# Linux System Monitoring with top

Time required: 30 minutes

# What is top?

The top command provides a **dynamic, real-time view** of a running system. It displays a list of processes, along with CPU and memory usage, uptime, and more.

1. Start your Kali Linux VM.
2. At a Terminal session 🡪 **top**
3. This launches the interactive interface showing:

* Tasks: Number of running, sleeping, stopped, and zombie processes.
* CPU usage: User, system, idle, etc.
* Memory usage: RAM and swap usage.
* Process list: PID, user, CPU%, MEM%, command, etc.

1. Press **q** to quit.

# What is htop?

**htop** is an **interactive process viewer** for Unix systems. It’s similar to top, but with a more colorful, intuitive, and responsive interface. It allows you to scroll, search, and manage processes easily.

|  |
| --- |
| # Always update the apt package manager before installing an application  sudo apt update  sudo apt install htop |

1. Launch **htop**
2. How is htop different than top?

Click or tap here to enter text.

# What is btop?

|  |
| --- |
| # Always update the apt package manager before installing an application  sudo apt update  sudo apt install btop |

1. Launch **btop**
2. You may have to maximize your terminal screen.

|  |
| --- |
| btop |

1. Insert a screenshot.

Click or tap here to enter text.

Once btop is running, you'll see the following sections:

* **CPU**: Displays the current CPU usage per core.
* **Memory**: Shows the current memory and swap usage.
* **Disks**: Details read/write operations on mounted disks.
* **Network**: Monitors data transfer speeds and totals for your network interfaces.
* **Processes**: Lists the running processes, sorted by resource consumption.

**Keyboard Shortcuts**

* **Arrow keys**: Navigate through the menu.
* **Enter**: Select a process for more detailed information.
* **q**: Quit btop.
* **Esc**: Close an active menu or dialog.

## Monitor Processes

In the **Processes** section, you can view:

* **Process ID (PID)**.
* **CPU and memory usage**.
* **Priority and state** of processes.

## Network Monitoring

btop provides real-time data on:

* Network interfaces.
* Current and total data transfers.
* Upload/download speeds.

To focus on network statistics, press **Tab** to navigate between the sections until the **Network** tab is highlighted.

Insert a screenshot

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## Questions

1. What are two system resources that btop can monitor in real time?

Click or tap here to enter text.

1. Name one feature that makes btop more user-friendly than top.

Click or tap here to enter text.

1. What does the “IO” section in btop monitor?

Click or tap here to enter text.

1. What should you do if btop doesn’t display correctly in your terminal?

Click or tap here to enter text.

## Assignment Submission

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