

LAB 2:

Create a new bucket, upload an object, allow public access enable versioning and configure a lifecycle



1-

The screenshot shows the AWS S3 console with the 'General purpose buckets' tab selected. There are 11 buckets listed:

Name	AWS Region	IAM Access Analyzer	Creation date
aalaa-essam	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 13:04:55 (UTC+02:00)
abdullah-s3-lab2	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 12:44:07 (UTC+02:00)
ahmedhamdy-abdl	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 12:55:49 (UTC+02:00)

2-

The screenshot shows the 'Create bucket' wizard in the AWS S3 console. The 'General configuration' step is selected. The 'Bucket name' field contains 'sara-bucket'. The 'Bucket type' section shows 'General purpose' selected, with a description: 'Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.' The 'Directory' option is also shown with its description: 'Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.'

3-

The screenshot shows the 'Create bucket' page in the AWS S3 console. The URL is us-east-1.console.aws.amazon.com/s3/bucket/create?region=us-east-1&bucketType=general. The page title is 'Amazon S3 > Buckets > Create bucket'. A sidebar on the left contains various AWS service icons. The main content area is titled 'BLOCK PUBLIC ACCESS settings for this bucket'. It explains that public access is granted through ACLs, bucket policies, access point policies, or all. It recommends turning on 'Block all public access' to ensure public access is blocked. Below this, there are four checkboxes: 'Block all public access' (unchecked), 'Block public access to buckets and objects granted through new access control lists (ACLs)' (unchecked), 'Block public access to buckets and objects granted through any access control lists (ACLs)' (unchecked), and 'Block public access to buckets and objects granted through new public bucket or access point policies' (unchecked). A note below the checkboxes states: 'Turning off block all public access might result in this bucket and the objects within becoming public. AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.' A checkbox labeled 'I acknowledge that the current settings might result in this bucket and the objects within becoming public.' is present. At the bottom right of the page, there are links for 'CloudShell', 'Feedback', '© 2025, Amazon Web Services, Inc. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

4-

The screenshot shows the 'Buckets' page in the AWS S3 console. The URL is us-east-1.console.aws.amazon.com/s3/buckets?region=us-east-1&bucketType=general. The page title is 'Amazon S3 > Buckets'. A green success message at the top says 'Successfully created bucket "sara-bucket-day2"'. It includes a link to 'View details' and a close button. Below this, there is an 'Account snapshot - updated every 24 hours' section with a link to 'View Storage Lens dashboard'. The main content area shows two tabs: 'General purpose buckets' (selected) and 'Directory buckets'. Under 'General purpose buckets', there is a table with 15 entries. The columns are 'Name', 'AWS Region', 'IAM Access Analyzer', and 'Creation date'. The table includes a search bar, sorting icons, and a 'Create bucket' button. The data in the table is as follows:

Name	AWS Region	IAM Access Analyzer	Creation date
alaa-essam	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 13:04:55 (UTC+02:00)
abdullah-s3-lab2	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 12:44:07 (UTC+02:00)
adelramadansabere	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 13:10:58 (UTC+02:00)
ahmedhamdy-abdl	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 12, 2025, 12:55:49 (UTC+02:00)

At the bottom right of the page, there are links for 'CloudShell', 'Feedback', '© 2025, Amazon Web Services, Inc. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

5-

The screenshot shows the AWS S3 console's upload interface. In the top navigation bar, the URL is `us-east-1.console.aws.amazon.com/s3/upload/sara-bucket-day2?region=us-east-1&bucketType=general`. The left sidebar has icons for various AWS services like CloudWatch, Lambda, and CloudFront. The main content area shows an 'Upload' step with a large dashed box for dragging files or choosing them. Below it, a table lists 'Files and folders (1 total, 67.9 KB)'. A single file, `5_55304.jpg`, is listed with a size of 67.9 KB and type Image/jpeg. There are buttons for 'Remove', 'Add files', and 'Add folder'. Under 'Destination', the URL `s3://sara-bucket-day2` is specified. A summary table at the bottom shows one succeeded file and zero failed files.

