Core Concepts:
Monolithic vs Microservices, Kubernetes Architecture, Setup On Local/AWS EC2, Kubectl, Pods, Namespaces, Labels, Selectors, Annotations.

Workloads:
Deployments, StatefulSets, DaemonSets, ReplicaSets, Jobs, CronJobs.

Networking:
Cluster Networking, Services, Ingress, Network Policies.

Storage:
Persistent Volumes (PV), Persistent Volume Claims (PVC), StorageClasses, ConfigMaps, Secrets.

Scaling and Scheduling:
HPA, VPA, Node Affinity, Taints/Tolerations, Resource Quotas, Limits, Probes

Cluster Administration:
RBAC, Cluster Upgrade, Custom Resource Definitions (CRDs).

Monitoring and Logging:
Metrics Server, Logging, Monitoring Tools.

Advanced Features:
Operators, Helm, Service Mesh, Kubernetes API.

Security: Pod Security Standards (PSS), Image Scanning, Network Policies, Secrets Encryption.

Cloud-Native Kubernetes:
Managed Services (EKS, AKS, GKE), Cluster Autoscaler, Spot/Preemptible Nodes.

Debugging and Troubleshooting: kubectl Debugging, Logs, Resource Usage Analysis.

Projects:
- **CI/CD Integration:** Kubernetes with Jenkins CI/CD, GitOps with ArgoCD
- Microservices with MongoDB.
- .Net, Python, Three-tier App.
- Monitoring With Prometheus and Grafana