CSA1526

Cloud COMPUting

CLASS TEST - 3

Name : Sailokesh.N

Reg.No : 192365023

Date : 17/02/2025

Serial.No : 19

QUESTIONS

1. Prepare and Analyse cloud based Educational Applications. Comprise Canavas, Coursera, blackBoard and Google ClassRoom Using driving forces.

2. Compare and Contrast the Architecture design of accessing the cloud with Web Application frame work. How does it Relate with Storage Area Network (SAN)?

3. Consider any one Real Estate business Frame Work Like Magic brick and discuss the Architecture cloud Web Application. How does the API's help in this situation with Web browsers.

Answers

1. Analysis of Cloud-based Educational APPS using driving Forces:

* Cloud based Educational Platforms like Canavas, Coursera, blackboard and Google Class Room have transformed online Learning.

* Driving Forces Refer to key Factors that Shape the Growth and Evolution of these Platforms.

Technological Advancements:

* Canavas and BlackBoard leverage AI-driven grading, Analytics and Adaptive Learning.

* More AI-driven Features, better AR|VR integration, and Improved cloud security

Market Demand For online Learning:

* coursera thrives on demand for self-Paced learning and industry-Recognized Certifications

* Increased preference for blended learning Models. Expansion into k-12, univirisity and Corporate training.

Cost and Accessibility:

* Google ClassRoom is Free, Making it accessible Worldwide.

* More Free Courses with Micro-credentialing and subscription-based Models.

Conclusion:

* Cloud-based Educational apps are evolving due to technological advancments, increasing demand, Affordability and Global Accessibility. Future trends point toward AI-driven Personalization, more Integrations and the Expansion of Remote Learning.

2. Designing Cloud Access with Web Application Frame Work:

* A cloud based web application frame work provides a structured way to develop, deploy and manage applications using cloud infrastructure.

1. Architecture of Cloud Access with a Web Application Frame work.

→ Built with HTML, CSS, JS.

→ Accesses cloud services through API's

2. Web Application Layer

↔ Uses frame works like Django, SpringBoot, Node.js.

→ Manages User Authentication business logic & DataBase Interactions.

3. API Gateway

→ connects the application to cloud services like AWS API Gateway, Google Cloud End Points.

→ Ensure secure data transmission using OAuth, JWT, SSL

4. Cloud service Layer

→ Provides Compute Power. (AWS Lambda)

→ Manage Data Bases (AWS S3)

→ Handles Storage

5. Load Balancer & CDN

→ Ensure high availability with AWS Elastic Load Balancer, Cold flare CDN.

→ Optimizes Content delivery

6. Security & Authentication

→ Ensures Compliance with GDPR, HIPAA, ISO 27001.

Relation with Storage Area Network (SAN)

* A Storage Area Network is a high speed network that connects storage devices to Cloud servers, improving data management and Performance.

1. Data Storage & Retrieval
2. Scalability & Performance
3. Disaster Recovery & Backup
4. DataBase Optimization.

Conclusion:

* A Cloud-based Web Application framework interacts with a storage area Network to Ensure efficient, Scalable and secure data storage. SAN plays key Role in handling high-speed ~~data~~ transactions and Cloud Performance.

3. Cloud-Based Web Application Architecture for a Real-Estate Business.

* Magic brick is a Real Estate platform that connects buyers, sellers and Renters.

A cloud based Web Application framework for such a business includes Frontend, Backend, cloud services.

1. FrontEnd (User Interface)
2. BackEnd (Business Logic Layer)
3. API Gateway (middleware)
4. Cloud Services & storage.
5. AI & Analytics
6. Security & Authentication.

Role of API's in Web Browsers:

1. Property Listing API's
2. User Authentication API's
3. Map & Location API's
4. Payment API's

5. Messaging & Chat API's

6. Recommend API's

How API's Interact with Web Browsers:

* AJAX Request: Fetching for smooth UI.
* REST / GraphQL API's: Enables structured data Exchange between browser and server.
* Web Sockets: Supports Real time messaging.
* OAuth & Cookies: Manages User sessions securley.

Conclusion:

A A Real Estate Platform like Magic bricks Relies on Cloud based Architecture for scalability, security and Real time interactions. API's enable Seamless Communication between Web browsers and Backend services ensuring smooth Payments, etc..