Writing Fine-grained Measurements App with P4 Programmable Switches

Hands-on Session 1: Intro to P4 and BMv2, writing a parser, and compiling P4 code

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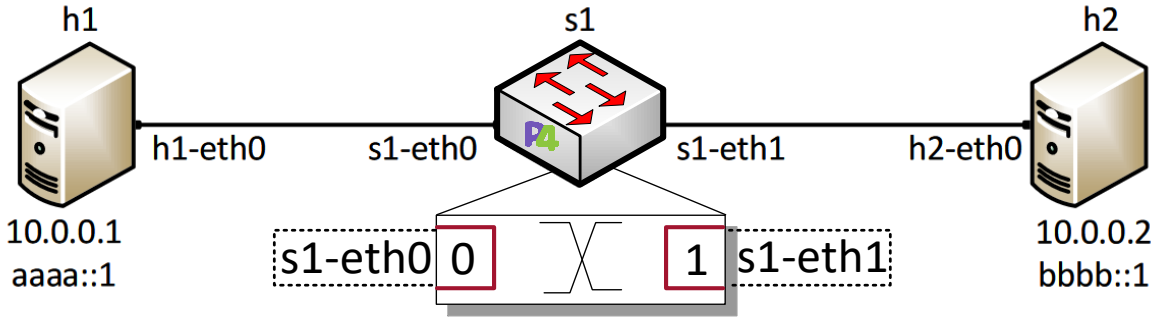
Lab 4: Parser Implementation

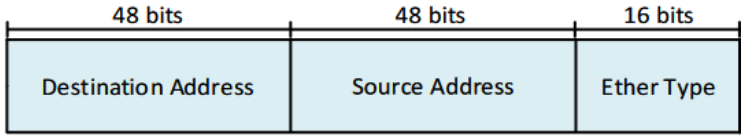
Lab Topology and Objectives

- The topology consists of two hosts: h1 and h2; one P4 switch: s1
- Defining the headers for Ethernet, IPv4 and IPv6
- Implementing the parser
- Testing and verifying the switch behavior when IPv4 and IPv6 packets are received

