

Q1.

Five examples of what a typical operating system kernel accomplishes are given in the article:

1. Controlled Execution: Process execution is overseen by the Kernel, which controls how processes on a PC are begun, halted, and communicated with each other.
2. Scheduling: By distributing computer chip time on several scheduling algorithms, it ensures that projects are scheduled for execution on the processor in a fair and effective way.
3. Memory Allocation: The Kernel controls system memory, designating and delivering memory on a case by case basis for processes. At the point when memory assets are restricted, it could require memory strategies methodologies like swapping or paging.
4. Management of Memory: The Kernel controls file systems, access rights, and mutual rejection for file activities. It additionally handles the capacity and recovery of information from optional capacity gadgets like hard drives.
5. Controlled admittance to fringe gadgets is made accessible to processes, guaranteeing that the right access consents are implemented and staying away from process clashes. These gadgets incorporate screens, consoles, mouse, disk drives, and networks.

Q2.

According to the article, Microsoft declared that starting in 2012, businesses would be able to use Linux on its cloud computing service, Microsoft Azure.

Microsoft modified their Linux strategy for a number of reasons:

Demand in the Market: In server and cloud computing conditions, Linux has seen significant development. Organizations and designers as of now generally use Linux due to its flexibility, security, and moderateness. Microsoft accepted it could serve a more extensive client base and fulfill the requirement for Linux-based arrangements by giving Linux support on Azure.

Significance: Microsoft emphasized the meaning of open source innovations and the cooperative character of the software sector. Microsoft had the option to cooperate with the developer community and add to open source projects by embracing Linux and open source initiatives. This mindset change reflected a more receptive perspective on innovation developer.

Competitive Environment: Linux is as of now upheld by rival cloud specialist organizations like Amazon Web Administrations (AWS) and Google Cloud Stage. Microsoft should furnish its clients with practically identical other options and adaptability to contend in the distributed computing business.

Economical Solutions: Since Linux is open source and accessible for free download and utilization, it is famous for being a practical arrangement. Microsoft could allure organizations attempting to save their IT costs by empowering Linux on Azure.

Microsoft's decision to help Linux on Azure was a determined reaction to moving business sector elements, customer inclinations, and the growing importance of open source programming in the tech area.

Q3.

As per the article, one element contributing to individual's dread of the Linux command line, or shell, is that those used to working in graphical frameworks might think that it is overwhelming. The command line interface (CLI) of Linux might appear to be terrifying to numerous clients who are utilized to graphical UIs (GUIs), as indicated by the writing.

The impression of intricacy is another variable adding to certain individuals' terrorizing of the Linux shell. Clients of the command line should type text-based commands, which may be scary to those new to the language structure and techniques. Moreover, Linux shell offers a wide scope of devices and capacities that could be overpowering for novices who are not yet acquainted with its utilization.

The expectation to learn and adapt engaged with understanding Linux commands and devices, as well as the adjustment of how clients use the PC from an outwardly open GUI to a text based CLI, may all add to the terrorizing factor.

Q4.

The screenshot displays the Google Cloud Platform (GCP) console interface. The top navigation bar includes links to Gmail, YouTube, News, Translate, and a search bar. The main content area is titled 'Compute Engine' and shows 'VM instances'. A sidebar on the left lists various GCP services like Virtual machines, Instance templates, Sole-tenant nodes, Machine images, TPUs, Committed-use discounts, Reservations, and Storage. The 'VM instances' section is active, showing a table of instances. The table has columns for Status, Name, Zone, Recommendations, In use by, Internal IP, External IP, and Connect. Three instances are listed, all with a status of 'Running' (indicated by a green checkmark). The instances are named 'dp-hadoop-spark-2-cluster-kothakarthik-m', 'dp-hadoop-spark-2-cluster-kothakarthik-w-0', and 'dp-hadoop-spark-2-cluster-kothakarthik-w-1'. Below the table, there are 'Related actions' such as 'Explore Backup and DR', 'View billing report', and 'Monitor VMs'.

