

High-Level Design (HLD)

Project: TechForce Kimai Cloud Deployment

1. Multi-Cloud Strategy

This project follows a **hybrid cloud strategy** using:

- **AWS** – Primary cloud platform for compute (EC2), storage (S3), networking (VPC), and monitoring (CloudWatch).
- **GCP** – Optional/secondary platform for centralized logging and monitoring using tools like Stackdriver.

This ensures fault tolerance, cost optimization, and cloud vendor flexibility.

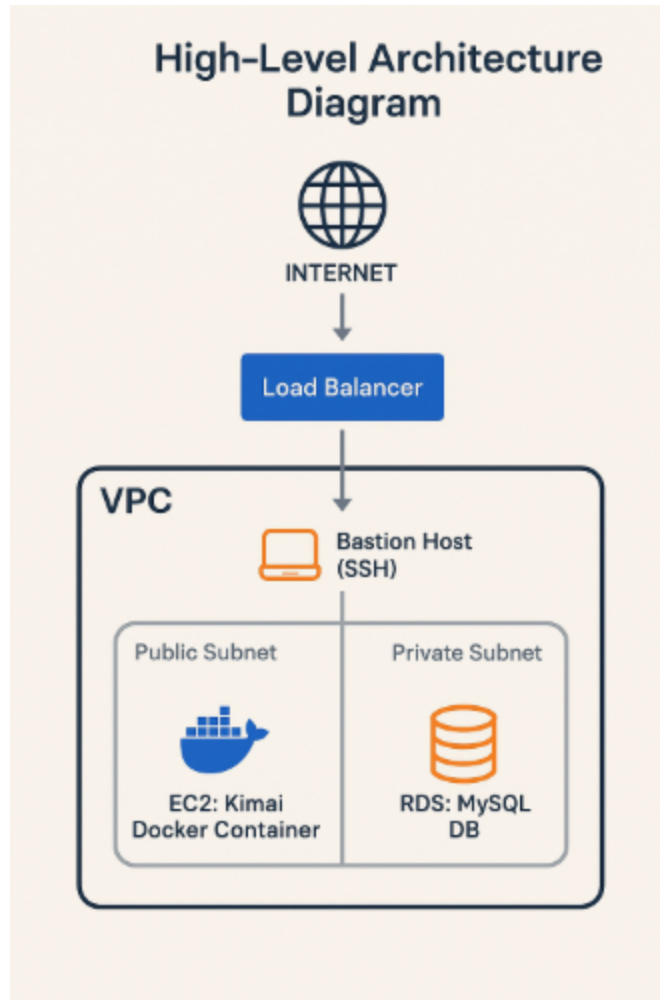
2. Architectural Overview

Tech Stack

Component	Technology
App	Kimai (open-source timesheet)
Containerization	Docker
CI/CD	Jenkins
IaC	Terraform
Monitoring	Prometheus + Grafana
Database	AWS RDS (MySQL)
Hosting	AWS EC2
Load Balancing	AWS ALB + WAF
IAM	AWS IAM Roles & Policies

3. Architecture Diagram (Textual View)

```
less
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[ User ]
|
[ Load Balancer (Public) ]
|
[ Bastion Host (Public Subnet) ]
|
[ VPC ]
├── EC2 (Kimai + Docker) [Private Subnet]
└── RDS (MySQL DB)      [Private Subnet]
```



Security Highlights:

- **Security Groups:** Define who can talk to what.
- **IAM Roles:** Follow the principle of **least privilege**.
- **Bastion Host:** Secure SSH