

Capstone Project Selection Secured by AWS

Our team implements AWS services for the selection process of Capstone projects and approvals. We have noticed that the Excel spreadsheet hosted on Google had full public access to all features of the spreadsheet, which caused chaos between students from deleting students project selection to modifying project titles. We will implement a security framework utilizing AWS services that will give students limited access to the spreadsheet to prevent them from modifying anything out of bounds all while using FIU (Florida International University) credentials. This information will be secured on a virtualized cloud within a storage instance that can only be accessed through specific roles.

Database

VPC: CapstoneTech (vpc-03637a9b753486f54)

RDS: mysqlrds1

Security Policy: sg-005ccd610f4a3d7e5 - ec2-rds-3

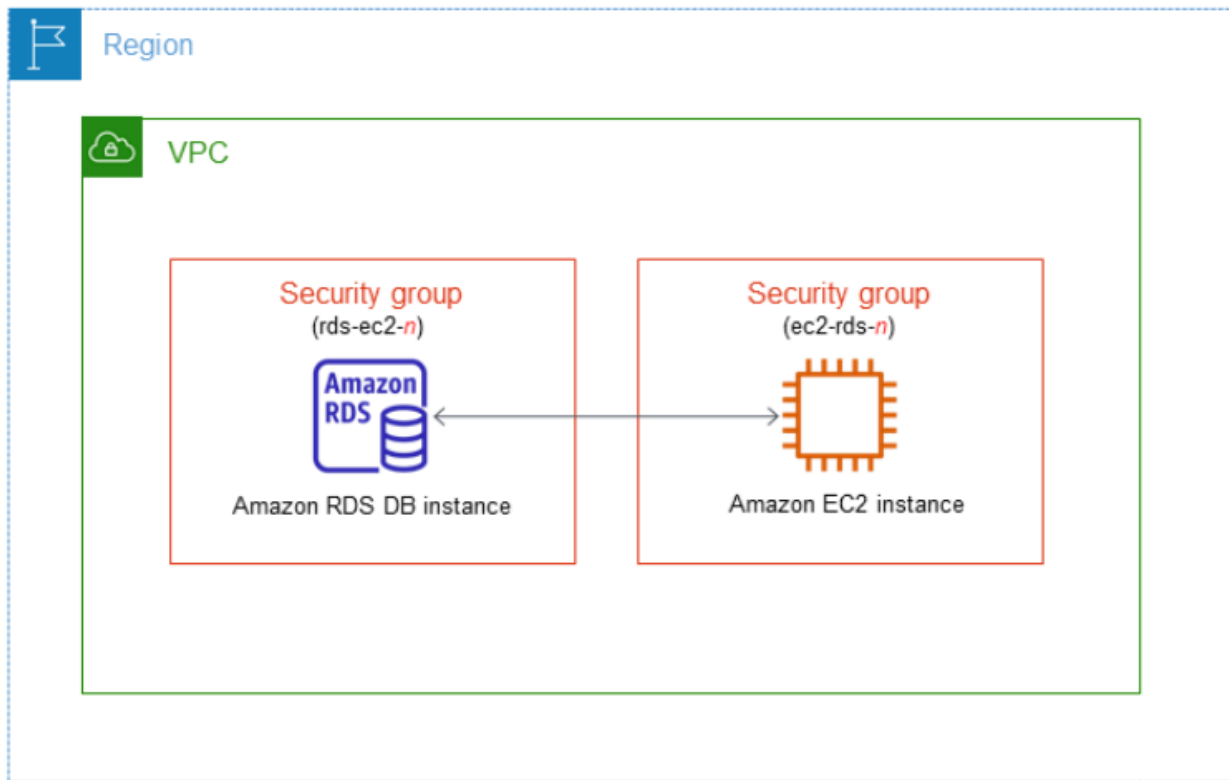
Outbound rules

IP Version	Type	Protocol	Port	Source	Desc
Not specified	MYSQL/Aurora	TCP	3306	sg-08c05cc5142ec9963 / rds-ec2-3	Rule to allow RDS and EC2 to connect

The capstone2spring23 database is used to store data about the students. The currently stored includes:

- Name
- Email
- Program
- Level
- Class
- Mode
- Project selected

The database is being stored on an amazon RDS (relational database) secured using the default VPC. When configured, the RDS can strictly send data between the database and the EC2 instance while blocking all other traffic.



The RDS is connected to AWS ElastiCache. This will allow the information stored in the database to be accessed almost instantly as it is cached on the ElastiCache instance. ElastiCache ensures performance and scalability, allowing for all CAP 1 and 2 students to simultaneously access the database. The ElastiCache will also document and changes that occur to the database along with creating automatic backups.

