MET CS688
IIOT ANALYTICS USING FCX UI

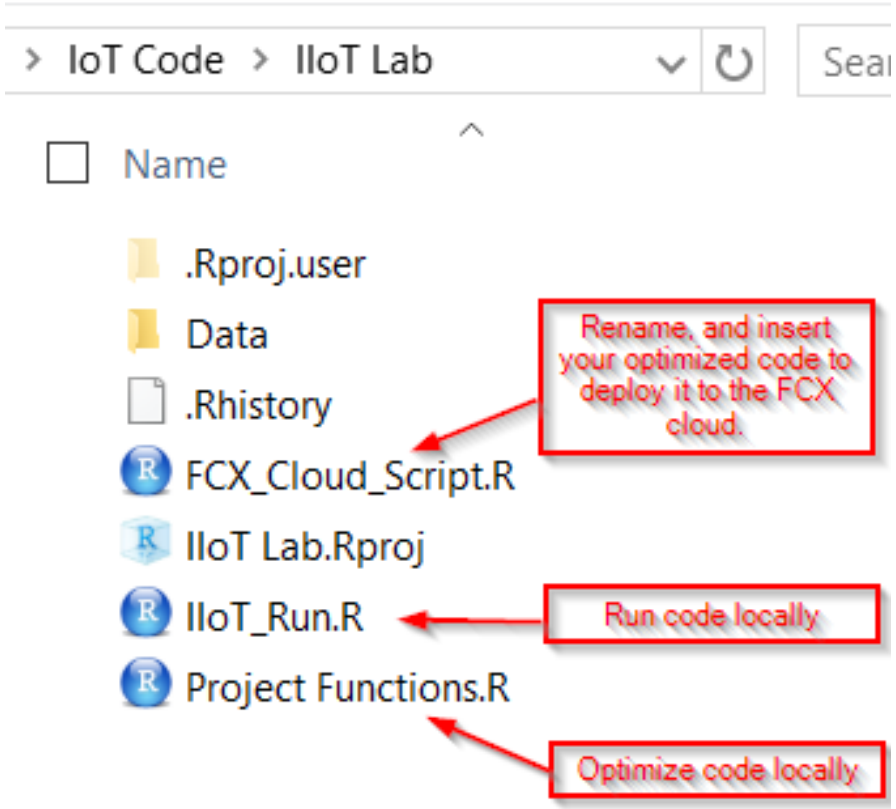
ZLATKO VASILKOSKI

INSTRUCTIONS

Assignment Task:

Modify the provided IoT R project to create predictive IIoT analytics and deploy it on the FCX cloud platform. The dataset on the FCX cloud contains the same data for Temperature, Dewpoint and Humidity as the attached CSV file, but it does not contain the “Hour of Day” and “Day of Week” data.

- Modify & optimize the given code for “ Project Functions.R ” to use the time stamp from the “DATE” column to extract the information about the “Hour of Day” and “Day of Week”.
- Implement the provided labeling from the “ IIoT Work Study Example 3 – Modified Data ” slides or come up with your own. Training the neural network without the “Hour of Day” and “Day of Week” will result in very bad fit (R-squared≈0)
- Run your code locally to verify it and optimize it to get at least R-squared>0.5.
- Once satisfied with your R-squared result, deploy your analytics to the FCX cloud .
- A template shell R script “ FCX _Cloud_Script. R ” is included with the attached project.
- Login to the FCX UI will be assigned to you.
- **Re-name the script “FCX_Cloud_Script.R” as your provided login name** , insert your code modifications and upload your IIoT analytics to the FCX UI as described in class.
- Download the results from FCX UI as CSV file and compare them with your local results.



Steps of deployment of your analytics to the FCX cloud

- The template shell R script “FCX_Cloud_Script.R” for this assignment can be found on Blackboard.
- Username & password to the FCX UI will be emailed to you.
- Go to https://voice.facilityconnex.com to log in.