6-

The screenshot shows the AWS S3 console after the upload has completed successfully. A green notification bar at the top says 'Upload succeeded' with a link to 'See the Files and folders table'. Below this, a 'Summary' section shows the destination was `s3://sara-bucket-day2` and the upload was successful. The 'Files and folders' tab is selected, showing the same table as before but with a green checkmark next to the file entry indicating success. The status column shows 'Succeeded' for the single file.

7-

us-east-1.console.aws.amazon.com/s3/bucket/sara-bucket-day2/property/oo/edit?region=us-east-1&bucketType... [Alt+S]

Amazon S3 > Buckets > sara-bucket-day2 > Edit Object Ownership

We recommend disabling ACLs, unless you need to control access for each object individually or to have the object writer own the data they upload. Using a bucket policy instead of ACLs to share data with users outside of your account simplifies permissions management and auditing.

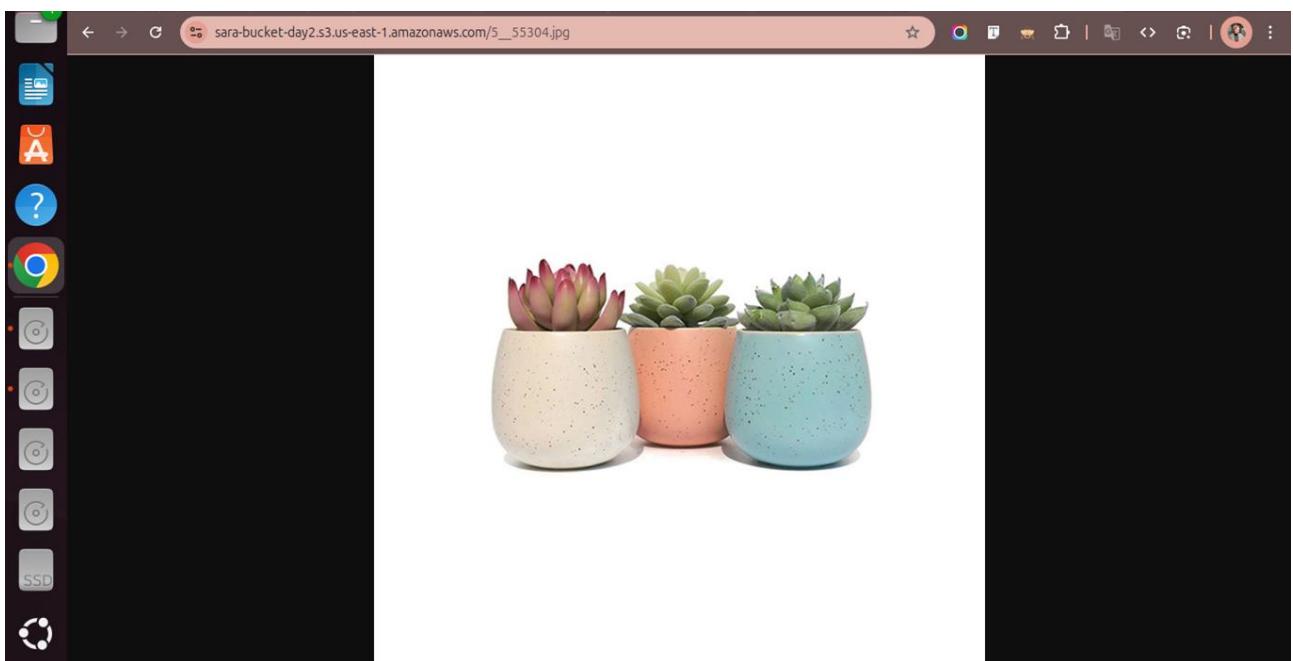
⚠️ Enabling ACLs turns off the bucket owner enforced setting for Object Ownership
Once the bucket owner enforced setting is turned off, access control lists (ACLs) and their associated permissions are restored. Access to objects that you do not own will be based on ACLs and not the bucket policy.
 I acknowledge that ACLs will be restored.

Object Ownership
 Bucket owner preferred
If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.
 Object writer
The object writer remains the object owner.

