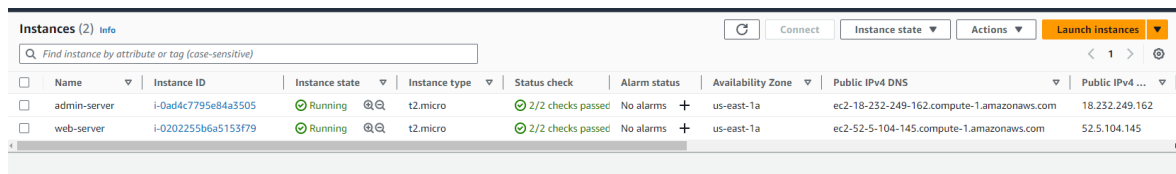


COSC349 Assignment 2 Report

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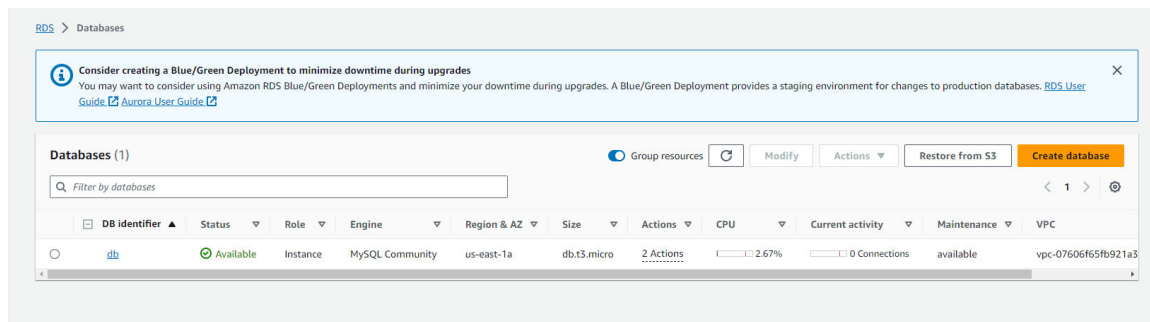
For this assignment I have decided to extend my assignment 1. I have created two EC2 instances, one for hosting the student signup (web-server) from webpage and another for the admin access web-page(admin-server).



The screenshot shows the AWS Management Console 'Instances' page. It lists two EC2 instances: 'admin-server' and 'web-server'. Both are in a 'Running' state, using 't2.micro' instances, and have '2/2 checks passed'. They are located in the 'us-east-1a' availability zone. The 'admin-server' has a public IP of 18.232.249.162, and the 'web-server' has a public IP of 52.5.104.145.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
admin-server	i-0ad4c7795e84a3505	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-18-232-249-162.compute-1.amazonaws.com	18.232.249.162
web-server	i-0202255b6a5153f79	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-52-5-104-145.compute-1.amazonaws.com	52.5.104.145

I have decided to use a Amazon RDS instance using MySQL to store student signup information. My reasoning for using RDS is because it simplifies database management and supports MySQL. It also has some added interesting features such as Amazon Cloudwatch which can track the performance of the RDS. Also I found that it is relatively cheap to use.



The screenshot shows the AWS Management Console 'Databases' page. It displays a single RDS instance named 'db' with a status of 'Available'. The instance is of type 'db.t3.micro' in the 'us-east-1a' availability zone. It is a MySQL Community edition instance. The CPU usage is 2.67% and there are 0 connections. The instance is associated with a VPC 'vpc-07606f65fb921a3'.

DB identifier	Status	Role	Engine	Region & AZ	Size	Actions	CPU	Current activity	Maintenance	VPC
db	Available	Instance	MySQL Community	us-east-1a	db.t3.micro	2 Actions	2.67%	0 Connections	available	vpc-07606f65fb921a3

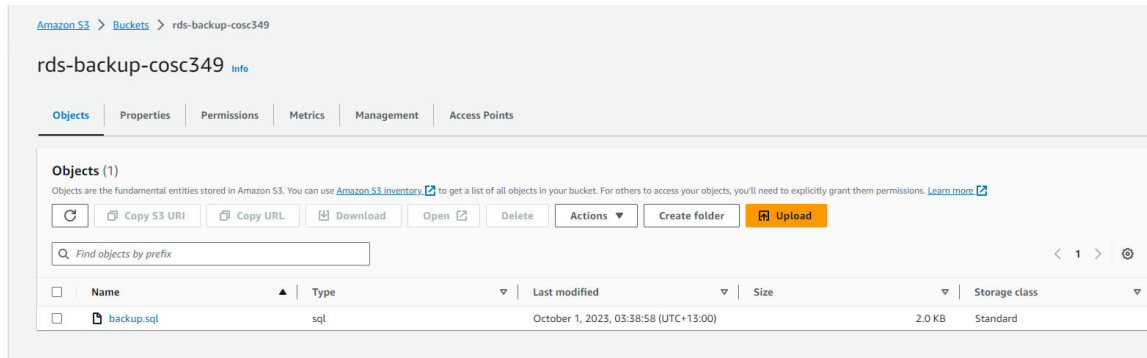
And for my other non-ec2 cloud service I used Amazon S3. I created a bucket that stores backups of the MySQL database.



The screenshot shows the Amazon S3 console. It displays a bucket named 'rds-backup-cosc349' in the 'US East (N. Virginia) us-east-1' region. The bucket's access is set to 'Bucket and objects not public'. It was created on October 1, 2023, at 03:18:43 (UTC+13:00).

Name	AWS Region	Access	Creation date
rds-backup-cosc349	US East (N. Virginia) us-east-1	Bucket and objects not public	October 1, 2023, 03:18:43 (UTC+13:00)

I have the backup.sh file, from my git repo, in my web-server which copies the current state of the sql database into the file 'backup.sql' and stores it into the s3 bucket.



I have also added scheduling to the backup script. At the moment it is set to run the script every week on Monday at 1am. The reason I used S3 Buckets is because it has great scaling and can hold a large number of data which means I can store backups from further back. Also S3 buckets make it very easy to access the backup, so if a backup is needed quickly in an emergency, using S3 helps with quick retrieval and less downtime. Similar to RDS, I found S3 to be relatively cheap to use.

Screen recording:

https://otagouni-my.sharepoint.com/:v:/g/personal/fitbe930_student_otago_ac_nz/EUCex6s2YuROJhoaMPcKJ5QB7lNsUYaU62PfVLKAQ4e8Jg?nav=eyJyZWZlcnJhbEluZm8iOmsicmVmZXJyYWxBcHAIiOiJpbmVEcmI2ZUzvcj1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9yYSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0RpcmVjdCJ9fQ&e=Pt7Jyl

In my EC2 instances section I copy and pasted the public IP of my web-server ec2 into a web browser which brings up the webpage showing a student signup form, I enter in my details and click submit. I then copy and paste the public IP for my admin-server which brings up the admin login page and I enter admin login details. Now I can see the Student database and can delete entries from it. I delete the entry I just added before and then can logout back to the admin login page.

Running costs:

Looking at my AWS Cost Explorer it shows:

- EC2 instances have a daily average cost of \$0.03
- RDS instance has a daily average cost of \$0.19
- S3 currently cost nothing to run.

Looking at AWS pricing resources online it shows:

- Two EC2 instances of size t2.micro costs 0.0116/hour
- RDS of size db.t3.micro costs \$0.017/hour
- I am also using Elastic IP addresses for both my EC2 instances which costs \$0.005/hour