd fsi402
   iii. Run the first four aws cli commands in a terminal window
   iv. Expand the AWS Resources tab and import the four Remote Functions

4. As RaaSDeveloper, execute the following scripts fron Step D – Create Athena Tables.txt in the Athena query window:
   i. Set the query result location to s3://fsi402-data-[bucket suffix]/
   ii. create database raas;
   iii. replace [bucket suffix] and run the Create inspections table script in AthenaTables.txt

iv. replace [bucket suffix] and run the Create crashes table script in AthenaTables.txt
v. replace [bucket suffix] and run the Create dots table script in AthenaTables.txt
vi. Click on 'Create table' next to the Tables tree element
    a. Select from S3 bucket data
    b. Database: raas
    c. Table Name: crimes
    d. Location: s3://fsi402-data-[bucket suffix]/crimes/ and then select csv format
    e. select Bulk add columns and enter field list

5. Run raas_Calc_Inspection_Modifier locally and use the appropriate json (lines 31-44) from Step E - Test Lambda.txt
    i. If you see an error message then do the following:
        a. in the Terminal Window go to the raas_Calc_ Inspection_Modifier directory
        b. enter this command: pip-3.6 install ikp3db --target .
    ii. set a breakpoint at line 143 and run the code in debug mode
    iii. when you've fixed the bug(s) deploy your code remotely

6. Run the AWS CLI script contained in Step F – Create Step Function.txt

7. Switch to the AWS Step Functions console and run the raas State Machine

8. Create a new lambda (raas_Calc_Crimes_Modifier)...the script can be found at the end of the Step C - Create Lambdas.txt file

9. Modify the raas_Calc_Final_Premiumfinalpremium local lambda and deploy it:
    i. Comment out the finalpremium =... line
    ii. UnComment the two currently commented lines
    iii. Save and deploy it to AWS

10. Run the AWS CLI script contained in Step G – Update Step Function.txt

11. Switch to the AWS Step Functions console and run the raas State Machine

Appendix

AWS Cloud9 Regions:
https://docs.aws.amazon.com/general/latest/gr/rande.html#cloud9_region

GitHub Files for this Session:
https://github.com/jlucking34/FSI402

FMCSA Data used in this Session:
https://ai.fmcsa.dot.gov/SMS/Tools/Downloads.aspx

Crime Data used in this Session:
https://ucr.fbi.gov/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/table-8/Table_8_Offenses_Known_to_Law_Enforcement_by_State_by_City_2014.xls/view