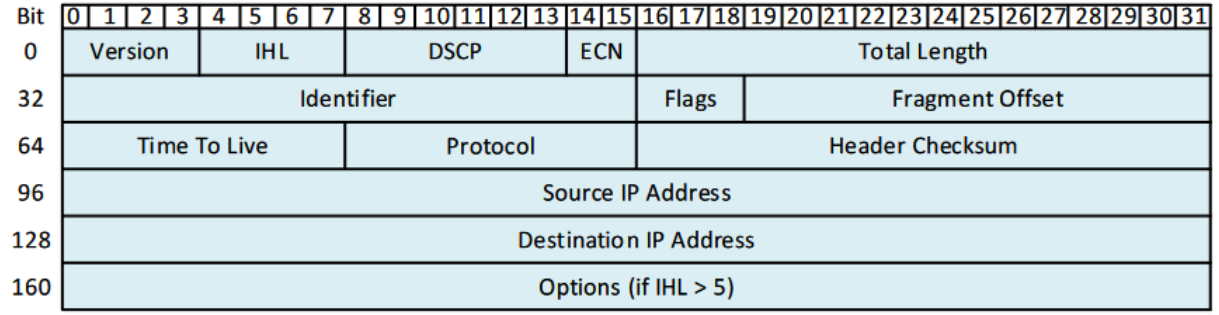


Headers Format

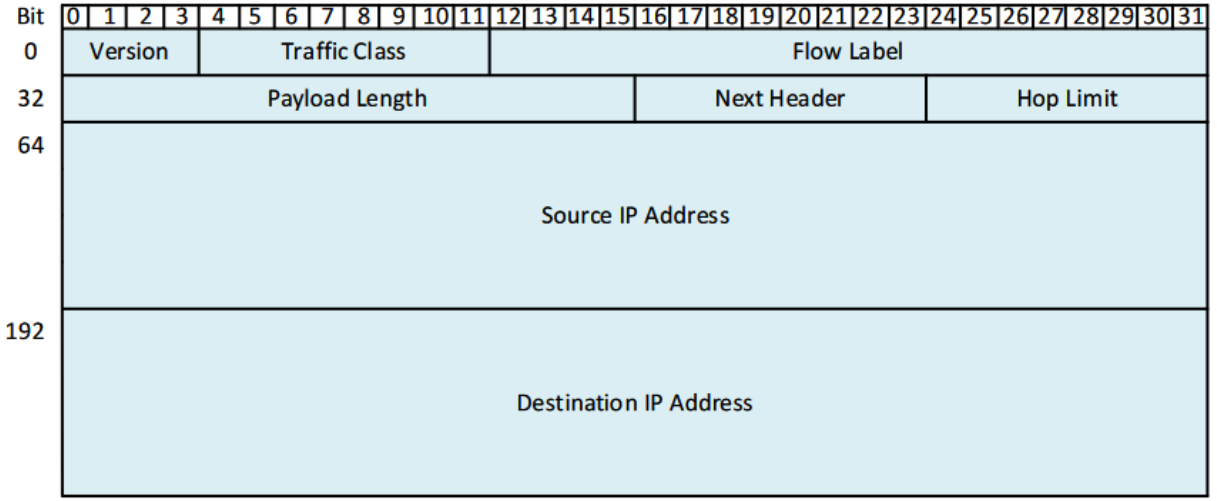
- Ethernet header:



- IPv4 header:



- IPv6 header:



Accessing the Platform

- Please use the following link to access the platform:
  - https://netlab.cec.sc.edu/
- Login using your credentials

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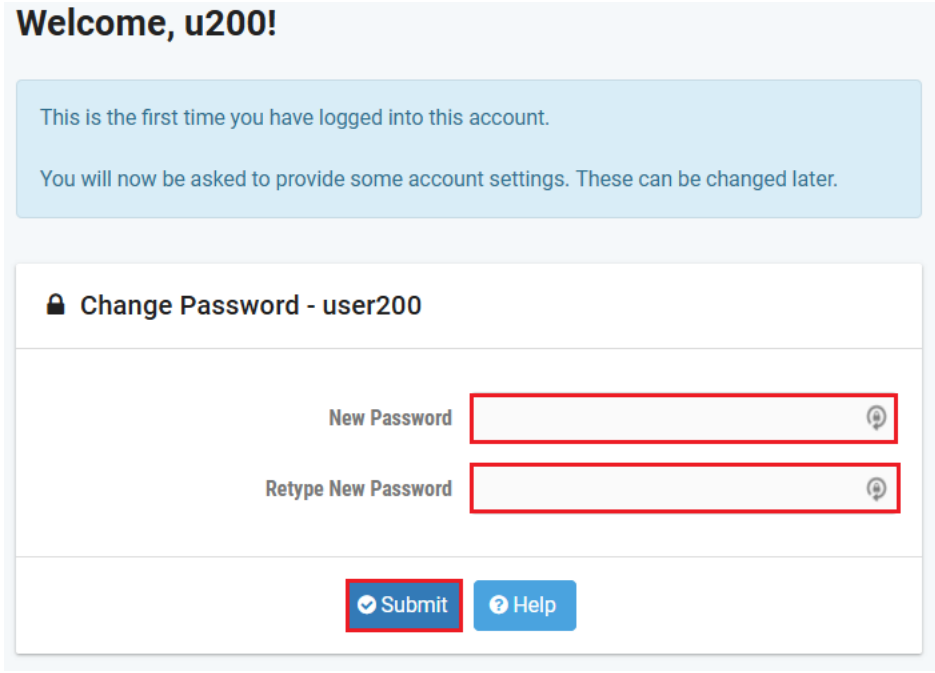

