

The Security Gauntlet - A Design Review Challenge

Assignment - 1

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Security Fundamentals for Cloud

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# Team & Asset Distribution:

## 1. E-commerce Empire:

* Customer database (PII, payment info)
* Inventory database (product details, stock levels)
* Web application (shopping cart, checkout process)
* Payment gateway integration
* **Cloud-based recommendation engine**
* **Mobile app with user authentication**

## 2. Healthcare Haven:

* Electronic Health Records (EHR) database
* Patient portal
* Medical imaging storage
* Telehealth application
* **IoT-enabled medical devices (e.g., insulin pumps)**
* **Cloud-based analytics platform for patient data**

## 3. Financial Fortress:

* Transactional database
* Customer accounts (balances, transactions)
* Online banking application
* Fraud detection system
* **High-frequency trading platform**
* **Cloud-based data warehouse for financial reporting**

## 4. Educational Enclave:

* Student information system (SIS)
* Learning management system (LMS)
* Virtual classroom environment
* Exam and assignment storage
* **Cloud-based collaboration tools (e.g., document sharing)**
* **Identity federation with external institutions**

## 5. Manufacturing Marvel:

* Production line control systems
* Supply chain management system
* Inventory tracking database
* Industrial IoT (IIoT) devices
* **Predictive maintenance platform using machine learning**
* **Remote access for field engineers**

## 6. Government Guardians:

* Citizen data (PII, tax records)
* Public service portals
* Voting systems
* Classified information repositories
* **Cloud-based disaster recovery infrastructure**
* **Secure communication channels with other agencies**

## 7. Media Moguls:

* Content management system (CMS)
* Video streaming platform
* Digital rights management (DRM) system
* Social media integration
* **User-generated content moderation system**
* **CDN for global content delivery**

## 8. Smart City Sentinels:

* Traffic management system
* Public safety surveillance cameras
* Smart grid infrastructure
* Environmental monitoring sensors
* **Open data platform for citizen access**
* **Emergency alert system**

## 9. Gaming Gladiators:

* Multiplayer gaming platform
* In-game virtual currency and item marketplace
* User profile and social features
* Anti-cheat mechanisms
* **Cloud-based game server infrastructure**
* **Player behavior analytics**

## 10. Logistics Leaders:

* Fleet management system
* Warehouse automation systems
* Shipment tracking and delivery platform
* Real-time route optimization
* **Driver behavior monitoring**
* **Integration with third-party logistics providers**

## 11. Hospitality Heroes:

* Hotel reservation system
* Point-of-sale (POS) systems
* Loyalty program database
* Guest Wi-Fi network
* **Mobile app for room service and concierge requests**
* **IoT-enabled smart rooms**

## 12. Retail Titans:

* E-commerce platform
* Inventory management system
* Customer relationship management (CRM) system
* In-store analytics and footfall tracking
* **Personalized marketing and recommendation engine**
* **Omnichannel customer experience**

## 13. Energy Efficiency Experts:

* Smart meter data collection and analysis
* Energy consumption monitoring and optimization
* Renewable energy integration
* Demand response programs
* **Customer energy usage portals**
* **Grid security and resilience**

## 14. Nonprofit Navigators:

* Donor management system
* Volunteer coordination platform
* Fundraising and campaign management tools
* Grant tracking and reporting
* **Secure data sharing with partner organizations**
* **Social media analytics for impact measurement**

## 15. Startup Superstars (Group of 5)

* SaaS application (choose any domain: HR, finance, marketing, etc.)
* Customer onboarding and support platform
* Subscription billing and payment processing
* User data and analytics
* **Scalable cloud infrastructure**
* **Integration with third-party APIs**

**Note:** The additional assets (in bold) are designed to provide challenges relevant to the specialized roles.