If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads.
[Learn more](#)

Cancel Save changes

8-



9-

The screenshot shows the 'Edit Bucket Versioning' page in the AWS S3 console. On the left, there's a sidebar with various AWS services like Amazon S3, General purpose buckets, Storage Lens, and CloudShell. The main content area has a title 'Edit Bucket Versioning' with a 'Info' link. A section titled 'Bucket Versioning' explains what it is and provides two options: 'Suspend' (which suspends object version creation) and 'Enable' (which is selected). A note below says 'After enabling Bucket Versioning, you might need to update your lifecycle rules to manage previous versions of objects.' Another section, 'Multi-factor authentication (MFA) delete', discusses its use for security. At the bottom right are 'Cancel' and 'Save changes' buttons.

10-

The screenshot shows the 'Create lifecycle rule' page in the AWS S3 console. The sidebar on the left includes 'Amazon S3', 'Buckets', 'Lifecycle configuration', and 'Create lifecycle rule'. The main area starts with 'Choose a rule scope' where 'Apply to all objects in the bucket' is selected. Below this is a note about applying to specific objects via filters. The next section, 'Lifecycle rule actions', contains several checkboxes: 'Transition current versions of objects between storage classes' (unchecked), 'Transition noncurrent versions of objects between storage classes' (unchecked), 'Expire current versions of objects' (checked), 'Permanently delete noncurrent versions of objects' (checked), and 'Delete expired object delete markers or incomplete multipart uploads' (unchecked). The note for the last action states it's unsupported for filtering by object tags or size.

11-

Days after object creation
30

Permanently delete noncurrent versions of objects
Choose when Amazon S3 permanently deletes specified noncurrent versions of objects. [Learn more](#)

Days after objects become noncurrent
7

Number of newer versions to retain - Optional
Number of versions

Can be 1 to 100 versions. All other noncurrent versions will be moved.

Review transition and expiration actions

Current version actions	Noncurrent versions actions
Day 0 <ul style="list-style-type: none">Objects uploaded	Day 0 <ul style="list-style-type: none">Objects become noncurrent

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12-

The rule "Sara-delete-old-versions" has been successfully added and the lifecycle configuration has been updated. It may take some time for the configuration to be updated. Refresh the lifecycle rules list if changes to the configuration aren't displayed.

Lifecycle configuration

To manage your objects so that they are stored cost effectively throughout their lifecycle, configure their lifecycle. A lifecycle configuration is a set of rules that define actions that Amazon S3 applies to a group of objects. Lifecycle rules run once per day.

Default minimum object size for transitions
All storage classes 128K

Lifecycle rules (1)

Use lifecycle rules to define actions you want Amazon S3 to take during an object's lifetime such as transitioning objects to another storage class, archiving them, or deleting them after a specified period of time. [Learn more](#)

Lifecycle rule ...	Status	Scope	Current versio...	Noncurrent ve...	Expired object ...	Incomplete multi...
Sara-delete-old-versions	Enabled	Entire bucket	Expires	Permanently delete	-	-

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LAB 3:

Create a new RDS instance of MySQL engine then connect to it and create DB or Table with your name.

1-

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#

Aurora and RDS > Dashboard

Aurora and 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](#)

DB Instance (0/100)
Automated
DB Cluster (0)
DB Instance (5)
Recent events (32)
Event subscriptions (0/20)

Create database

Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale a relational database in the cloud.

[Create database](#) [Restore from S3](#)

Note: your DB Instances will launch in the **US East (N. Virginia)** region

Service health

Current status | Details

Amazon Relational Database Service (N. Virginia) Service is operating normally

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2-

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

Aurora and RDS > Create database

Engine options

Engine type [Info](#)

MySQL

Aurora (MySQL Compatible) 

Aurora (PostgreSQL Compatible) 

PostgreSQL 

MariaDB 

Oracle 

Microsoft SQL Server 

IBM Db2 

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

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3-

Settings

DB instance identifier [Info](#)
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

The DB instance Identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 63 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management
You can use AWS Secrets Manager or manage your master user credentials.

Managed in AWS Secrets Manager - most secure
RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.

Self managed
Create your own password or have RDS create a password that you manage.

If you manage the master user credentials in AWS Secrets Manager, additional charges apply. See [AWS Secrets Manager pricing](#). Additionally, some RDS features aren't supported. See [limitations here](#).

