# Portland
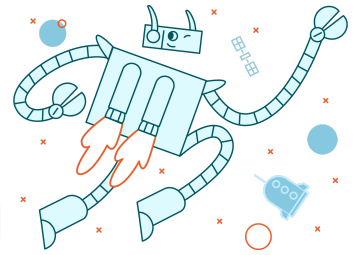
## Background

In this exercise, you will use the `netstat` command to observe network connections made by your web browser and the `nc` (netcat) utility. `netstat` is a powerful tool that displays network connections, routing tables, and other network-related information. By examining the output of `netstat`, you can gain insights into how applications interact with the network.

## Tasks

### Task 1: Browser Connections 🌐

In this task, you will explore the network connections made by your web browser when visiting a website. You will use the `netstat` command to identify the connection details and observe how your browser interacts with the network.

1. Open a web browser and navigate to `http://example.com`.

2. Open a terminal or command prompt and run the following command:

   ```
   netstat -a -p TCP
   ```

3. In the `netstat` output, identify the line(s) related to your browser's connection to `example.com`. It should show the local address and port, foreign address and port, and the connection state.
   - Use `ping` or `nslookup` to find the IP address of `example.com`, if needed.

4. Note down the following information:
   - Local address and port
   - Foreign address and port

○ Connection state

## Task 2: Netcat Server and Client 🐱💬

In this task, you will use the `nc` (netcat) utility to create a simple server and client connection. You will then use the `netstat` command to observe the network connections established by the netcat server and client.

1. Open two terminal or command prompt windows.

2. In the first terminal, run the following command to start a netcat server listening on port 8888:

```
nc -l 8888
```

3. In the second terminal, run the following command to connect to the netcat server using a different specific port (e.g., 9999):

```
nc localhost 8888 -p 9999
```

4. In the second terminal (client), type a message and press Enter. You should see the message appear in the first terminal (server).

5. In another terminal or command prompt window, run the following command:

```
netstat -a -p TCP
```

6. In the `netstat` output, identify the line(s) related to the netcat server and client connections. Note down the following information for both the server and client:

   ○ Local address and port

   ○ Foreign address and port

   ○ Connection state

## Task 3: Understanding Netstat Output 📊

Let's review and answer some questions related to the `netstat` command and the information it provides:

1.  What is the purpose of the `netstat` command?

2.  What do the local address and port represent in the `netstat` output?

3.  What do the foreign address and port represent in the `netstat` output?

4.  What are the different connection states you observed in the `netstat` output, and what do they mean?

## To submit

A text file with your answers.

Sentinel