PARSHVANATH CHARITABLE TRUST'S

A.P. Shah Institute of Technology

Thane, 400615

Academic Year: 2022-23
Department of Computer Engineering

CSL605 SKILL BASED LAB COURSE: CLOUD COMPUTING

Mini Project Report

- **Title of Project** : Group Portfolio
- **Year and Semester** : TE Sem 6
- **Group Members Name and Roll No.** : Saurav Gupta
  Amol Gautam
  Rajesh Gowda

Table of Contents

Problem Definition

Develop a group portfolio web application that can be deployed on AWS cloud computing to provide a platform for users to showcase their work as a team.

The problem at hand is that there is a need for a platform that allows teams to showcase their collective work and achievements in an organized and easy-to-use manner. A group portfolio web application will provide a solution to this problem by allowing teams to create a portfolio of their work, including text, images, videos, and other multimedia content.

Additionally, the web application needs to be scalable, reliable, and secure. AWS cloud computing provides the perfect infrastructure to deploy such a web application, with its robust and flexible cloud computing services, including compute, storage, database, and networking.

The group portfolio web application should also have features such as user authentication and authorization, team management, commenting and feedback, and search functionality.

Overall, the goal of this project is to create a group portfolio web application that is easy to use, visually appealing, and provides an efficient way for teams to showcase their work

Introduction

A group portfolio is a collection of assets that are owned by a group or a company. These assets can include stocks, bonds, real estate, and other financial instruments. The purpose of a group portfolio is to diversify the risk of investment by spreading it across different asset classes and investment strategies. By doing so, the group can achieve better returns while minimizing the risk of losing money. A group portfolio is typically managed by a professional investment manager who has expertise in the different asset classes and investment strategies. The investment manager is responsible for selecting the assets that will be included in the portfolio and for making adjustments to the portfolio as needed to achieve the group's investment objectives. A well-diversified group portfolio can provide many benefits to the group, including reduced risk of loss, increased returns, and access to a wider range of investment opportunities. However, building and managing a successful group portfolio requires careful planning, ongoing monitoring, and a solid understanding of the investment landscape.

Whether you are part of a group that is considering building a portfolio or an individual investor looking to invest in a group portfolio, it is important to have a clear understanding of the investment objectives, risk tolerance, and investment horizon of the group or the company. This will help you make informed decisions about the assets to include in the portfolio and ensure that the portfolio is aligned with your investment goals. A group portfolio is a comprehensive collection of work or projects completed by a team of individuals who have come together to achieve a shared goal. It is a reflection of the collaborative efforts of the group, showcasing their skills, achievements, and contributions to a specific field or industry. Group portfolios can be used for a variety of purposes, such as showcasing the team's capabilities to potential clients or investors, serving as a reference for future projects, and highlighting the team's unique approach to problem-solving. Group portfolios come in various forms, including physical or digital collections of materials, online platforms, or presentations. Regardless of the format, they all serve the same purpose: to showcase the team's accomplishments and strengths. Group portfolios can be used in many contexts, including academic settings, corporate environments, or creative industries, among others.

The creation of a group portfolio requires a collaborative effort that involves all members of the team. It involves identifying the project's goals, developing a plan, and assigning tasks to each team member based on their strengths and expertise. The team must work together to ensure that all elements of the portfolio are consistent and cohesive, from the overall design to the individual pieces of work included. One of the benefits of creating a group portfolio is that it allows team members to showcase their individual skills and contributions to the project. For example, a team working on a web design project may have members specializing in coding, graphic design, and user experience (UX) design. By including examples of their work in the portfolio, each team member can demonstrate their unique skills and how they contributed to the final product. Another benefit of a group portfolio is that it provides potential clients or investors with a comprehensive overview of the team's

capabilities. By showcasing their work, a team can demonstrate their ability to tackle a wide range of projects and challenges, and showcase their versatility and adaptability.

Group portfolios can also highlight the diversity and range of perspectives within a team, providing insight into the collaborative process and dynamics that led to the final outcome. They can showcase how team members brought different ideas and approaches to the table, and how they worked together to create a cohesive and effective end product. In addition to serving as a reference for future projects, group portfolios can also serve as a valuable tool for personal and professional development. They allow team members to reflect on their strengths and areas for improvement, identify opportunities for growth, and set goals for their future work. When creating a group portfolio, it is important to consider the audience and the purpose of the portfolio. The content and format of the portfolio should be tailored to the specific needs and interests of the target audience, and should showcase the team's strengths in a clear and concise manner.