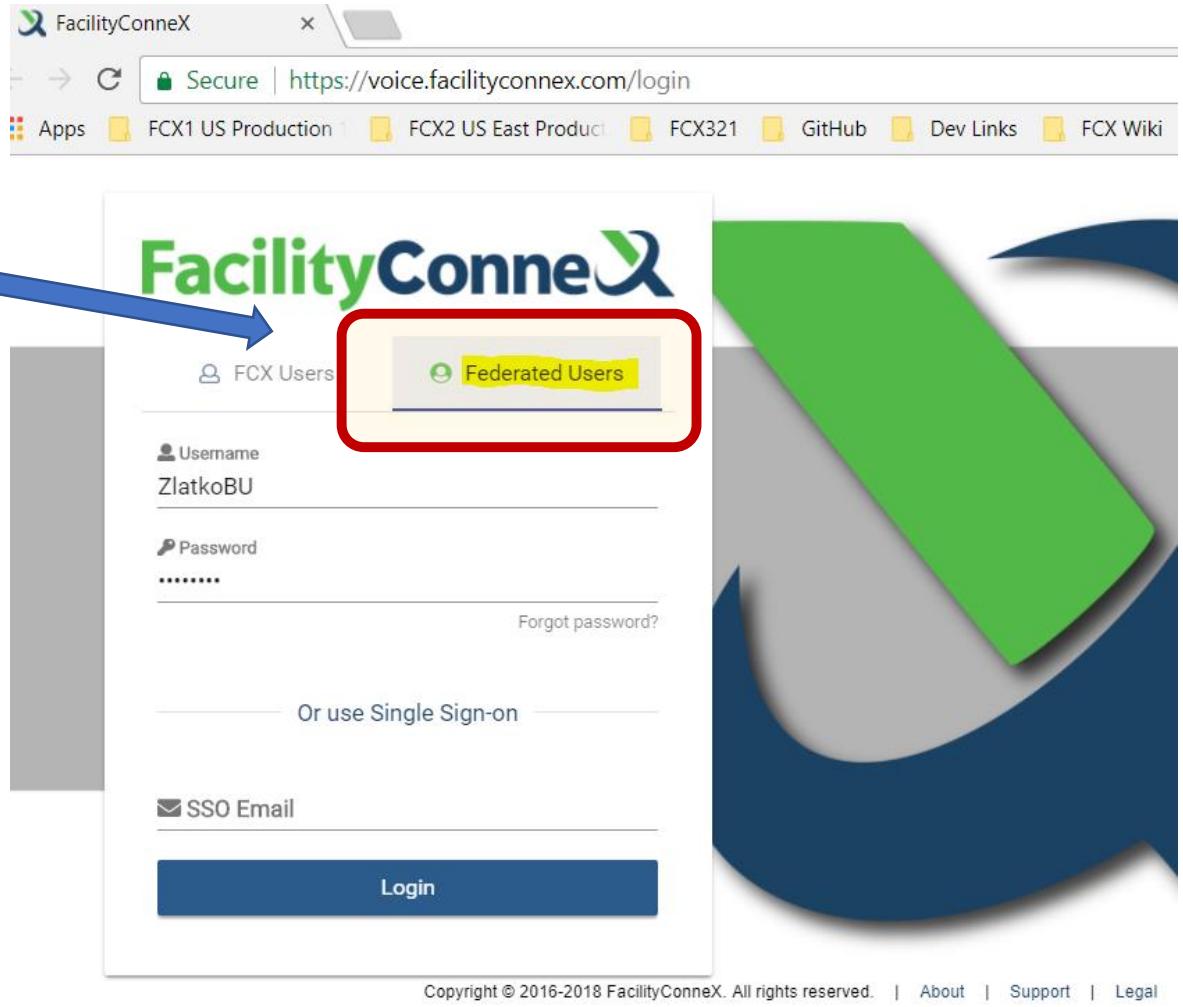
FCX Credentials

Log in to the link: https://voice.facilityconnex.com using the provided credentials:

