

Knight Foundation School of Computing & Information

Spring 2024 Capstone II Project

Kytos-ng

AmLight Kytos-NG

Student: Ruben Cerna, Capstone II

Mentor: Vasilika Chergarova

Instructor/Faculty: Dr. Masoud Sadjadi, Florida International University

FIU

Knight Foundation
School of Computing
and Information Sciences

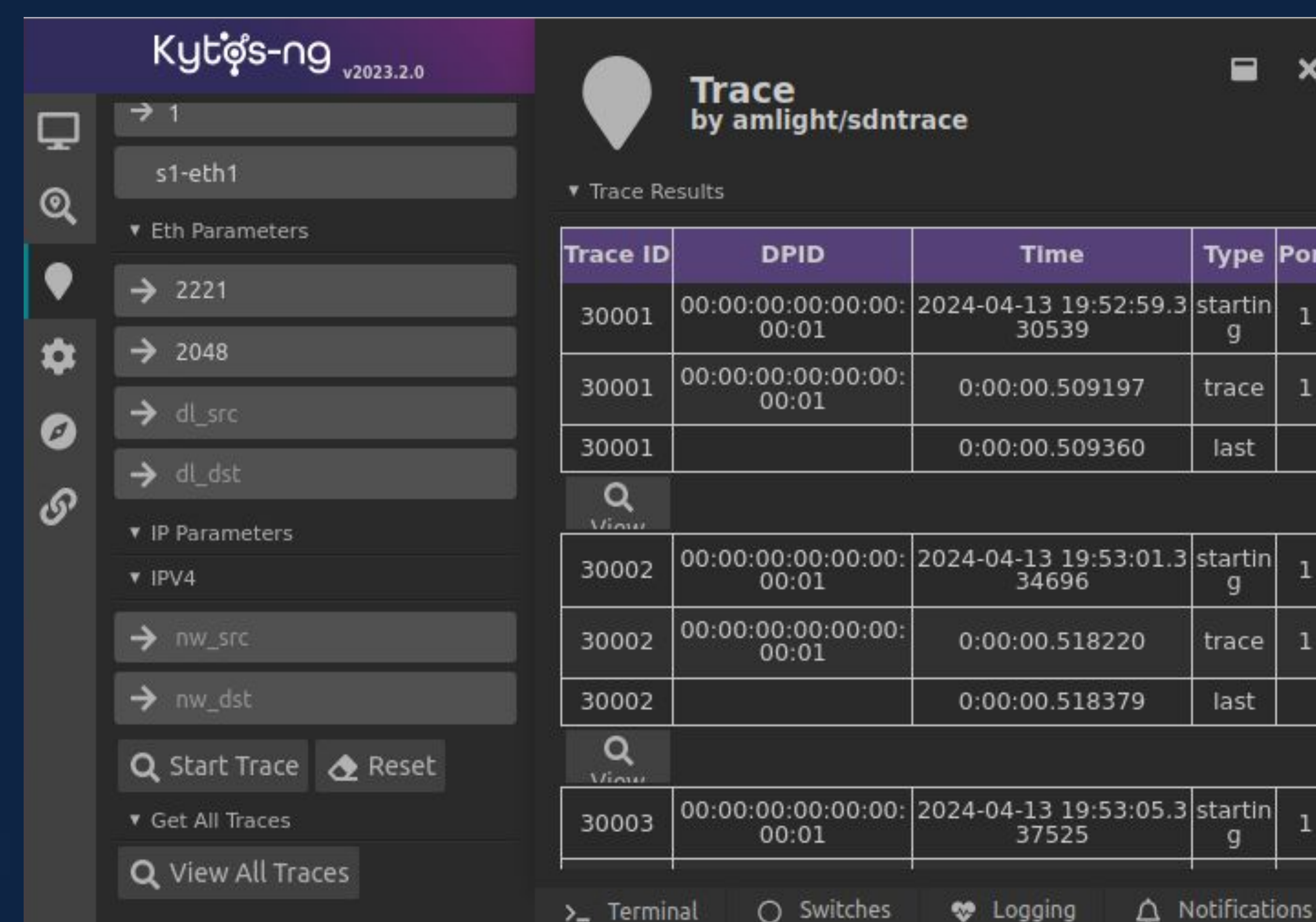
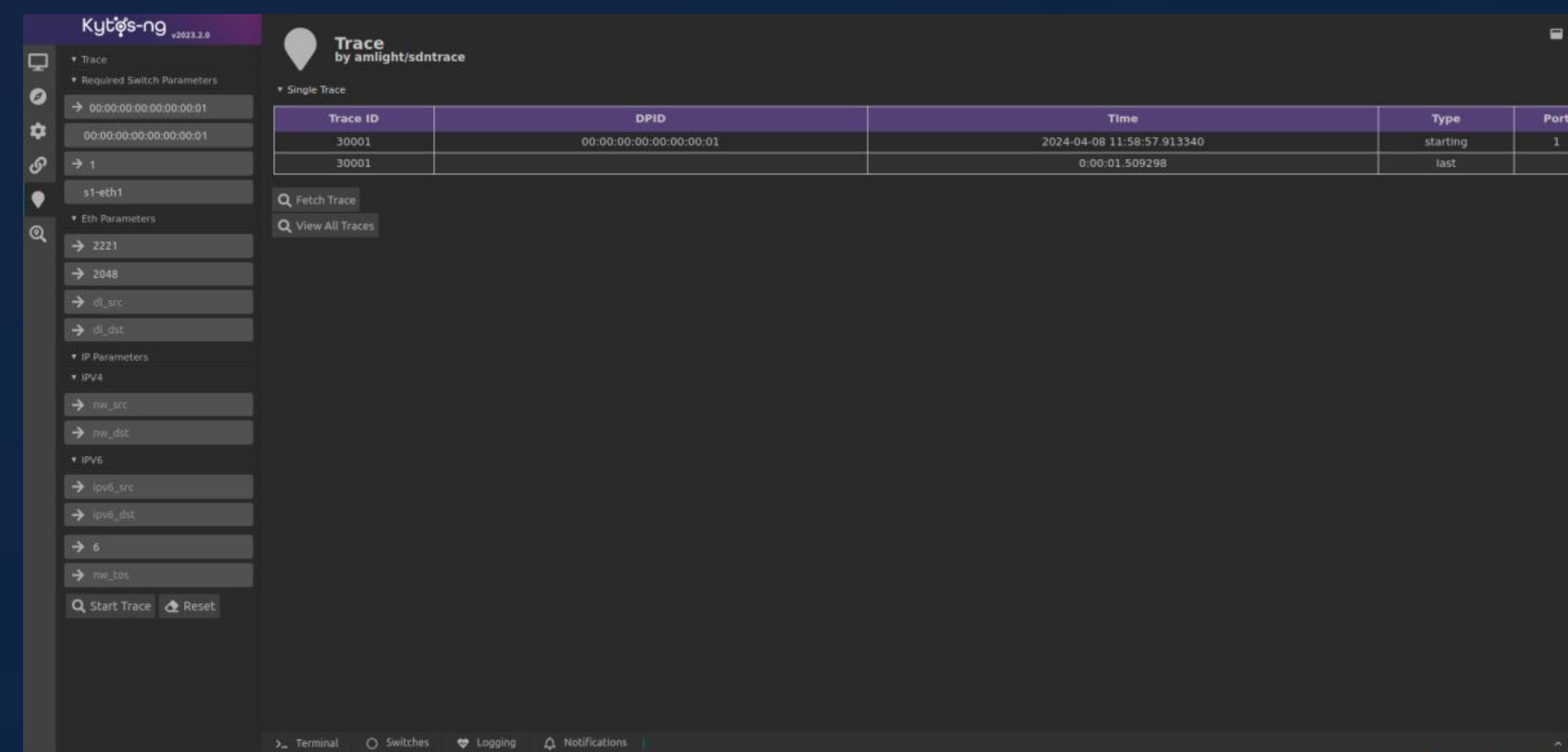
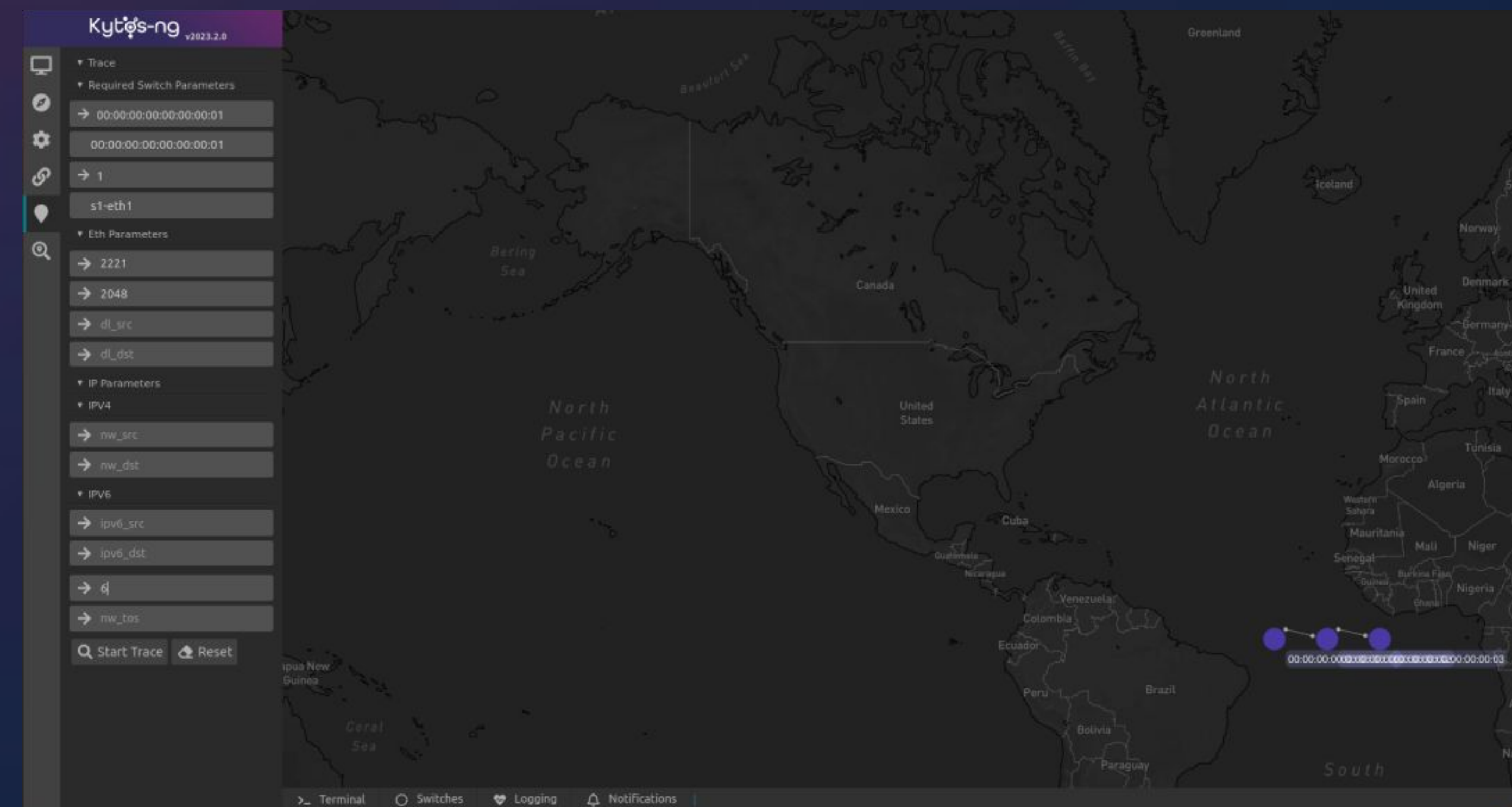
Website Design

