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Cloud Computing.
Project.

This project is created to utilize the following Amazon web services

- Compute: EC2
- Storage: S3
- Database: RDS
- Monitoring: CloudWatch
- High Availability Construct: Auto Scaling

The application hosted is to add Student Name and marks in Physics, Chemistry and Maths. The application will store and display the data stored in RDS. Below is the publicly available endpoint to add student info. To create a new entry please manually go to the URL

http://ec2-3-90-65-105.compute-1.amazonaws.com:5004/common

Note: There is no data validation in form name should be string and physics, chemistry, maths expects integer values. Once data is added it will redirect to /common/handle_data.

The student information added to the above URL will be saved in RDS. RDS credentials are as follows:

'HOST': 'dbs.csmofxkvikvw.us-east-1.rds.amazonaws.com',
'PORT': 3306,
'USER': 'admin',
'PASSWORD': 'Python#432',
'DB': 'aws_pro'

The endpoint for the storage application to upload and download file from S3 bucket is as below. S3 bucket name is: myawspro

http://ec2-3-90-65-105.compute-1.amazonaws.com:5004/common/storage

This is another endpoint to fetch the file names and last modified time:

http://ec2-3-90-65-105.compute-1.amazonaws.com:5004/common/files

Note: This endpoint has nothing to do with the above data. It's just reading the file info present in this bucket.

For High availability construct the EC2 instance is added to auto scaling group with max of 3 instances and min of 1 instance. Whenever the CPU utilisation is greater than 60% will add one more instance and if the CPU utilisation is less than 40% will reduce one instance. The monitoring of the CPU utilization is monitored through cloudwatch

Amazon Web service is a secure cloud services used for different purposes like data storage, data base or monitoring web application. Here we used Amazon web service for the running web and application servers in the cloud to host dynamics. Where we have used EC2, RDS and S3 .it has high availability zones. for high availability to construct we used Route S3, Auto Scaling.S3 is used to store data .it is a repository for data storage internet.it provides a fast and reliable data storage infrastructure. Amazon EC2 is used to store snapshots picture through S3 in we used AMIs for launching EC2 instances. here EC2 is also uses S3 to store snapshots or backup copies. Every data stored IN S3 in a bucket. The buckets in S3 organizes the namespace at the highest level and identify the account responsible for data storage.

High availability actually protects against data Centre, availability zone, server, network and storage subsystems failure to keep your business running downtime .it is cost effective .it easily manage to create DNS records.it helps to answers request to translate specific domain names like into their corresponding IP addresses.it additionally checks to monitor the health and performance of the application as well as your web services.

So here in this project AWS is utilized where EC2 is used to instance and to create images or snapshots to convert data to S3 where S3 is bucket where all data is stored.

The python file is hosted on EC2. it minimizes or maximizes the capacity within hours.it gives the complete control of computer resources.in RDS which is the storage where data is to be stored. The info added to the page is stored in the RDS in the form of user, password etc. form the RDS user can enter it to reopen the file or page. After file is being ready it is saved in S3 bucket. You can download the file form S3 bucket through the given link in the document. This is the project I made and use the features above