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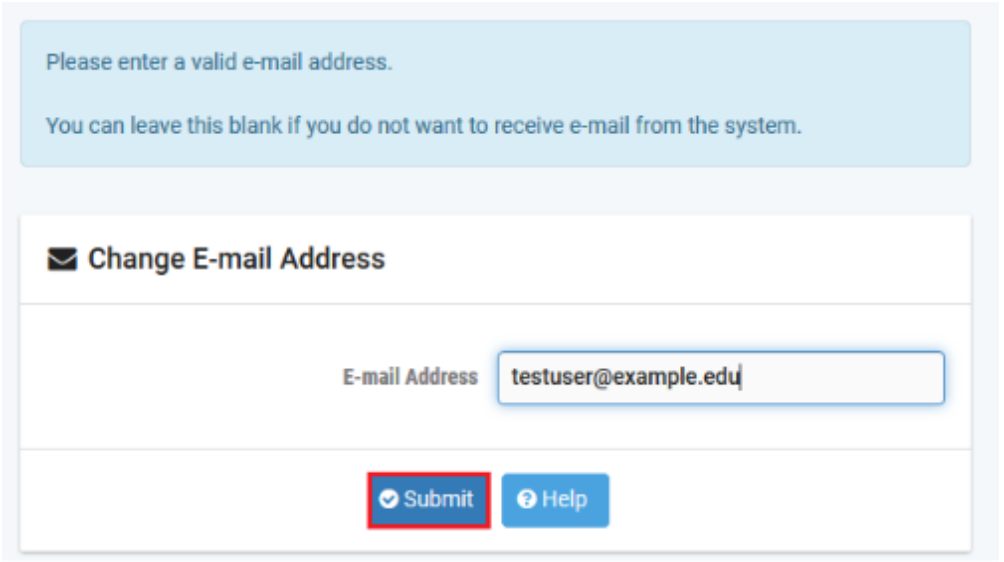
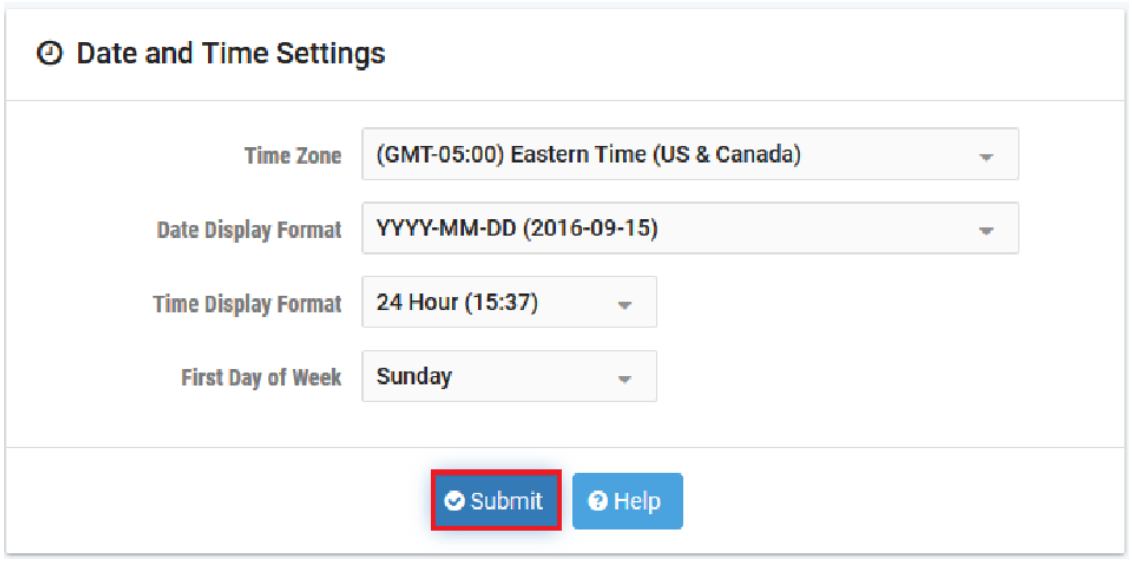
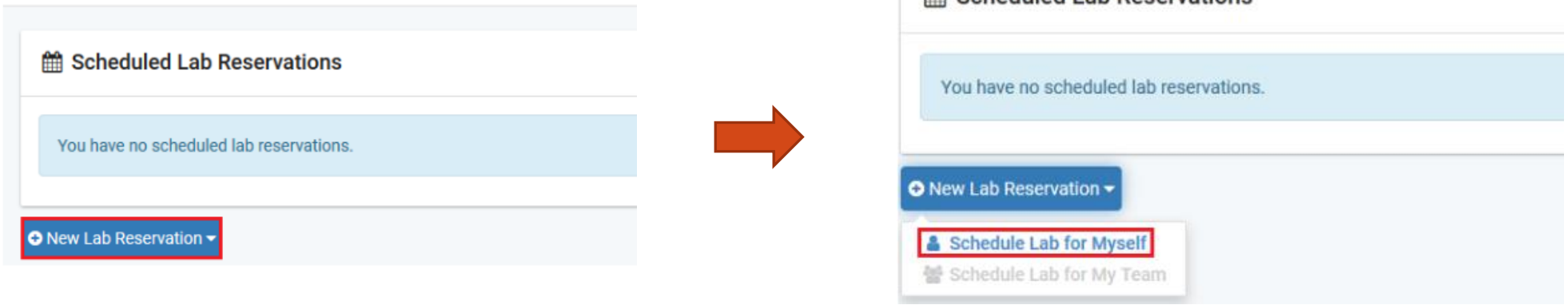