Problem

- The objective we had to work on with Kytos-NG is to complete one of the Network Applications (NApps) that was in production, Sdntrace. The whole purpose of these NApps is to divide the different functionalities of the web page into different sections so that they can be flexible and scaled independently.
- The functionality of the Sdntrace NApp is to create traces, which are records or logs of network activity captured by the infrastructure, based on the information that is inputted. Then, fetch and track those traces down and display their information in an easy and understandable way for the user.

System Design/Technologies Used

- Most of the system is built with python, from the backend to the api connections and the startup files.
- For the frontend we utilize HTML, CSS, and Javascript, along with the Vue Js framework. This allows us to work with modern libraries such as JQuery, that help us make the necessary api responses. All of this helps us create responsive user interfaces for users.



Implementation

- Created info panel #1 with the following features
 - Implemented a button that allows the user to fetch the information from a single trace through an API and displays the information in a table format.
 - Created a button that fetches all of the traces that are currently active and sends the information to a second info panel that is in charge of displaying that information.
- Testing
 - Use different values from the toolbar to check if the information being passed is correct and ensure that the APIs are working correctly.

Summary

Overall, we created the entire front end of the Sdntrace NApp, by creating the API connections between the frontend and backend. By implementing the toolbar that allows the user to add all the input information that is necessary to create a trace and fetch the information of the single trace. Additionally, two info panels were also implemented, the first one allows the user to see the data of a single trace as a table of contents, and the second info panel displays the data of all the traces that are currently operating and allows the user to show the data of each trace individually.