

## ■ Docker Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is Docker?	Containerization platform using container runtime (Moby).	Difference vs VM: Lightweight, shares kernel.
Image vs Container	Image = blueprint, Container = running instance.	Expect a scenario question: restart container?
Basic Commands	<code>`docker run`, `docker ps`, `docker stop`, `docker rm`</code>	<code>`-d`</code> = detached mode.
Volumes	<code>`docker run -v /host:/container`</code>	Used for persistence.
Networking	<code>`docker network create mynet`</code>	Bridge vs host vs overlay.
Registry	<code>`docker push myrepo/app:v1`</code>	Mention Docker Hub, Harbor, ECR.
Dockerfile Basics	<code>`FROM`, `RUN`, `COPY`, `CMD`</code>	Multi-stage builds common.

## ■ Jenkins Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is Jenkins?	CI/CD automation tool.	Build → Test → Deploy automation.
Pipeline Types	Scripted (Groovy), Declarative.	Declarative is more common.
Plugins	Git, Docker, K8s, SonarQube.	Plugins are Jenkins' superpower.
Jenkinsfile	Pipeline as code example.	Always version control Jenkinsfile.
Triggers	Poll SCM, Webhook, Timer.	Webhook common with GitHub.
Distributed Build	Master → Agents.	Scaling CI/CD.

## ■ Git Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is Git?	Distributed version control.	Repo = Local + Remote.
Common Commands	<code>`git clone`, `git add`, `git commit`, `git push`</code>	Be confident with flow.
Branching	<code>`git checkout -b feature1`</code>	Expect branching strategy Q.
Merge vs Rebase	Merge = history preserved, Rebase = cleaner.	Know difference well.
Reset vs Revert	Reset = discard, Revert = safe undo.	Common tricky Q.
Gitflow	Feature → Dev → QA → Prod.	Mention PRs & Reviews.

## ■ Terraform Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is Terraform?	IaC tool (HCL).	State file is key.
Providers	AWS, Azure, GCP, K8s.	Plugin-based architecture.
Workflow	<code>`init`</code> → <code>`plan`</code> → <code>`apply`</code> → <code>`destroy`</code>	Lifecycle Q is common.

Concept	Key Points / Commands	Interview Tip
Variables	<code>`variable "region" {}`</code>	Useful in modules.
State File	<code>`terraform.tfstate`</code> tracks infra.	What if state lost? → Breaks infra tracking.
Remote State	Stored in S3, GCS.	For team use.
Modules	Reusable infra components.	Explain your module experience.

## ■ Kubernetes Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is K8s?	Container orchestration tool.	Declarative vs Imperative.
Pod	Smallest deployable unit.	One/multiple containers.
Deployment	<code>`kubectl apply -f deploy.yaml`</code>	Rolling updates, rollbacks.
Service	ClusterIP, NodePort, LoadBalancer.	Difference is common Q.
ConfigMap/Secret	Externalize configs.	Secrets base64 only.
Scaling	<code>`kubectl scale --replicas=5`</code>	HPA scaling.
Ingress	Manages external traffic.	Important interview Q.

## ■ Prometheus & Grafana Cheat Sheet

Concept	Key Points / Commands	Interview Tip
Prometheus	Metrics & alerting.	Pull-based scraping.
Exporters	Node, cAdvisor, Blackbox.	Used for metrics collection.
TSDB	Time-series DB.	Stores metrics over time.
Alerts	Handled by Alertmanager.	Notifications → Slack/Email.
Grafana	Dashboard visualization tool.	Common with Prometheus.
PromQL	<code>`rate(http_requests_total[5m])`</code>	Expect query example.

## ■ Ansible Cheat Sheet

Concept	Key Points / Commands	Interview Tip
What is Ansible?	Agentless config tool.	Works via SSH + YAML.
Inventory	Static (hosts.ini) / Dynamic.	Common Q.
Playbook	Written in YAML.	Idempotent execution.
Modules	Package, copy, service.	Example: <code>`apt`</code> , <code>`yum`</code> .
Roles	Reusable tasks.	Best practice in big projects.
Handlers	Triggered tasks.	Restart services scenario.
Vault	Encrypt secrets.	Frequently asked Q.

Concept	Key Points / Commands	Interview Tip
Tags	`--tags`, `--skip-tags`.	For selective tasks.