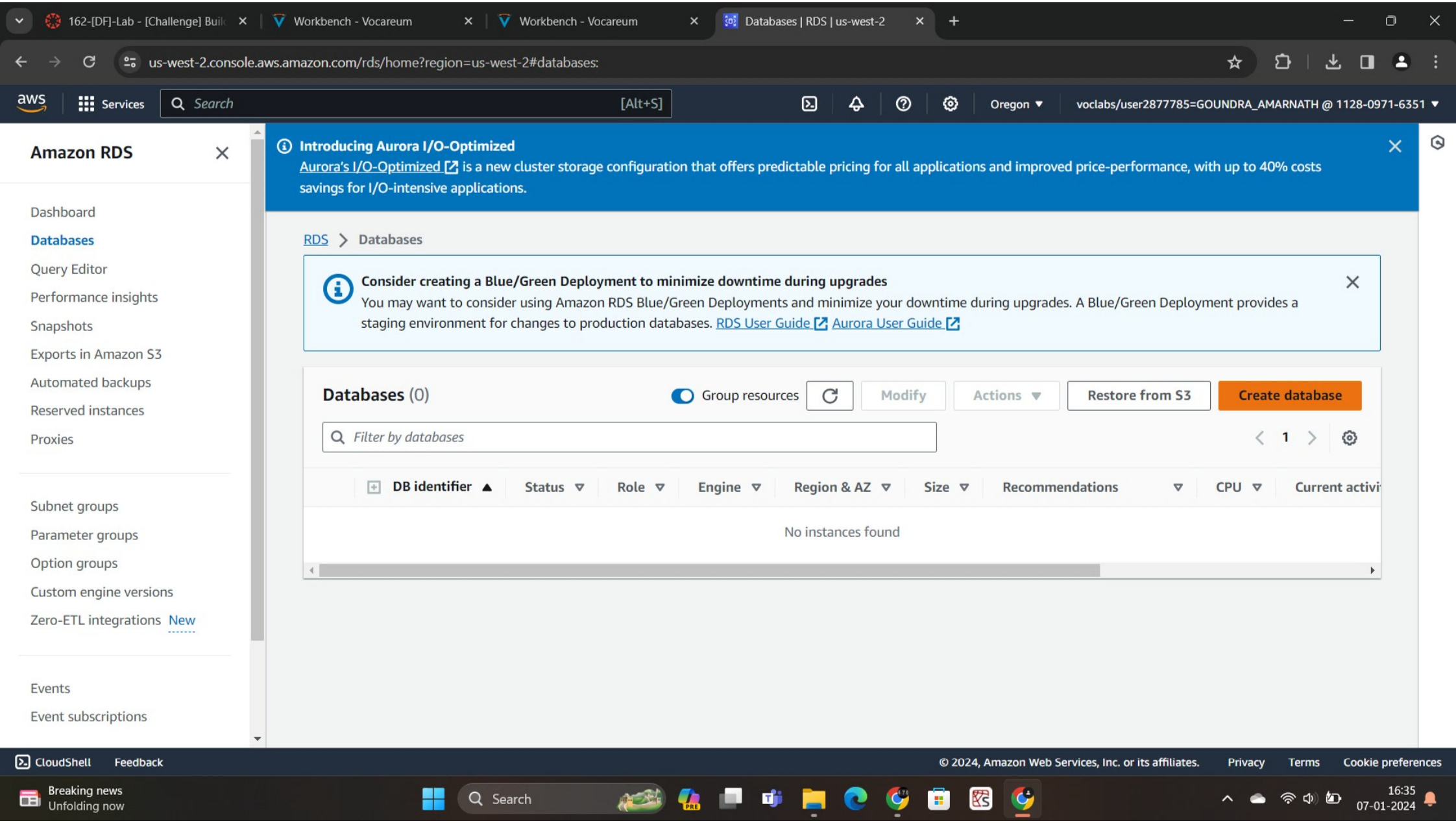
Task 1: Create an Aurora instance

In this task, you create an Aurora database (DB) instance.