- Username and
- Temporary password

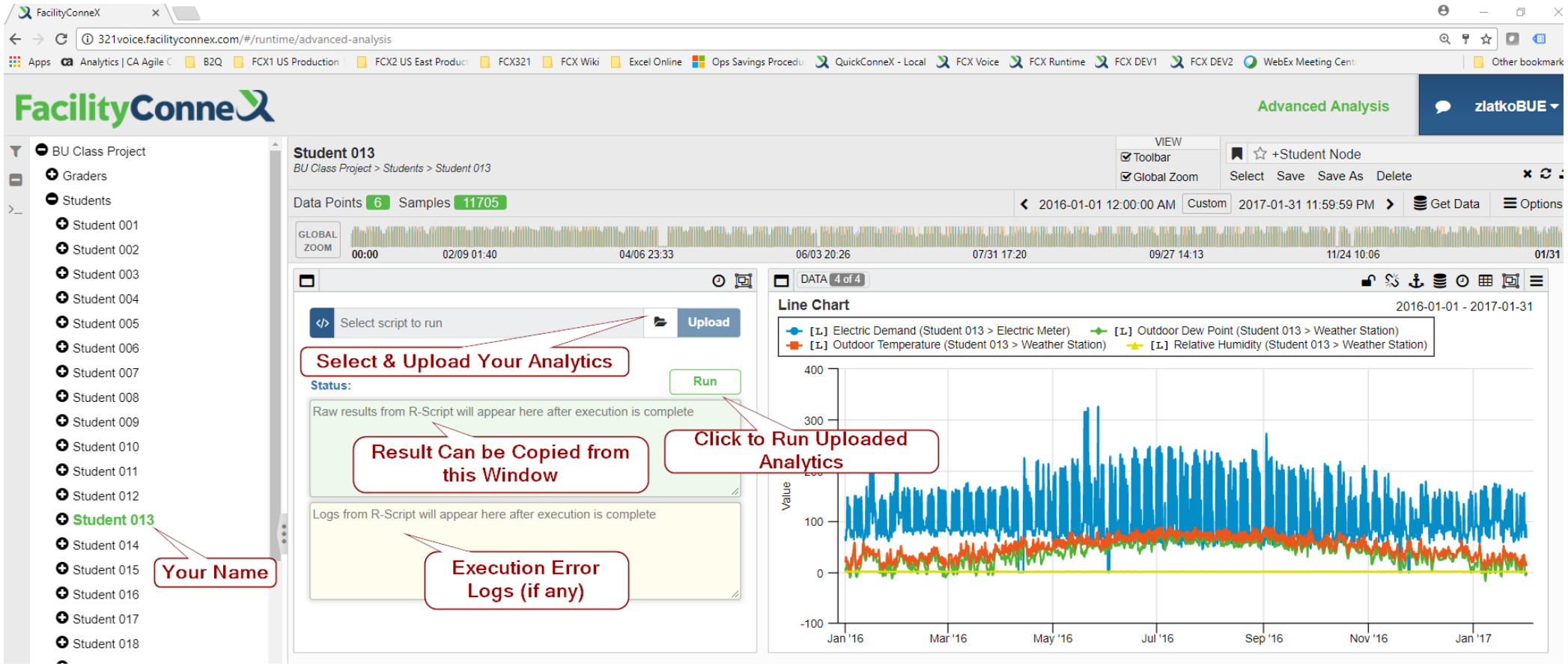
Note: Please log in as

- Federated Users



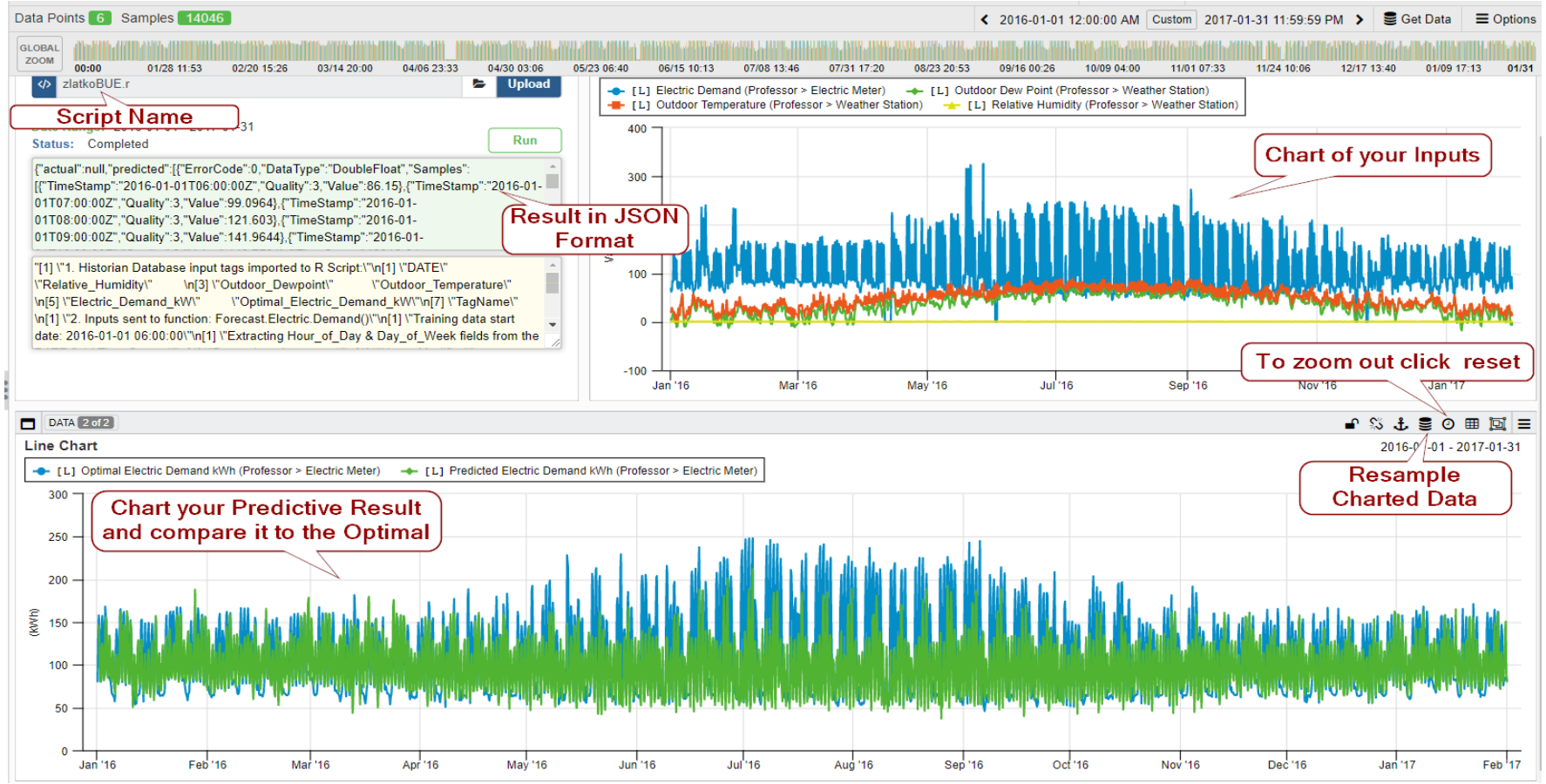
Steps of deployment of your analytics to the FCX cloud

