



PARSHVANATH CHARITABLE TRUST'S

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**Academic Year: 2022-23**

**Department of Computer Engineering**

**CLOUD COMPUTING MINI PROJECT**

**PROJECT TITLE: Online Exam Portal**

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# Abstract :

- Our project focuses on the recent social problem of conduction of offline examinations. On account of this we have came up with the solution of online exam portal . this portal will provide a facility of complete assessment of student's test practice and performance.
- Online Examination is a process of conducting exam to check and know the knowledge of the students on a given topic. Online examination is a web-based test where exams are given and taken by students online through a computer system with high-speed internet or wifi is enabled.
- The primary goal of this online exam portal is to successfully examine the student consequences thoroughly via a very computerized device that no longer best lessons the time and produces fast and more accurate results. The online examination system is more trending in almost all the sectors because of its several advantages.

# Cloud services used :

- AWS EC2
- AWS IAM policies and roles
- AWS RDS

# AWS EC2

- Amazon Elastic Compute Cloud (EC2) is a web service that provides scalable computing capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. EC2 allows you to rent virtual computers, also known as instances, on which you can run your own applications.
- EC2 instances provide a range of computing capabilities, from small, inexpensive instances that are ideal for low-traffic websites and small applications, to high-performance instances optimized for compute-intensive workloads, such as gaming and scientific simulations.
- EC2 instances are available in multiple regions around the world, allowing you to place your instances closer to your customers or to meet regulatory requirements.

# AWS IAM policies and roles

- AWS Identity and Access Management (IAM) is a service that enables you to manage access to AWS services and resources securely. IAM allows you to create policies that define permissions for users, groups, and roles.
- IAM policies are JSON documents that specify the permissions for a user, group, or role. A policy can grant or deny permissions to perform specific actions on AWS resources. Policies can be attached to IAM identities (users, groups, or roles) or resources.
- IAM roles are similar to users, but they don't have permanent credentials and cannot make direct requests to AWS services. Instead, you can assume a role to obtain temporary security credentials that can be used to make requests to AWS services. Roles can be assumed by AWS services, such as EC2 instances, or by IAM users who have been granted permission to assume the role.

# AWS RDS:

- Amazon RDS (Relational Database Service) is a managed relational database service provided by Amazon Web Services (AWS) that makes it easy to set up, operate, and scale a relational database in the cloud. Here is some general information about AWS RDS:
1. Supported Database Engines: AWS RDS supports several popular relational database engines, including Amazon Aurora (compatible with MySQL and PostgreSQL), MySQL, PostgreSQL, Oracle Database, and Microsoft SQL Server.
  2. Managed Service: AWS RDS is a fully managed service, which means that AWS takes care of tasks such as database patching, backups, monitoring, scaling, and automated software patching, allowing you to focus on your applications rather than managing the underlying infrastructure.

# Conclusion

- In conclusion, leveraging AWS EC2 and RDS services can bring significant benefits to businesses and organizations:
  1. Flexibility: AWS EC2 provides scalable computing resources, while RDS offers managed relational databases, allowing businesses to choose the right compute and storage options for their applications and easily scale them as needed.
  2. Easy Deployment: AWS EC2 makes it simple to deploy virtual machines in the cloud with customizable configurations, while RDS automates many database management tasks, such as backups and patching, making it easy to set up and operate databases.