**Github Repository:**

https://github.com/manoj-gaonkar/apiManagement

**Solution Architecture**

1. Azure API Management (APIM):  
   Centralized API management system to handle multiple APIs from various sources, ensuring security, scalability, and efficient monitoring.
2. Azure Functions:  
   Migrates existing Function App to a serverless architecture to optimize scalability and cost-effectiveness.
3. Terraform Automation:  
   Automates the deployment of APIM and Function App, ensuring consistency and repeatability in resource provisioning.
4. Security Policies:  
   Implements authentication, authorization, and rate-limiting policies to secure APIs from unauthorized access and abuse.
5. Monitoring and Analytics:  
   Configures Azure Monitor and APIM Analytics for tracking API usage, identifying bottlenecks, and improving performance.

**Report**

1. Centralized Management:  
   APIM provides a unified platform to manage APIs from various sources.
2. Improved Security:  
   Robust security policies safeguard APIs from unauthorized access and misuse.
3. Enhanced Scalability:  
   Serverless Azure Functions and horizontal scaling ensure APIs can handle high traffic without performance degradation.
4. Automated Deployment:  
   Terraform simplifies and accelerates resource provisioning, reducing manual effort and errors.
5. Comprehensive Monitoring:  
   Real-time analytics enable proactive issue resolution and performance optimization.
6. Cost Efficiency:  
   Serverless architecture minimizes costs by scaling resources dynamically based on demand.