internStudio

CLOUD COMPUTING INTERNSHIP

TASK GUIDE

Build on the cloud. Deploy with confidence.
Scale real-world solutions.

CORE FOCUS AREAS

- Cloud Infrastructure
- Deployment
- Networking
- Storage & Databases
- Containers
- Security
- Monitoring & Scalability
- Cloud Automation

INTERNSHIP
Cloud Computing

REQUIRED TASKS
Complete Any 2 Projects

PLATFORMS
AWS · Microsoft Azure · Google Cloud Platform

INTERNSHIP INSTRUCTIONS

Your Internship Tasks

Select and complete **any 2 projects** from the task list, implemented on a cloud platform of your choice — **AWS**, **Microsoft Azure** or **Google Cloud Platform**. Each project should demonstrate practical cloud concepts, not simply a static website deployed to a cloud host.

Plan	Build	Deploy	Secure	Monitor	Document

PROJECT REQUIREMENTS

- [ ] Create and configure the required cloud resources
- [ ] Deploy the application / service successfully
- [ ] Configure networking and access controls
- [ ] Use cloud storage / database services where required
- [ ] Apply basic security practices
- [ ] Monitor application / resource usage where applicable
- [ ] Document the architecture and deployment process
- [ ] Provide screenshots / evidence of the working deployment
- [ ] Submit the project through GitHub

EVERY SUBMISSION INCLUDES

- [ ] GitHub repository
- [ ] Source code / configuration files
- [ ] README
- [ ] Architecture diagram
- [ ] Deployment documentation
- [ ] Screenshots of deployed resources
- [ ] Configuration details
- [ ] Key implementation decisions
- [ ] Security considerations
- [ ] Challenges faced and solutions

Keep it free-tier

No expensive cloud resources are required. Use free-tier or low-cost services wherever possible, and remember to shut resources down once you have captured your evidence.

https://forms.gle/vxL5JE8cvRXXfDBv8

Platform: your choice. Build these on AWS, Microsoft Azure or Google Cloud Platform — free-tier services wherever possible.

01 Scalable E-Commerce Cloud Platform

Suggested: Compute service · managed database · object storage · load balancer

Build and deploy a small e-commerce platform on cloud infrastructure.

REQUIREMENTS

- Deploy the application on cloud infrastructure
- Implement product / category management
- Configure a managed database
- Store product images / assets in object storage
- Configure networking between app and database
- Implement environment-based configuration
- Add load balancing where supported
- Configure basic monitoring
- Apply appropriate access permissions
- Document the complete deployment architecture

Focus: Cloud deployment, networking, storage, databases, scalability, security.

02 Cloud-Based File Storage & Sharing System

Suggested: S3 / Blob Storage / Cloud Storage · backend API

Build a secure cloud-based file management system.

REQUIREMENTS

- User authentication
- Upload files to cloud object storage
- Download and delete files
- Organize files using folders / categories
- Generate secure access URLs where appropriate
- Store file metadata in a database
- Restrict users from accessing other users' files
- Validate file type and size
- Implement basic storage monitoring
- Handle upload / download failures gracefully

Focus: Object storage, APIs, authentication, authorization, security and cloud resource management.

03 Containerized Application Deployment

Suggested: Docker · a cloud container service

Take a web application and deploy it as a containerized cloud application.

REQUIREMENTS

- Containerize the application using Docker
- Create an appropriate Dockerfile
- Configure environment variables
- Deploy the container to a cloud platform
- Configure networking and exposed ports
- Use a managed database or external service where required
- Implement health checks
- Configure application logging
- Demonstrate updating / redeploying the application
- Document the complete deployment process

Focus: Docker, containers, deployment, networking, configuration and cloud operations.

04 Serverless Event Processing System

Suggested: Lambda / Azure Functions / Cloud Functions

Build a serverless system that processes events automatically — **file upload → cloud storage → function → processing → database or notification**.

REQUIREMENTS

- Configure a cloud storage bucket
- Trigger a serverless function when an event occurs
- Process the uploaded / event data
- Store the resulting information
- Document the event-driven architecture
- Implement error handling
- Configure appropriate IAM / access permissions
- Add logging and monitoring
- Demonstrate multiple event executions

Focus: Serverless computing, event-driven architecture, cloud storage, IAM and monitoring.

05 Cloud Monitoring & Infrastructure Dashboard

Suggested: CloudWatch / Azure Monitor / Cloud Monitoring

Create a monitoring solution for cloud-hosted applications or resources.

REQUIREMENTS

- Deploy or use a cloud-hosted application / resource
- Monitor CPU, memory, network or relevant metrics
- Configure logs
- Create monitoring dashboards
- Configure alerts for selected thresholds
- Track application / resource availability
- Demonstrate an example alert condition
- Document what each metric indicates
- Recommend improvements to reliability / performance

Focus: Monitoring, logging, observability, alerts and cloud operations.

06 Highly Available Web Application

Suggested: Load balancer · compute · database · networking

Design and deploy a web application with a focus on availability and fault tolerance.

REQUIREMENTS

- Deploy application instances / resources
- Configure a load balancer
- Separate application and database components
- Configure appropriate network access
- Document the architecture and failure-handling approach
- Demonstrate how traffic is distributed
- Implement health checks
- Configure automatic recovery / scaling where feasible
- Monitor application availability

Focus: High availability, load balancing, networking, scalability and reliability.

FINAL STEP

Ready to Submit?

Verify all four groups before you send your work in.

INFRASTRUCTURE

- [ ] Cloud resources configured correctly
- [ ] Application / service successfully deployed
- [ ] Networking configured
- [ ] Storage / database configured where required

SECURITY

- [ ] Authentication / authorization where applicable
- [ ] Access permissions configured properly
- [ ] No credentials committed to GitHub
- [ ] Environment variables / secrets handled securely

MONITORING

- [ ] Logs configured where applicable
- [ ] Monitoring / metrics demonstrated
- [ ] Errors handled appropriately

DOCUMENTATION

- [ ] GitHub repository
- [ ] Complete README
- [ ] Architecture diagram
- [ ] Deployment steps
- [ ] Screenshots / evidence
- [ ] Key challenges and solutions
- [ ] Final observations

Important. Complete any 2 projects. Your work must demonstrate actual cloud implementation, not only theoretical documentation — avoid submitting a static website hosted on a cloud platform unless the project specifically calls for it.

Submission Form

Submit your repository, architecture diagram and deployment evidence here.

https://forms.gle/vxL5JE8cvRXXfDBv8

BUILD → DEPLOY → SECURE → MONITOR → DOCUMENT.

Your internship project is more than a deployment — it's an opportunity to demonstrate how you design, secure and operate real infrastructure on the cloud.

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