5. In the AWS Management Console, choose the **Services** menu. Choose **Database**, and choose **RDS**.
6. In the left navigation menu, choose **Databases**.
7. Choose **Create database** and then configure the following options:
   - For **Choose a database creation method**, choose **Standard create**.
   - For **Engine options**, choose **Amazon Aurora**.
   - In the **Engine options** section for **Replication features**, choose **Single-master** (if this option is not selected by default).
   - For **Templates**, choose **Dev/Test**.
8. In the **Settings** section, configure the following options:
   - **DB cluster identifier:** Enter `aurora`
   - **Master username:** Enter `admin`
   - **Master password:** Enter `admin123`
   - **Confirm password:** Enter `admin123`
9. In the **DB instance class** section, choose **Burstable classes**, and choose **db.t3.small** from the dropdown list.
10. In the **Availability & durability** section for **Multi-AZ deployment**, choose **Don't create an Aurora Replica**.

    Amazon RDS Multi-AZ deployments provide enhanced availability and durability for DB instances, making them a natural fit for production database workloads. When you provision a Multi-AZ DB instance, Amazon RDS automatically creates a primary DB instance and synchronously replicates the data to a standby instance in a different Availability Zone.


162-[DF]-Lab - [Challenge] Buil
Workbench - Vocareum
Workbench - Vocareum
Databases | RDS | us-west-2
us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#databases:
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Amazon RDS
Dashboard
Databases
Query Editor
Performance insights
Snapshots
Exports in Amazon S3
Automated backups
Reserved instances
Proxies
Subnet groups
Parameter groups
Option groups
Custom engine versions
Zero-ETL integrations New
Events
Event subscriptions
Introducing Aurora I/O-Optimized
Aurora's I/O-Optimized is a new cluster storage configuration that offers predictable pricing for all applications and improved price-performance, with up to 40% costs savings for I/O-intensive applications.
RDS > Databases
Consider creating a Blue/Green Deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. RDS User Guide Aurora User Guide
Databases (0)
Group resources
Modify
Actions
Restore from S3
Create database
Filter by databases
1
DB identifier
Status
Role
Engine
Region & AZ
Size
Recommendations
CPU
Current activi
No instances found
CloudShell
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Choose a database creation method Info

- (•) **Standard create**
  You set all of the configuration options, including ones for availability, security, backups, and maintenance.
- ( ) **Easy create**
  Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

- (•) Aurora (MySQL Compatible)
- ( ) Aurora (PostgreSQL Compatible)
- ( ) MySQL
- ( ) MariaDB
- ( ) PostgreSQL
- ( ) Oracle

View the engine versions that support the following database features.

Available versions (23/23) Info

Aurora (MySQL 5.7) 2.11.4 - default for major version 5.7

⚠ Parallel query is off by default. To enable it, use a DB instance parameter group with the aurora_parallel_query parameter enabled. Learn more

Templates

Choose a sample template to meet your use case.

- ○ Production
  Use defaults for high availability and fast, consistent performance.
- ◉ Dev/Test
  This instance is intended for development use outside of a production environment.

