

Exercise 1: Ethernet Frame Parser

Objective

Learn how to read and parse an Ethernet frame by working directly with its raw hexadecimal data.

Background

Ethernet frames contain crucial information such as source and destination MAC addresses and EtherType. Understanding how to extract and interpret these fields is fundamental to networking.

Task

You are given a raw Ethernet frame hex dump.

Write a C++ program that:

1. Extracts and prints the **Destination MAC address**
2. Extracts and prints the **Source MAC address**
3. Extracts and prints the **EtherType**

Hex Dump

The following hex dump is already provided in the starter C++ file:

```
ff ff ff ff ff ff 00 0c 29 3e 5b c4 08 00 45 00
00 3c 1c 46 40 00 40 06 b1 e6 c0 a8 00 68 c0 a8
00 01
```

Expected Output Example

```
Destination MAC: ff:ff:ff:ff:ff:ff
Source MAC: 00:0c:29:3e:5b:c4
EtherType: 0x0800
```

Optional Challenge

Print the **payload** of the Ethernet frame (everything after the EtherType) as hexadecimal values.

Resources

You can complete this exercise in:

- **Local environment** (Linux, Mac, Windows) using a compiler like g++
- **Online C++ environments:**
 - [Replit](#)
 - [OnlineGDB](#)