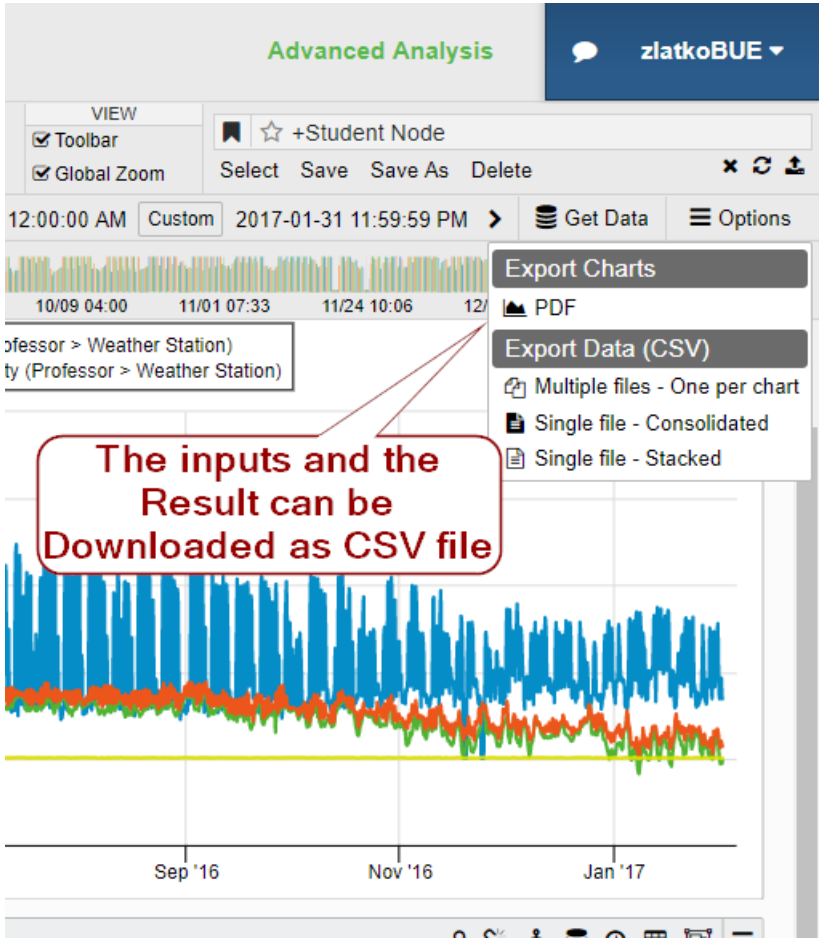
- Once you log in to FCX UI, you will be able to see the following view



Steps of deployment of your analytics to the FCX cloud

The FacilityConneX UI will provide the capabilities to select your script, then upload it to the cloud (by clicking on the Upload button), then run your script by clicking on the Run button (may last from 30 seconds to a minute).



Steps of deployment of your analytics to the FCX cloud

- Note that all the FCX UI tools have tool tips that can help you use them. Note that, by dragging your mouse on the chart, you can zoom on the data. Typically, in this case you would need to show greater data resolution which you can do by clicking on the resample button (illustrated on the previous slide). To zoom out click on the little Clock icon of the chart you want to re-query and hit the reset button. This will take you back to the original view and data resolution.
- The result of your analytics will be charted in the FCX UI, displayed in JSON format in the UI text box, and also it can be downloaded as CSV file by clicking on the “Option” button in the upper right corner, as illustrated below.
- That will conclude your first experience with the IIoT.