RealTime Handson

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Azure DevOps

REALTIME PROJECTS

PART 1

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1. A company wants to migrate its monolithic e-commerce application to a microservices-based architecture using Kubernetes.

Steps:

- Set up an AKS cluster with Terraform.
- Deploy microservices using Helm charts.
- Configure an Nginx Ingress Controller for traffic routing.
- Implement CI/CD pipelines with Jenkins for automated deployments.
- Monitor services using Prometheus and Grafana.

2. A bank wants to automate deployment and testing of its web application on Azure.

Steps:

- Set up Azure DevOps repository.
- Define a build pipeline to compile the application.
- Build a Docker image and push it to Azure Container Registry (ACR).
- Deploy the application on AKS using Helm.
- Implement security scanning with Trivy.

3. An IT team wants to automate OS patching for Azure VMs.

Steps:

- Install Ansible and define patching playbooks.
- Schedule patching via Ansible Tower.
- Use Azure Automation to trigger patch updates.
- Generate compliance reports.

4. A media company wants to deploy a high-traffic video streaming service on Kubernetes.

Steps:

- Deploy an AKS cluster.
- Set up a Redis caching layer.
- Implement Horizontal Pod Autoscaling (HPA).
- Use Azure Blob Storage for video storage.

5. A SaaS company wants to deploy Kubernetes clusters across AWS and Azure.
Steps:

- Deploy an EKS cluster on AWS and an AKS cluster on Azure.
- Connect clusters using Anthos Service Mesh.
- Implement CI/CD pipelines for cross-cloud deployments.

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6. A healthcare company needs a HIPAA-compliant infrastructure on Azure.
Steps:

- Define infrastructure as code using Terraform.
- Deploy an AKS cluster with encryption enabled.
- Implement role-based access control (RBAC).
- Enable Azure Sentinel for security monitoring.

7. A SaaS company wants automated backups for PostgreSQL databases.
Steps:

- Deploy Azure PostgreSQL with Terraform.
- Use Ansible to automate backup scheduling.
- Store backups in Azure Blob Storage.
- Implement restore automation.

8. A bank needs centralized log monitoring for security audits.
Steps:

- Deploy an AKS cluster.
- Install Elasticsearch, Fluentd, and Kibana (EFK stack).
- Configure Fluentd for log forwarding.
- Set up Kibana dashboards.

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9. Disaster Recovery Setup for a Cloud-Native Application

Scenario: A company wants to set up a disaster recovery solution for its Azure-based application.

Steps:

- Deploy a primary and secondary region setup using Terraform.
- Implement Azure Site Recovery (ASR).
- Test failover scenarios.

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10. Blue-Green Deployment for a Retail Application

Scenario: A retail company wants to minimize downtime during deployments.

Steps:

- Deploy an AKS cluster.
- Set up blue and green environments.
- Use an Azure Load Balancer to switch traffic.
- Implement rollback automation.

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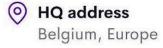**Our Usecases Platform** https://careerbytecode.substack.com

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