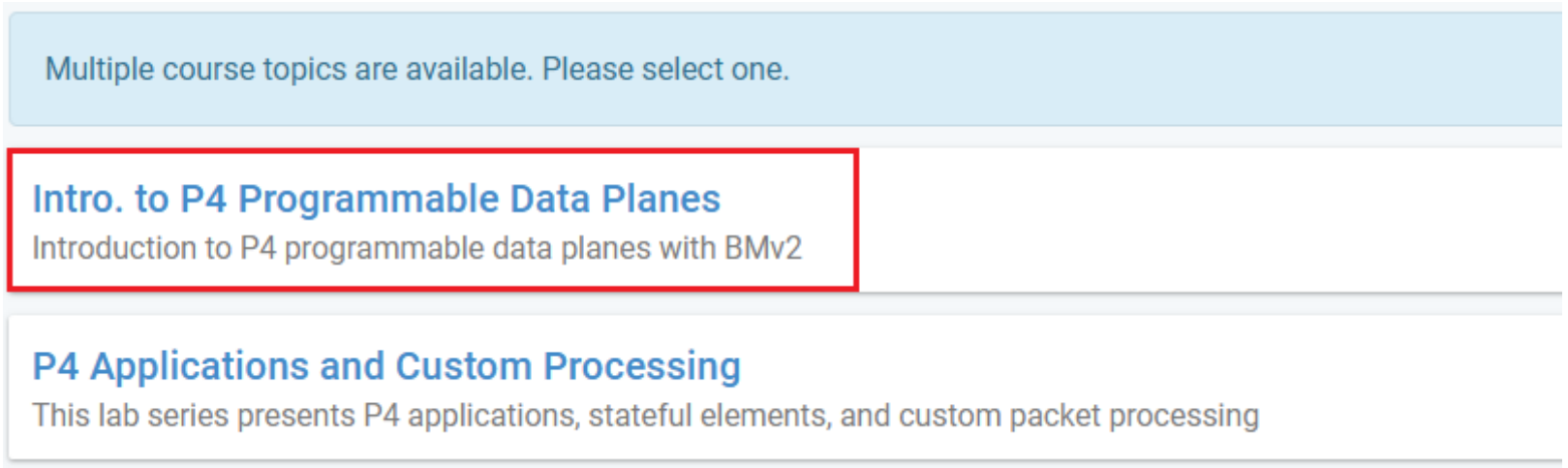
Scheduling a Reservation

- Click on New Lab Reservation
- Click on Schedule Lab for Myself