Settings

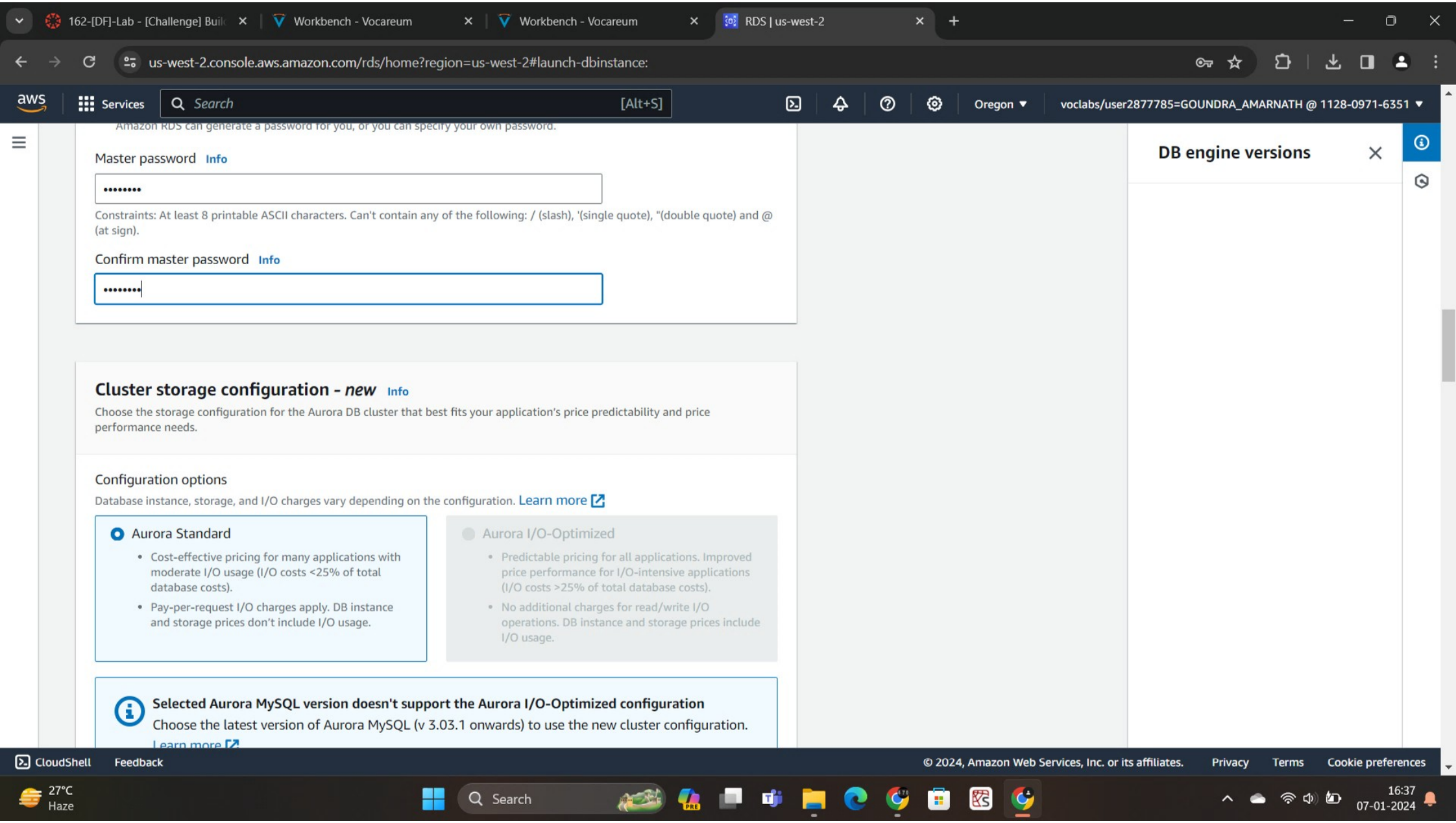
DB cluster identifier Info

Enter a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

database-1

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

DB engine versions ×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Workbench - Vocareum
Workbench - Vocareum
RDS | us-west-2
us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:
aws
Services
Search
[Alt+S]
Oregon
voclabs/user2877785=GOUNDRA_AMARNATH @ 1128-0971-6351
Amazon RDS can generate a password for you, or you can specify your own password.
Master password Info
Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), '(single quote), "(double quote) and @ (at sign).
Confirm master password Info
DB engine versions
Cluster storage configuration - new Info
Choose the storage configuration for the Aurora DB cluster that best fits your application's price predictability and price performance needs.
Configuration options
Database instance, storage, and I/O charges vary depending on the configuration. Learn more
Aurora Standard
Cost-effective pricing for many applications with moderate I/O usage (I/O costs <25% of total database costs).
Pay-per-request I/O charges apply. DB instance and storage prices don't include I/O usage.
Aurora I/O-Optimized
Predictable pricing for all applications. Improved price performance for I/O-intensive applications (I/O costs >25% of total database costs).
