1. Linux Admin

- **Description**: Managing Linux systems, including users, file systems, and system services.
- **Command**: useradd (Add a user)
- **Example**:

bash

Copy code

sudo useradd -m john

sudo passwd john

---

2. VMware

- **Description**: Virtualization platform to create and manage virtual machines.
- **Command**: Using VMware CLI for virtual machine operations.
- **Example**:

bash

Copy code

vmware-cmd <vmx_file_path> start

---

3. Docker

- **Description**: A containerization platform to build, deploy, and run applications in containers.
- **Command**: docker run (Run a container)
- **Example**:

bash

Copy code

docker run -d -p 8080:80 nginx

---

4. CI/CD

- **Description**: Continuous Integration and Continuous Deployment pipeline for automated builds and deployments.
- **Command**: GitHub Actions or Jenkins CLI.
- **Example (Jenkins)**:

bash

Copy code

java -jar jenkins-cli.jar -s http://localhost:8080/ build my_pipeline

---

5. Bachelor of Technology (I.T)

- **Description**: Degree program focusing on information technology concepts.
- **Example**: Coursework includes networking, programming, and database management.

---

6. Spring Tool Suite

- **Description**: IDE for developing Spring-based Java applications.
- **Command**: Using Maven in STS.
- **Example**:

bash

Copy code

mvn spring-boot:run

---

7. VS Code

- **Description**: Lightweight code editor with support for debugging and extensions.
- **Example**: Configure Python development:

json

Copy code

```
{
  "python.pythonPath": "path/to/python"
}
```

---

8. HPCSA (High Performance Computing System Administration)

- **Description**: Diploma focusing on managing high-performance computing systems.

---

9. xCAT

- **Description**: Extreme Cloud Administration Toolkit for managing HPC clusters.
- **Command**: nodeset (Set node boot state)
- **Example**:

bash

Copy code

nodeset compute01 osimage=centos7-x86_64-install

---

10. Nagios

- **Description**: Monitoring tool for servers, applications, and networks.
- **Command**: Check service status.
- **Example**:

bash

Copy code

nagios -v /usr/local/nagios/etc/nagios.cfg

---

11. Bash Scripting

- **Description**: Writing scripts to automate tasks in Linux.
- **Example**:

bash

Copy code

#!/bin/bash

echo "Hello, World!"

---

12. Proxmox

- **Description**: Open-source virtualization platform.
- **Command**: Manage VMs with Proxmox CLI.
- **Example**:

bash

Copy code

qm start 101

---

13. N/W Security

- **Description**: Network security concepts like firewalls, intrusion detection, etc.
- **Command**: Configure firewall with ufw.

- **Example**:

bash

Copy code

sudo ufw allow 22

sudo ufw enable

---

14. DevOps

- **Description**: Practices for integrating development and operations for faster delivery.
- **Example**: Automating deployments using Ansible.

yaml

Copy code

- hosts: all

  tasks:

    - name: Install Nginx

      apt:

        name: nginx

        state: present

---

15. Kubernetes

- **Description**: Container orchestration platform.
- **Command**: kubectl (Manage Kubernetes clusters)
- **Example**:

bash

Copy code

kubectl get pods

---

16. PostgreSQL

- **Description**: Open-source relational database.
- **Command**: Query database.
- **Example**:

sql

Copy code

SELECT * FROM users;

---

17. Cloud

- **Description**: Computing services delivered over the internet (e.g., AWS).
- **Example**: Launch an EC2 instance using AWS CLI.

bash

Copy code

aws ec2 run-instances --image-id ami-12345 --count 1 --instance-type t2.micro

---

18. AWS

- **Description**: Amazon Web Services cloud platform.
- **Command**: AWS CLI example.
- **Example**:

bash

Copy code

aws s3 cp file.txt s3://my-bucket/

---

19. GitHub

- **Description**: Source code hosting and version control.
- **Command**: Push code to repository.
- **Example**:

bash

Copy code

git push origin main

---

20. Grafana

- **Description**: Visualization tool for monitoring data.
- **Command**: Set up a data source using Grafana CLI.
- **Example**:

bash

Copy code

grafana-cli plugins install grafana-piechart-panel

---

21. Prometheus

- **Description**: Monitoring system for metrics collection.
- **Command**: Start Prometheus server.
- **Example**:

bash

Copy code

./prometheus --config.file=prometheus.yml

---

22. LVM

- **Description**: Logical Volume Manager for managing disk partitions.
- **Command**: Create logical volume.
- **Example**:

bash

Copy code

lvcreate -L 10G -n myvol myvg

---

23. RAID

- **Description**: Redundant Array of Independent Disks for data redundancy.
- **Command**: Create RAID array.
- **Example**:

bash

Copy code

mdadm --create /dev/md0 --level=1 --raid-devices=2 /dev/sda /dev/sdb

---

24. Lustre

- **Description**: File system for large-scale storage.
- **Command**: Mount Lustre filesystem.
- **Example**:

bash

Copy code

mount -t lustre /dev/lustre /mnt/lustre

---

25. Slurm

- **Description**: Scheduler for HPC clusters.
- **Command**: Submit a job.
- **Example**:

bash

Copy code

sbatch job_script.sh

Each command demonstrates practical usage based on the described concept. Let me know if you'd like a deeper dive into any of these!

4o