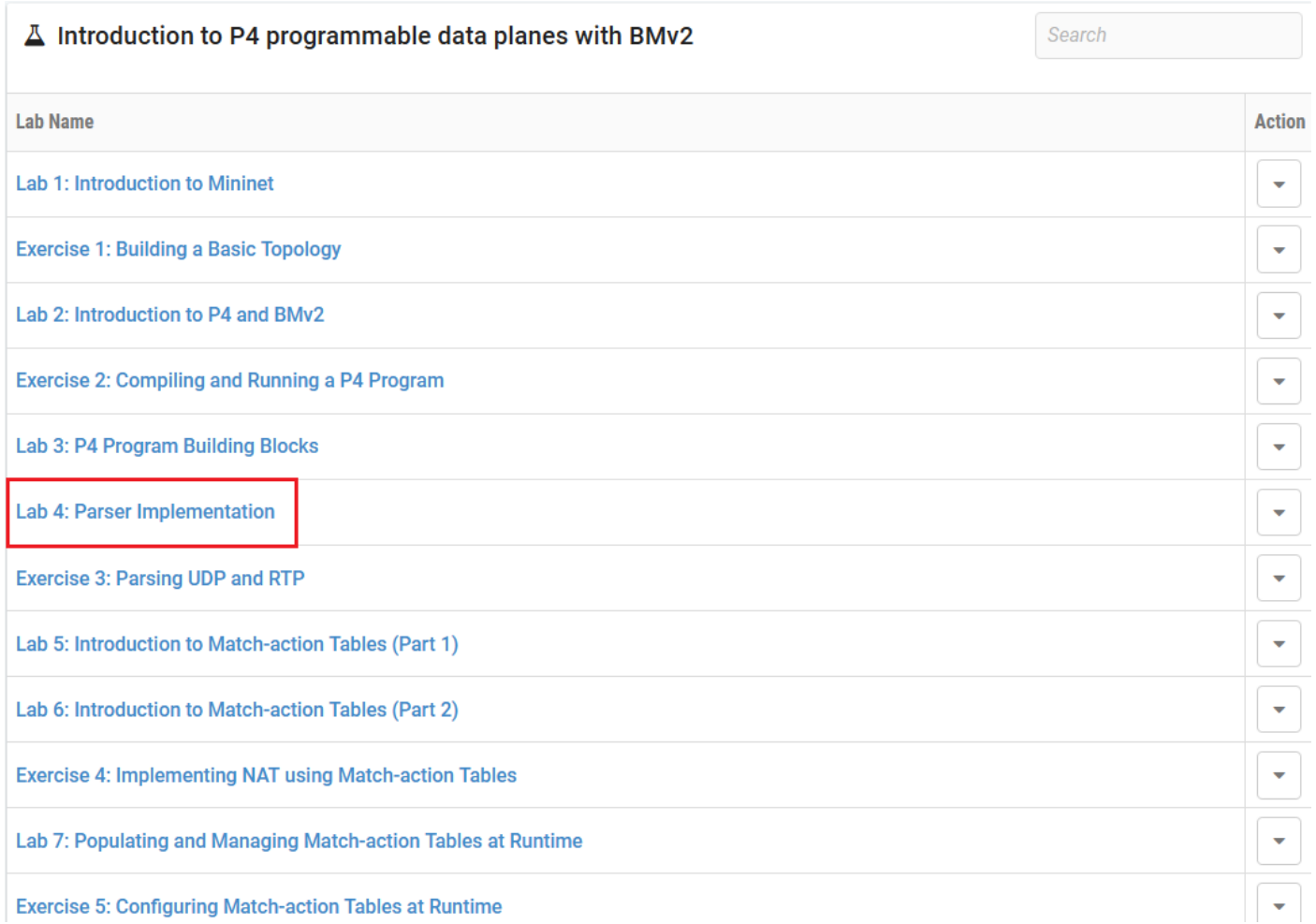
Scheduling a Reservation

- Select the course
- For this session, we will use “Intro. To P4 Programmable Data Planes”