No additional charges for read/write I/O operations. DB instance and storage prices include I/O usage.
Selected Aurora MySQL version doesn't support the Aurora I/O-Optimized configuration
Choose the latest version of Aurora MySQL (v 3.03.1 onwards) to use the new cluster configuration.
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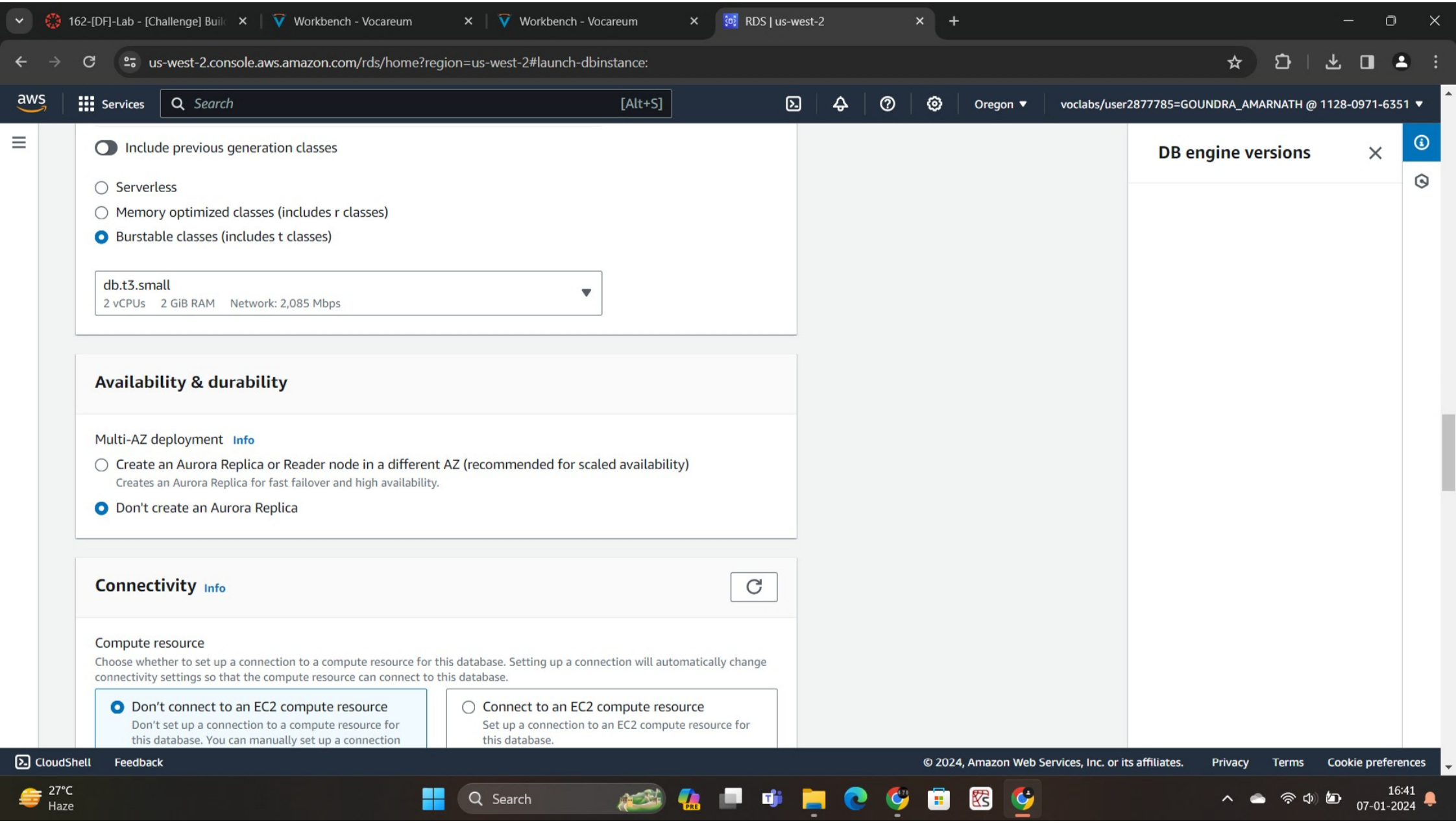
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Workbench - Vocareum
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RDS | us-west-2
us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:
aws
Services
Search
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Oregon
voclabs/user2877785=GOUNDRA_AMARNATH @ 1128-0971-6351
Include previous generation classes
Serverless
Memory optimized classes (includes r classes)
Burstable classes (includes t classes)
db.t3.small
2 vCPUs 2 GiB RAM Network: 2,085 Mbps
Availability & durability
Multi-AZ deployment Info
Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)
Creates an Aurora Replica for fast failover and high availability.
Don't create an Aurora Replica
Connectivity Info
Compute resource
Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.
Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection
Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.
DB engine versions
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Choose the VPC. The VPC defines the virtual networking environment for this DB cluster.