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

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- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
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4-

Storage

Storage type [Info](#)
Provisioned IOPS SSD (io2) storage volumes are now available.
 Burstable classes (includes t classes)

Standard classes (includes m classes)
 Memory optimized classes (includes r and x classes)

db.t4g.micro
2 vCPUs 1 GiB RAM Network: Up to 2,085 Mbps

Allocated storage [Info](#)
Allocated storage value must be 20 GiB to 6,144 GiB
 GiB

Additional storage configuration

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

5-

The screenshot shows the AWS EC2 Instances Launch an instance page. A green success message box at the top states: "Success Successfully initiated launch of instance (i-0bcd1649a4b5190f8)". Below this, there's a "Launch log" link. A "Next Steps" section contains several cards:

- Create billing and free tier usage alerts**: To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds. Includes a "Create billing alerts" button.
- Connect to your instance**: Once your instance is running, log into it from your local computer. Includes "Connect to instance" and "Learn more" buttons.
- Connect an RDS database**: Configure the connection between an EC2 Instance and a database to allow traffic flow between them. Includes "Connect an RDS database", "Create a new RDS database", and "Learn more" buttons.
- Create EBS snapshot policy**: Create a policy that automates the creation, retention, and deletion of EBS snapshots. Includes a "Create EBS snapshot policy" button.

At the bottom, there are links for CloudShell, Feedback, and a footer with copyright information and links for Privacy, Terms, and Cookie preferences.

6-

The screenshot shows the AWS RDS Create database page for MySQL. It includes sections for:

- Credentials management**: Options for "Managed in AWS Secrets Manager - most secure" (radio button), "Self managed" (radio button selected), and "Auto generate password".
- Master password**: Fields for entering a master password and confirming it. Includes a "Password strength" indicator (Weak).
- Instance configuration**: A note stating "The DB Instance configuration options below are limited to those supported by the engine that you selected above." Includes "DB instance class" and "Hide filters" options.
- MySQL**: A sidebar with a description of MySQL as the most popular open source database and a bulleted list of its features.

At the bottom, there are links for CloudShell, Feedback, and a footer with copyright information and links for Privacy, Terms, and Cookie preferences.

7-

EC2 instance [Info](#)
Choose the EC2 Instance to add as the compute resource for this database. A VPC security group is added to this EC2 instance. A VPC security group is also added to the database with an inbound rule that allows the EC2 instance to access the database.

I-Obcd1649a4b5190f8
SaraMoawad-EC2

Some VPC settings can't be changed when a compute resource is added
Adding an EC2 compute resource automatically selects the VPC, DB subnet group, and public access settings for this database. To allow the EC2 instance to access the database, a VPC security group rds-ec2-X is added to the database and another called ec2-rds-X to the EC2 instance. You can remove the new security group for the database only by removing the compute resource.

Network type [Info](#)
To use dual-stack mode, make sure that you associate an IPv6 CIDR block with a subnet in the VPC you specify.

IPv4
Your resources can communicate only over the IPv4 addressing protocol.

Dual-stack mode
Your resources can communicate over IPv4, IPv6, or both.

Virtual private cloud (VPC) [Info](#)
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-09bccea0a1a3749e0)
6 Subnets, 6 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

[CloudShell](#) [Feedback](#)

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8-

Additional storage configuration

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 to a compute resource later.

Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

Network type [Info](#)
To use dual-stack mode, make sure that you associate an IPv6 CIDR block with a subnet in the VPC you specify.

IPv4
Your resources can communicate only over the IPv4 addressing protocol.

Dual-stack mode
Your resources can communicate over IPv4, IPv6, or both.

Virtual private cloud (VPC) [Info](#)
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-09bccea0a1a3749e0)
6 Subnets, 6 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

[CloudShell](#) [Feedback](#)

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9-

The screenshot shows the 'Create database' wizard on the AWS RDS console. Step 1 is titled 'VPC security group (firewall)'. It asks to choose one or more VPC security groups to allow access to the database. Two options are available: 'Choose existing' (selected) and 'Create new'. Under 'Existing VPC security groups', 'SaraMoawad' is listed. The 'Availability Zone' is set to 'us-east-1c'. The 'RDS Proxy' section indicates it's a fully managed proxy. The 'Certificate authority - optional' section shows 'rds-ca-rsa2048-g1 (default)' with an expiry date of May 26, 2061. A sidebar on the right provides information about MySQL, listing its features like support for up to 64 TiB and automated backup.