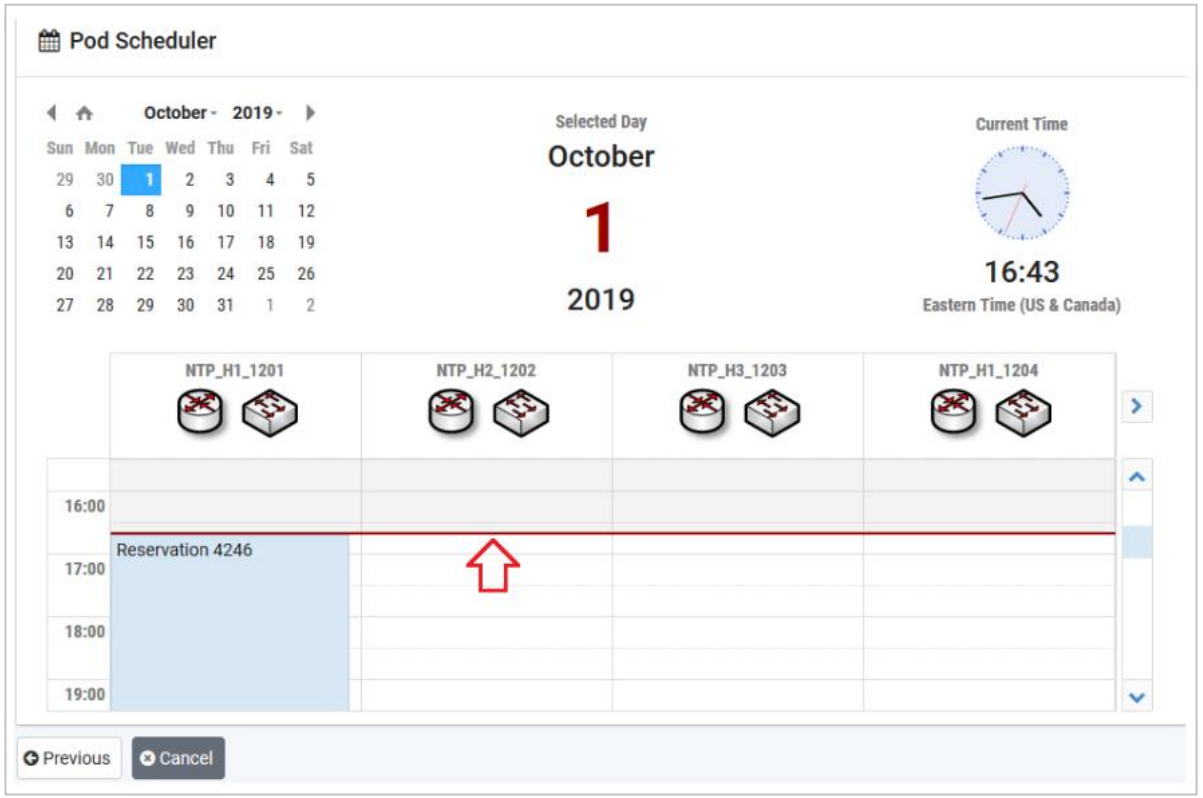
Scheduling a Reservation

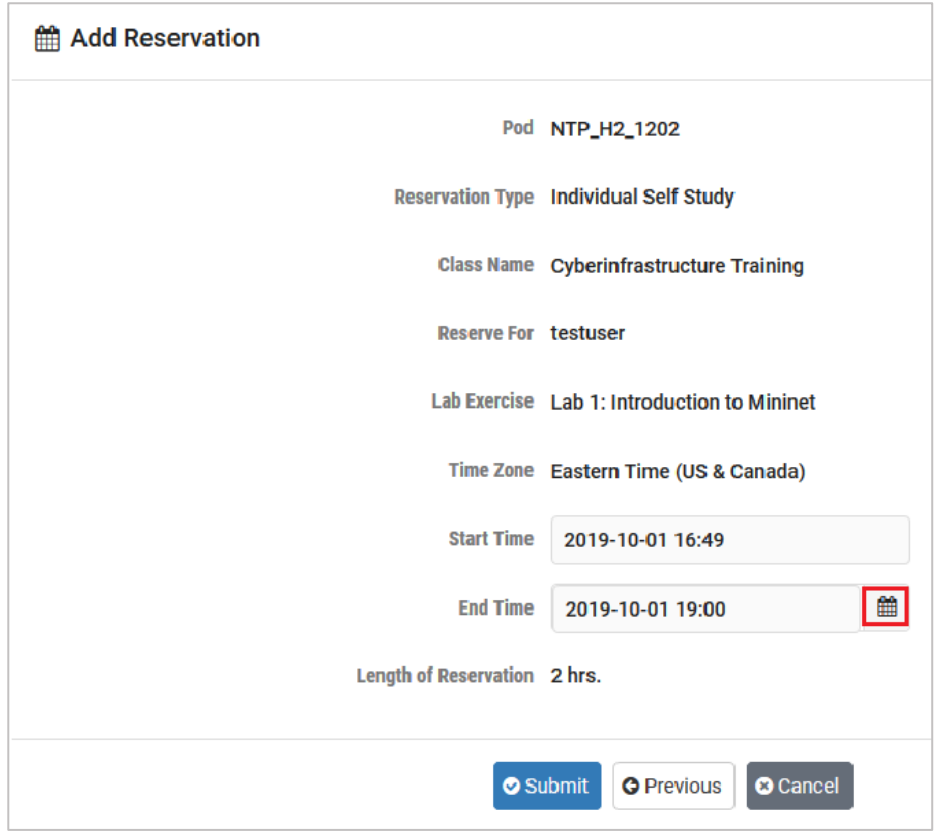
- Select the Lab
- For this session, we will run:
  - Lab 4: Parser Implementation



Scheduling a Reservation

- Select the next available POD and allocate time





Website URL and Accessing the Platform

- Tutorial website with slides and URL to resources:

https://research.cec.sc.edu/cyberinfra/workshop-techex1

Access to virtual platform for this tutorial:

https://netlab.cec.sc.edu/