LabVPC (vpc-0a8cb4f1addc5be98)
2 Subnets, 2 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change its VPC.

DB subnet group Info

Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB cluster can use in the VPC that you selected.

dbsubnetgroup
2 Subnets, 2 Availability Zones

Public access Info

- Yes
  RDS assigns a public IP address to the cluster. Amazon EC2 instances and other resources outside of the VPC can connect to your cluster. Resources inside the VPC can also connect to the cluster. Choose one or more VPC security groups that specify which resources can connect to the cluster.
- No
  RDS doesn't assign a public IP address to the cluster. Only Amazon EC2 instances and other resources inside the VPC can connect to your cluster. Choose one or more VPC security groups that specify which resources can connect to the cluster.

VPC security group (firewall) Info

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

- Choose existing
  Choose existing VPC security groups
- Create new
  Create new VPC security group

Existing VPC security groups

DB engine versions

Existing VPC security groups

Choose one or more options

DBSecurityGroup

Availability Zone Info

No preference

RDS Proxy

RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

Create an RDS Proxy Info

RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing.

Certificate authority - *optional* Info

Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-2019 (default)
Expiry: Aug 22, 2024

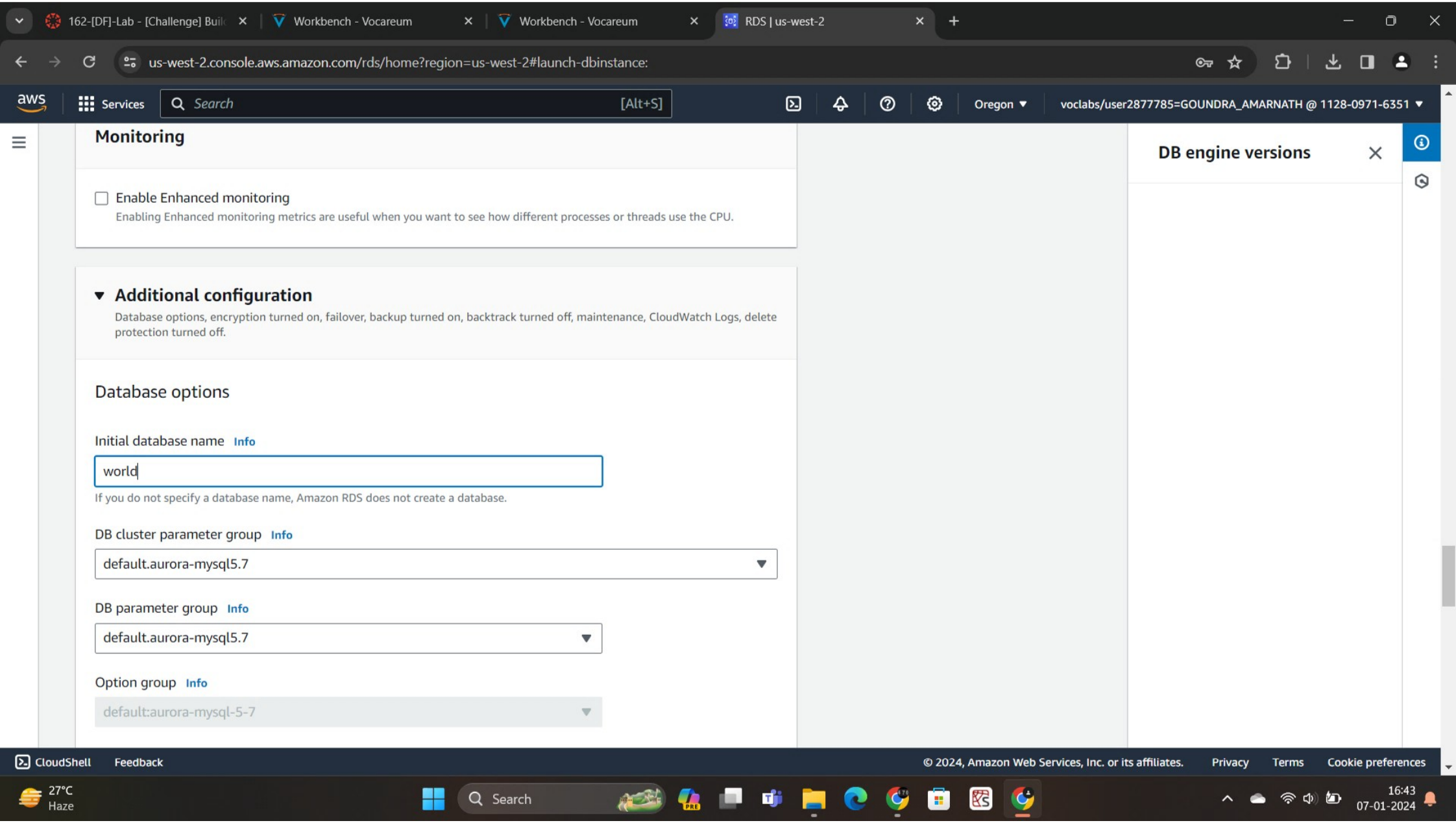
If you don't select a certificate authority, RDS chooses one for you.

