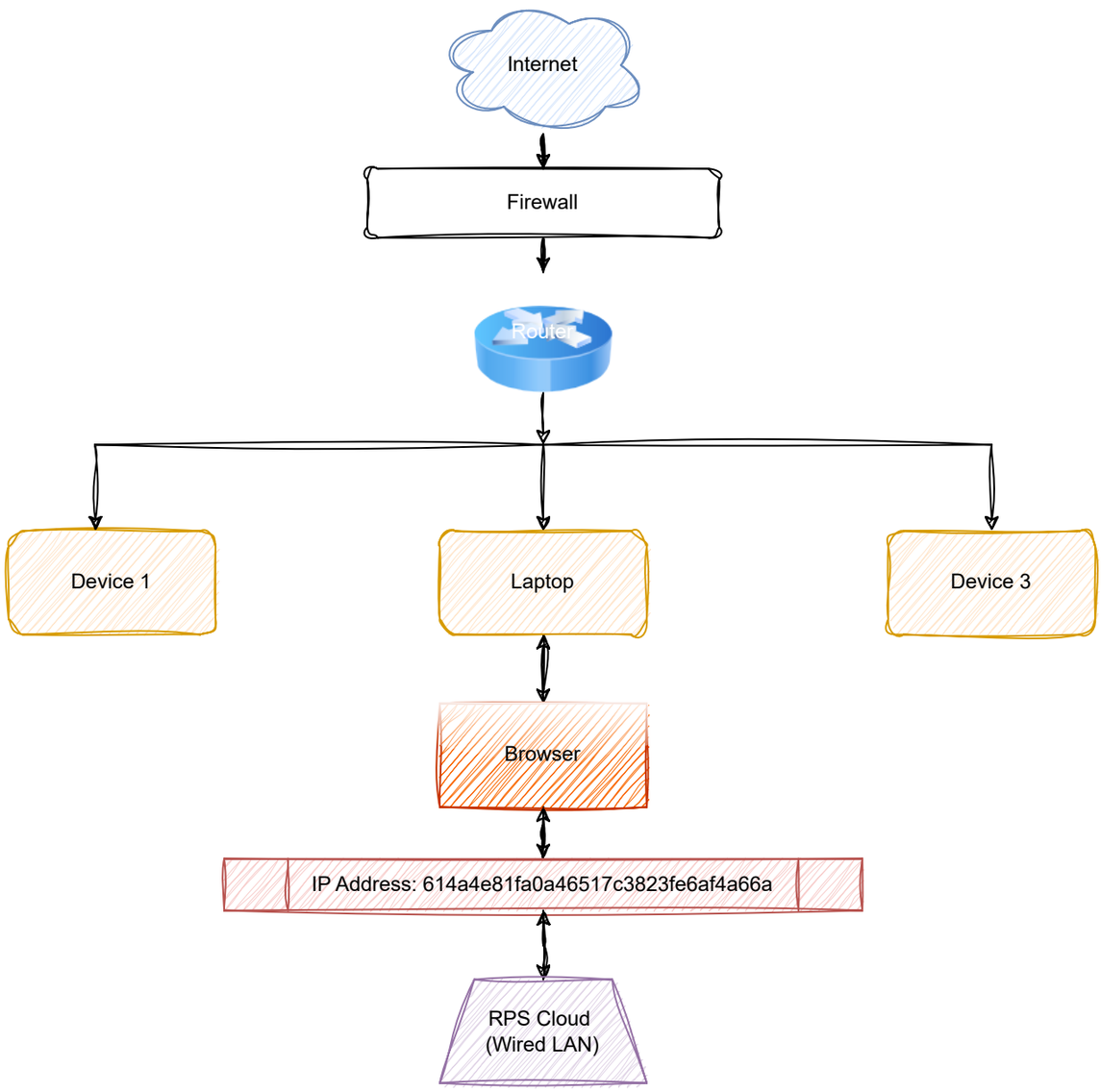
DAY 1

Assignment 1: Draw your Home Network Topology and explain how you are accessing the RPS Lab environment.



Assignment 2: Identify a real-world application for both parallel computing and networked systems. Explain how these technologies are used and why they are important in that context.

Parallel Computing

It is a join of computation in which many calculations are carried out

and solves in simultaneously

- A problem is broken into small parts that can be solved concurrently
- It will be run by using multiple processor (CPU's)
- That broken part is furthur broken down into a series of instructions
- That instruction from each part executes simultaneously on different processor (CPU's)

Main reason

- It's saved the time and money
- Solves the large problems by broken down into small parts
- Parallel computing provides concurrency
- It will use Non local resources
- Multiple Execution units, multicore & pipelined instructions

Example: Imagine a library with millions of books and digital resources. Here come the Parallel Computing to solve this problem. **Parallel Search:** The library's search engine can divide the work and search the catalog simultaneously across multiple processors, returning results much faster.

Networked Systems

- Networked systems are the backbone of online shopping: They connect users, retailers, payment processors, and logistics providers.
- Networked systems handle various steps in the shopping journey: This includes browsing products, adding items to the cart, checking out, and communication between involved parties.
- Inventory management is integrated: This ensures users see accurate stock availability while shopping online.

Main reason

Benefits for Users:

- Seamless transactions and communication
- Access to a wide range of products
- Secure payment & Real-time order tracking

Importance for Businesses:

- Crucial for customer experience, satisfaction, and trust
- Enables scalability for handling growth
- Connects various components of the online shopping ecosystem

Both parallel computing and networked systems play main roles in improving efficiency, scalability, and performance in their respective applications, ultimately enhancing productivity and delivering value to users and businesses.