REPORT

CREATING AN ONLINE COMMUNITY HUB FOR F13 HOBBIES

Introduction:

This report helps to understand the process of creating a community hub for F13 Hobbies. It will outline the fundamental steps and considerations involved in leveraging AWS's infrastructure, authentication systems, engagement tools, analytics capabilities, and scalability features to establish a thriving online community. The aim is to create dynamic community hub that facilitate meaningful interactions, drive user engagement, and nurture a sense of belonging among members.

Hosting web applications and managing data

While hosting an application its important to understand the infrastructure. some services used for managing data and storage.

Amazon EC2 (Elastic Compute Cloud):

Provision virtual servers to host the community platform and databases.

Amazon RDS (Relational Database Service):

Set up managed databases to store user data securely.

Amazon S3 (Simple Storage Service):

Store and serve static assets such as images, videos, and documents.

Amazon Route 53:

Register domain names and manage DNS routing for the community hub.

Tools to facilitate interaction and collaboration

Engagement is crucial for the success of an online community hub. AWS offers various tools to facilitate interaction and collaboration among community members, such as:

Amazon SES (Simple Email Service):

Send personalized email notifications and updates to community members.

Amazon SNS (Simple Notification Service):

For real-time notifications across multiple channels to keep users informed.

Ensuring Data Security:

Protecting user data and ensuring the security of the community hub are very important. Some services used for security.

Amazon Cognito:

Implement user authentication and authorization with support for multi-factor authentication (MFA) and social identity providers.

AWS IAM (Identity and Access Management):

Define granular access policies to manage user permissions effectively.

Scalability:

As the community grows, scalability becomes essential to accommodate increasing traffic and user activity. For scalable data we used.

Amazon Auto Scaling:

Automatically adjust compute capacity based on demand to maintain optimal performance.

Amazon CloudFront:

Use a content delivery network (CDN) to deliver content with low latency and high transfer speeds globally.

Performance Monitoring:

Monitoring community performance and analyzing user behavior provide valuable insights for optimization. For monitoring the performance we used.

Amazon CloudWatch:

Monitor resource utilization and application performance in real-time.

Amazon Redshift:

Analyze community data to track engagement metrics, identify trends, and make data-driven decisions.

Cost & Billing

We can manage and optimize costs by choosing the right combination of AWS services and resources based on requirement.

Cost Optimization helps to optimize the usage and reduce costs, we can analyze the amount spend through cost and usage report.

We can setup billing alert to monitor the cost spend and receive notification if usage limit exceeds. This helps you stay within budget and avoid unexpected charges.

Method Implementation:

The method and approach used for Deploying.

Deploying from Local Machines:

In this method we tried deploying on local machine. We have installed the AWS command line interface (CLI) on the local machine. After installing the CLI, we need to configure it with our AWS credentials. After configuration we choose to deploy manually.

Deploying from GitHub Repository:

In this method we tried deploying from GitHub Repository. While deploying from GitHub repository we need to store the application in GitHub repository first then we can configure to build and deploy. It involves using AWS services like AWS Code Pipeline and AWS Code Deploy for continuous integration and continuous deployment (CI/CD).

Conclusion:

In this report, we can conclude our main aim is to build an online community for F13 Hobbies that offers organizations a scalable, secure, and cost-effective solution to connect with their audience and foster engagement. By leveraging AWS's cloud infrastructure and services, organizations can create a vibrant and thriving online community hub that facilitates knowledge sharing, collaboration, and meaningful interactions among members.