DevOps Interview Preparation Plan for Sai

Name: Sai

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Duration: 1 Month (4 Weeks)
Goal: Prepare for DevOps Engineer Interviews — covering all key tools: **Linux, Git & GitHub, AWS, Jenkins, Docker, Kubernetes, Terraform, Ansible, Prometheus, and Grafana.**

WEEK 1 – Linux | Git & GitHub | Bash Scripting

Linux

Topics to Cover:

- File system structure, permissions, and ownership
- User management and process handling (`ps`, `kill`, `top`, `htop`)
- Disk usage and memory monitoring (`df`, `du`, `free`)
- Networking commands (`ping`, `ss`, `netstat`, `curl`, `wget`)
- Systemd & services (`systemctl`, `journalctl`)

Interview Focus:

- Bash scripting logic, real-world troubleshooting, and daily Linux operations.

Git & GitHub

Topics to Cover:

- Git init, clone, add, commit, push, pull
- Branching, merging, rebasing, and resolving conflicts
- Git reset vs revert, stash, and tags
- GitHub PRs, branch protection rules, and Codespaces
- Basics of **GitHub Actions** – workflow YAML, triggers, jobs, reusable workflows

Interview Focus:

- Explain Git flow strategy and CI/CD workflow integration.

WEEK 2 – AWS | Jenkins

AWS (Amazon Web Services)

Topics to Cover:

- EC2, S3, IAM, VPC, Security Groups
- Load Balancer (ALB/NLB), Auto Scaling, and Route 53
- CloudWatch, CloudTrail basics
- CodeBuild, CodeDeploy, CodePipeline overview
- High Availability, DR Strategy, and Cost Optimization

Interview Focus:

- Architecture design, troubleshooting production issues, and IAM policies.

Jenkins

Topics to Cover:

- Jenkins architecture (Master–Agent setup)
- Declarative vs Scripted pipelines
- Webhooks integration (Git → Jenkins)
- Managing credentials and plugins
- Jenkinsfile creation and best practices

Interview Focus:

- End-to-end pipeline explanation, CI/CD optimization, and plugin management.

WEEK 3 – Docker | Kubernetes

Docker

Topics to Cover:

- Container lifecycle, images, and layers
- Dockerfile instructions (FROM, RUN, CMD, COPY, ENTRYPOINT)
- Docker Compose for multi-container setups
- Volumes, networking, and cleanup strategies
- Multi-stage Docker builds

Interview Focus:

- Docker image optimization, debugging, and multi-container management.

Kubernetes (K8s)

Topics to Cover:

- Core resources: Pods, Deployments, ReplicaSets, Services
- ConfigMaps, Secrets, and Volumes
- Ingress Controllers, Network Policies
- Probes: Readiness, Liveness
- StatefulSets, DaemonSets, CronJobs
- Helm charts, rolling updates, zero-downtime deployments
- Troubleshooting (`CrashLoopBackOff`, `ImagePullBackOff`, pending pods)

Interview Focus:

- K8s deployment troubleshooting, scaling, and real-world scenarios.

WEEK 4 – Terraform | Ansible | Prometheus & Grafana | Final Revision

Terraform

Topics to Cover:

- Providers, resources, variables, outputs
- Remote backend (S3 + DynamoDB), state management
- Modules and workspaces
- Terraform plan, apply, destroy lifecycle
- Preventing downtime during DB or infra changes

Interview Focus:

- Terraform state management, backend configuration, and DRY code structure.

Ansible

Topics to Cover:

- Inventory, Playbooks, and Roles
- Loops, Handlers, Variables, and Templates (Jinja2)
- Ansible Vault and Galaxy
- Application deployment and configuration management

Interview Focus:

- Playbook logic and automation of real-world deployments.

Prometheus & Grafana

Topics to Cover:

- Prometheus architecture and exporters
- Metrics scraping and Alertmanager
- Grafana dashboards, panels, and alerts
- Integration with Kubernetes and Docker

Interview Focus:

- Observability setup, metric alerts, and dashboard creation.

Final 2 Days – Revision & Mock Practice

- Review key commands, architectures, and use cases
- Prepare project explanation (daily roles, tech stack, CI/CD flow)
- Mock interviews focusing on:
    - K8s troubleshooting (CrashLoopBackOff, zero downtime)
    - Terraform state and versioning
    - Jenkins build failure resolution
    - Docker image cleanup
    - AWS architecture questions