▶ Additional configuration

Database authentication

Database authentication options Info

DB engine versions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aws
Services
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Oregon
voclabs/user2877785=GOUNDRA_AMARNATH @ 1128-0971-6351
Monitoring
Enable Enhanced monitoring
Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.
Additional configuration
Database options, encryption turned on, failover, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.
Database options
Initial database name Info
world
If you do not specify a database name, Amazon RDS does not create a database.
DB cluster parameter group Info
default.aurora-mysql5.7
DB parameter group Info
default.aurora-mysql5.7
Option group Info
default:aurora-mysql-5-7
DB engine versions
CloudShell
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Search
16:43
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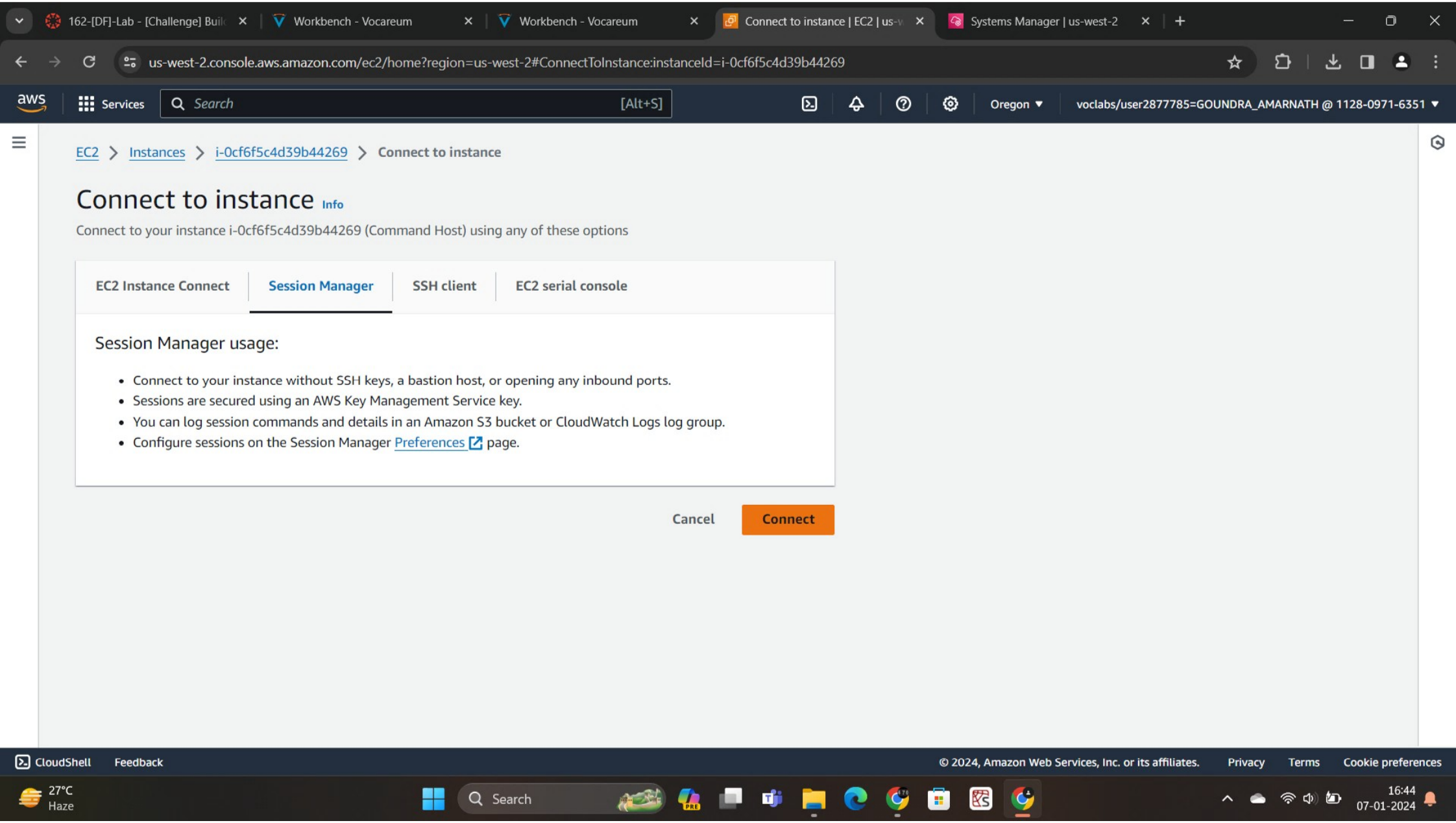
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Workbench - Vocareum
Workbench - Vocareum
Connect to instance | EC2 | us-
Systems Manager | us-west-2
