

What is Docker?

Docker is all about making it easier to **create, deploy, and run applications** by using containers. Containers allow a developer to package up an application with all of the parts it needs, such as libraries and other dependencies, and ship it all out as one package. He can rest assured that the application will run on any other **Linux machine** regardless of any customized settings that machine might have that could differ from the machine used for writing and testing the code.

How was it developed?

Docker Monitor Tool was developed using Python and Docker.

What is our Tool about?

- Docker Monitoring Tool analyzes Resource usage (CPU, Mem) and Start/Stop Action for Containers.
- It automatically discovers and monitors new containers when they are created.
- The tool is given option to stop the specific container as well.
- All information about container is shown in a GUI.

Docker v/s VM

Docker is a tool for a virtual machine that runs on a host machine, rather than creating a whole virtual operating system, such as Ubuntu. It is used to create and run applications in a container that runs on a host machine. It is a lightweight solution for running applications on a host machine. It is a good choice for running applications on a host machine. It is a good choice for running applications on a host machine.

Who is it for?

Docker is a tool that is designed to benefit both **developers and system administrators**, making it a part of many DevOps (development + operations) tool chains.

Pros

- With a perfectly tuned container system, you can have as many as **four-to-six** times the number of server application instances as you can using Xen or KVM VMs on the same hardware.
- Containers use shared operating systems. That means they are much more **efficient** than hypervisors in system resource terms. Instead of virtualizing hardware, containers rest on top of a single Linux instance.

Docker Monitoring Tool BTP Evaluation 1

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Docker is a tool for a virtual machine that runs on a host machine, rather than creating a whole virtual operating system, such as Ubuntu. It is used to create and run applications in a container that runs on top of the operating system. This gives a significant performance boost to the application.

And importantly, Docker is open source. This means that anyone can contribute to Docker and extend it to meet their own needs if they find additional features that aren't available out of the box.

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Docker v/s VM

Docker is a bit like a virtual machine. But unlike a virtual machine, rather than creating a **whole virtual operating system**, Docker allows applications to use the same Linux kernel as the system that they're running on and only requires applications be shipped with things not already running on the host computer. This gives a significant **performance boost** and **reduces the size** of the application.

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What is our Tool about ?

- Docker Monitoring Tool analyzes Resource usage (CPU%) and Start/Stop Action for containers.
- It automatically discovers and monitors new containers when they are created.
- The user is given option to stop the specific container as well.
- All information about containers is shown in a TUI.

How was it developed?

Docker Monitor Tool was developed using Python curses library and docker-py.



How to Deploy

```
pip install -r requirements.txt
```

```
python docker-monitor.py
```

Future Scope

- Start/Stop arguments for containers
- Graphs for depicting CPU and memory usage
- Detailed Information on each container

Screenshot of Docker Monitor

```
Activities Terminal Fri Jan 29, 11:48 PM
arushi@L-G580: ~/btp

File Edit View Search Terminal Help

DOCKER MONITOR

Id Name Image Status IP CPU%
058b4274 /thirsty_goldstine busybox Up About a minute 172.17.0.4 [ ]0.0%
a566c4ea /mad_pike busybox Up About a minute 172.17.0.3 [ ]0.0%
4cd7cb9a /goofy_bohr busybox Up About a minute 172.17.0.2 [ ]0.0%

c:Create Container s:Stop Container j:Navigate Up k:Navigate Down q:Quit
```

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How was it developed?

Docker Monitor Tool was developed using Python and uses Docker and Docker API.

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