10-

The screenshot shows the 'Databases' page on the AWS RDS console. A green success message box says 'Successfully created database sara-database-1'. Below it, the 'Databases (18)' list includes 'sara-database-1'. The left sidebar shows navigation links for Aurora and RDS, including 'Dashboard', 'Databases', 'Query Editor', 'Performance Insights', and 'Snapshots'. A red number '1' is overlaid on the top-left corner of the screenshot.

11-

The screenshot shows the detailed view for the 'sara-database-1' database on the AWS RDS console. The 'Summary' section shows the DB identifier as 'sara-database-1', status as 'Available', role as 'Instance', engine as 'MySQL Community', and region as 'us-east-1c'. The 'Connectivity & security' tab is selected, displaying the 'Endpoint & port' (Endpoint: sara-database-1.cpqoyl2a851h.us-east-1.rds.amazonaws.com), 'Networking' (Availability Zone: us-east-1c), and 'Security' (VPC security groups: SaraMoawad (sg-07c3a584624d4eb90)). Other tabs include 'Monitoring', 'Logs & events', 'Configuration', and 'Zero-ETL integrations'. The left sidebar lists various RDS management options.

12-

The screenshot shows the AWS EC2 Security Groups console with the URL us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ModifyInboundSecurityGroupRules:security-group-id. The page title is "Edit inbound rules". It displays three existing inbound rules:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0d32aa5c396dc33bd	HTTP	TCP	80	Cu... <input type="button" value="Delete"/>	0.0.0.0/0 <input type="button" value="Delete"/>
sgr-0b9fd4e00f6467ec2	SSH	TCP	22	Cu... <input type="button" value="Delete"/>	0.0.0.0/0 <input type="button" value="Delete"/>
-	MySQL/Aurora	TCP	3306	An... <input type="button" value="Delete"/>	0.0.0.0/0 <input type="button" value="Delete"/>

A blue "Add rule" button is located at the bottom left of the table.

13-

The screenshot shows the AWS Aurora and RDS Databases console with the URL us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#database:id=sara-database-1;is-cluster=false. The page title is "Connectivity & security". It displays the following details:

Endpoint & port	Networking	Security
Endpoint: sara-database-1.cpqoyl2a851h.us-east-1.rds.amazonaws.com Port: 3306	Availability Zone: us-east-1c VPC: vpc-09bceca0a1a3749e0 Subnet group: default-vpc-09bceca0a1a3749e0 Subnets: subnet-054e40fe4299b90f5, subnet-07713a9e495009ad4, subnet-0089f997bfd25d453, subnet-0994b356376a609f6, subnet-0ef2c97342e00cb52, subnet-0fbdd70645045828 Network type: IPv4	VPC security groups: SaraMoawad (sg-07c3a584624d4eb90) (Active) Publicly accessible: Yes Certificate authority: rds-ca-rsa2048-g1 Certificate authority date: May 26, 2061, 02:34 (UTC+03:00) DB instance certificate expiration date: April 12, 2026, 14:39 (UTC+02:00)

14-

The screenshot shows a terminal window with the following MySQL session:

```
sara@sara:~$ mysql -h sara-database-1.cpqoyl2a851h.us-east-1.rds.amazonaws.com -u sara -p -P 3306
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 8.0.33 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

15-

```
mysql> clear
mysql> CREATE DATABASE sara_database;
Query OK, 1 row affected (0.15 sec)

mysql> USE sara_database;
Database changed
mysql> CREATE TABLE users (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     username VARCHAR(50),
    ->     email VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.19 sec)

mysql>
```

16-

```
Apr 12 15:32
sara@sara: ~

->     id INT AUTO_INCREMENT PRIMARY KEY,
->     username VARCHAR(50),
->     email VARCHAR(100)
-> );
Query OK, 0 rows affected (0.19 sec)

mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sara_database |
| sys |
+-----+
5 rows in set (0.13 sec)

mysql> SHOW TABLES
->     -> SHOW TABLES;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the
right syntax to use near 'SHOW TABLES' at line 2
mysql> SHOW TABLES;
+-----+
| Tables_in_sara_database |
+-----+
| users |
+-----+
1 row in set (0.13 sec)

mysql>
```