us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#ConnectToInstance:instanceId=i-0cf6f5c4d39b44269
aws
Services
Search
[Alt+S]
Oregon
voclabs/user2877785=GOUNDRA_AMARNATH @ 1128-0971-6351
EC2 > Instances > i-0cf6f5c4d39b44269 > Connect to instance
Connect to instance Info
Connect to your instance i-0cf6f5c4d39b44269 (Command Host) using any of these options
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Session Manager usage:
Connect to your instance without SSH keys, a bastion host, or opening any inbound ports.
Sessions are secured using an AWS Key Management Service key.
You can log session commands and details in an Amazon S3 bucket or CloudWatch Logs log group.
Configure sessions on the Session Manager Preferences page.
Cancel
Connect
CloudShell
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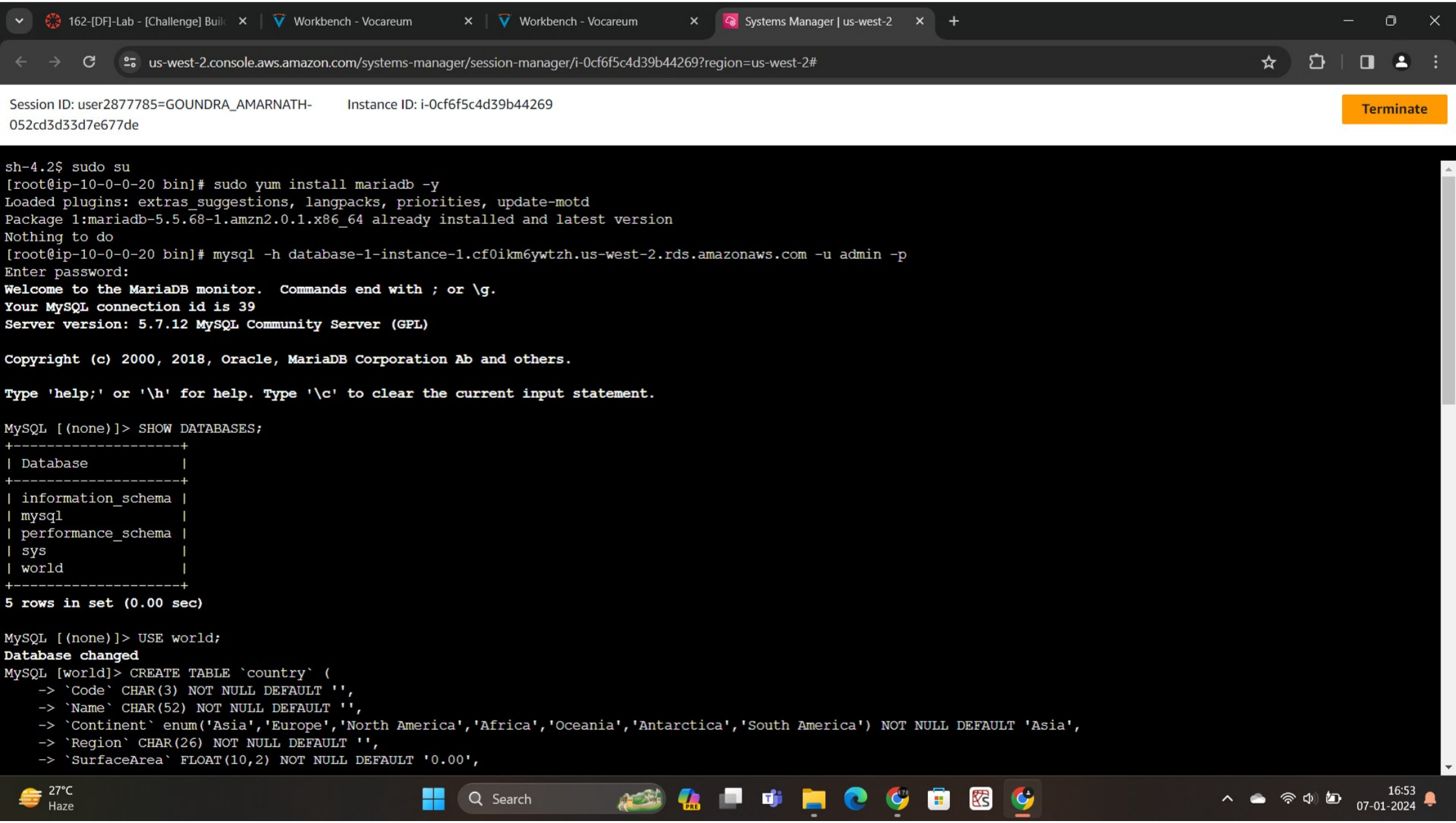
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Workbench - Vocareum
Workbench - Vocareum
Systems Manager | us-west-2
us-west-2.console.aws.amazon.com/systems-manager/session-manager/i-0cf6f5c4d39b44269?region=us-west-2#
Session ID: user2877785=GOUNDRA_AMARNATH-052cd3d33d7e677de
Instance ID: i-0cf6f5c4d39b44269
Terminate
sh-4.2$ sudo su
[root@ip-10-0-0-20 bin]# sudo yum install mariadb -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Package 1:mariadb-5.5.68-1.amzn2.0.1.x86_64 already installed and latest version
Nothing to do
[root@ip-10-0-0-20 bin]# mysql -h database-1-instance-1.cf0ikm6ywtzh.us-west-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MySQL connection id is 39
Server version: 5.7.12 MySQL Community Server (GPL)
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
MySQL [(none)]> SHOW DATABASES;
+--------------------+
| Database |
+--------------------+
| information_schema |
| mysql |
| performance_schema |
| sys |
| world |
+--------------------+
5 rows in set (0.00 sec)
MySQL [(none)]> USE world;
Database changed
MySQL [world]> CREATE TABLE `country` (
-> `Code` CHAR(3) NOT NULL DEFAULT '',
-> `Name` CHAR(52) NOT NULL DEFAULT '',
-> `Continent` enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America') NOT NULL DEFAULT 'Asia',
-> `Region` CHAR(26) NOT NULL DEFAULT '',
-> `SurfaceArea` FLOAT(10,2) NOT NULL DEFAULT '0.00',
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16:53
07-01-2024