Description

Group portfolios are an essential tool for showcasing the collective achievements of a team of individuals who have come together to achieve a shared goal. In today's digital age, AWS services such as S3 and EC2 offer a range of benefits for creating, storing, and hosting group portfolios in the cloud. In this article, we will explore the advantages of using AWS services for group portfolios and how they can enhance the portfolio creation process.

S3 (Simple Storage Service) is a highly scalable, secure, and durable object storage service that allows teams to store and retrieve their portfolio assets, including images, videos, and other files. S3 provides a reliable and cost-effective solution for storing large amounts of data, making it an ideal choice for group portfolios that require a vast amount of storage. S3 also provides built-in security features such as data encryption and access control, ensuring that the portfolio assets remain secure and protected.

With S3, team members can easily upload, manage, and organize their portfolio assets, making it easy to share files and collaborate on the portfolio creation process. S3 integrates seamlessly with other AWS services, such as EC2 and Lambda, allowing teams to build powerful applications and workflows that leverage their portfolio assets stored in S3.

EC2 (Elastic Compute Cloud) provides scalable computing resources that can be used to host the group's portfolio website or application. EC2 instances can be easily provisioned and configured to meet the team's specific needs, providing reliable and efficient compute power to support their portfolio. By leveraging EC2, teams can ensure that their portfolio website or application is highly available, scalable, and cost-effective.

EC2 also provides a range of security and compliance features that can help teams protect their portfolio assets and meet regulatory requirements. For example, EC2 instances can be configured with security groups that control inbound and outbound traffic to the instances, ensuring that only authorized traffic is allowed. Additionally, EC2 instances can be configured to meet compliance requirements such as HIPAA and PCI DSS.

Lambda is a serverless compute service that allows teams to run code without provisioning or managing servers. Lambda can be used to build powerful and flexible workflows that leverage portfolio assets stored in S3. For example, teams can create Lambda functions that automatically resize images or convert video files to a specific format, saving time and effort in the portfolio creation process.

AWS provides a range of tools and services that can help teams monitor and manage their portfolio resources. For example, CloudWatch provides monitoring and logging for EC2 instances, allowing teams to track performance metrics and troubleshoot issues. CloudFormation provides a way to provision and manage AWS resources in a predictable and repeatable way, making it easy to deploy and manage portfolio resources at scale.

In conclusion, AWS services such as S3, EC2, and Lambda offer a range of benefits for creating, storing, and hosting group portfolios in the cloud. By leveraging these services, teams can ensure that their portfolio assets are secure, scalable, and cost-effective, while also taking advantage of the flexibility and power of the cloud. Additionally, AWS provides a range of tools and services for monitoring and managing portfolio resources, making it easy to create and maintain a robust and effective group portfolio.

Learning Outcomes

AWS (Amazon Web Services) is a cloud-based platform that offers a range of services to help organizations build and run applications in the cloud. Some of the popular AWS services used in technology include S3, RDS, and EC2. Here are the learning outcomes for each of these services:

AWS S3 (Simple Storage Service)

Understand how to create S3 buckets and manage objects within those buckets

Learn how to set access control policies to ensure that data is secure and only accessible to authorized users

Understand the different storage classes and pricing models for S3, and how to choose the appropriate storage class for your needs

Learn how to use lifecycle policies to automate data transitions and reduce storage costs

Understand how to use S3 with other AWS services such as EC2, Lambda, and CloudFront to build powerful applications and workflows

AWS RDS (Relational Database Service)

Learn how to create and manage RDS instances using different database engines such as MySQL, PostgreSQL, and Oracle

Understand how to configure RDS instances for high availability and scalability, using features such as multi-AZ and read replicas

Learn how to use RDS with other AWS services such as EC2, Lambda, and CloudFormation to build powerful applications and workflows

Understand how to use monitoring and logging tools such as CloudWatch to track database performance and troubleshoot issues

Learn how to use RDS with AWS security features such as VPCs and security groups to ensure that data is secure and only accessible to authorized users

AWS EC2 (Elastic Compute Cloud)

Learn how to create and manage EC2 instances, and how to choose the appropriate instance type for your needs

Understand how to configure EC2 instances for high availability and scalability, using features such as Auto Scaling and Elastic Load Balancing

Learn how to use EC2 with other AWS services such as S3, RDS, and Lambda to build powerful applications and workflows

Understand how to use monitoring and logging tools such as CloudWatch to track instance performance and troubleshoot issues

Learn how to use EC2 with AWS security features such as VPCs and security groups to ensure that instances are secure and only accessible to authorized users

In summary, learning how to use AWS services such as S3, RDS, and EC2 can provide individuals with a range of skills and knowledge related to cloud computing and application development. These services can help organizations build secure, scalable, and cost-effective applications in the cloud, and can provide a range of opportunities for individuals to build their careers in technology.