Status	Name	Zone	Internal IP	External IP	Connect
Running	dp-hadoop-spark-2-cluster-kothakarthik-m	us-central1-a	10.128.0.4	35.225.107.227	SSH
Running	dp-hadoop-spark-2-cluster-kothakarthik-w-0	us-central1-a	10.128.0.3	35.232.175.67	SSH
Running	dp-hadoop-spark-2-cluster-kothakarthik-w-1	us-central1-a	10.128.0.2	34.171.76.39	SSH

ssh.cloud.google.com/v2/ssh/projects/adta5240kothakarhik11659483/zones/us-central1-a/instances/dp-hadoop-spark-2--cluster-k...

SSH-in-browser

UPLOAD FILE

DOWNLOAD FILE

Linux dp-hadoop-spark-2--cluster-kothakarhik-m 5.10.0-0.deb10.16-cloud-amd64 #1 SMP Debian 5.10.127-2-bpo10+1 (2022-07-28) x86_64

The programs included with the Debian GNU/Linux system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ cd

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ whoami

kothakarhikgoud

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ pwd

/home/kothakarhikgoud

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ mkdir karthikkotha_folder

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ pwd

/home/kothakarhikgoud

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ cd karthikkotha_folder/

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~/karthikkotha_folder\$ cd ..

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ pwd

/home/kothakarhikgoud

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ rm -r karthikkotha_folder/

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ ls -al

total 28

drwxr-xr-x 4 kothakarhikgoud kothakarhikgoud 4096 Oct 8 20:22 .

drwxr-xr-x 4 root root 4096 Oct 8 20:18 ..

-rw-r--r-- 1 kothakarhikgoud kothakarhikgoud 220 Apr 18 2019 .bash_logout

-rw-r--r-- 1 kothakarhikgoud kothakarhikgoud 3526 Apr 18 2019 .bashrc

drwx----- 3 kothakarhikgoud kothakarhikgoud 4096 Oct 8 20:19 .gnupg

-rw-r--r-- 1 kothakarhikgoud kothakarhikgoud 807 Apr 18 2019 .profile

drwx----- 2 kothakarhikgoud kothakarhikgoud 4096 Oct 8 20:21 .ssh

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$ ssh

kothakarhikgoud@dp-hadoop-spark-2--cluster-kothakarhik-m:~\$

Release notes

Explore Backup and DR **NEW**

Back up your VMs and set up disaster recovery

View billing report

View and manage your Compute Engine billing

Monitor VMs

View outlier VMs across metrics like CPU and network

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Deploy a website or and restore VMs an secure access, and

Create a website

Create a 'hell IIS

Create an IIS w Compute Engin

Create a 'hell Apache

Create an Apac Linux VM.

Transfer files

Upload and do Cloud Storage VM

Transfer files

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Google Cloud

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Compute Engine

VM instances

CREATE INSTANCE

IMPORT VM

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VM instances

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INSTANCE SCHEDULES

VM instances

Filter Enter property name or value

<input type="checkbox"/>	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input type="checkbox"/>		dp-hadoop-spark-2-cluster-kothakarhik-m	us-central1-a			10.128.0.4 (nic0)		SSH
<input type="checkbox"/>		dp-hadoop-spark-2-cluster-kothakarhik-w-0	us-central1-a			10.128.0.3 (nic0)		SSH
<input type="checkbox"/>		dp-hadoop-spark-2-cluster-kothakarhik-w-1	us-central1-a			10.128.0.2 (nic0)		SSH

Related actions

Explore Backup and DR **NEW**

Back up your VMs and set up disaster recovery

View billing report

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Monitor VMs

View outlier VMs across metrics like CPU and network

References and Citations:

Finley, K. (2016, August 25). Linux Took Over the Web. Now, It's Taking Over the World. WIRED. <https://www.wired.com/2016/08/linux-took-web-now-taking-world/>

In-Text Citation: (Finley, 2016)

Krzyzanowski, P. (2014). Operating System Concepts. <https://pk.org/416/notes/03-concepts.pdf>

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Fruhlinger, Z. K. A. J. (2019, February 22). What is Linux? The open-source operating system that's changing the world. Network World. <https://www.networkworld.com/article/3215226/what-is-linux-uses-features-products-operating-systems.html>

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