

ASSIGNMENT - 1

1. Differentiate in between free software, Open source software and proprietary software with respect to its properties.

Free software is a type of **software** that gives its users the right to run, copy, distribute, study, change and improve the software. Hence, free **software** is more related to freedom than price so think of it as freedom of speech rather than free lunch.

It is also called libre software where “libre” means freedom. Moreover, with free software, you even have the right to sell the software for money.

Examples: Apache Web Server, MySQL RDBMS, etc.

Every open-source software is not free software.

The main difference between open source and free software is that open source emphasizes the availability of the source code and the rights of users to modify and distribute it, while free software emphasizes that the software can be obtained and used without cost.

Every free software is open source.

Every open-source software is not free software.

There are many different open-source software licenses, and some of them are quite restricted, resulting in open-source software that is not freeware.

There is no such issue that exists in free software.

Examples: The Free Software Directory maintains a large database of free software packages. Some of the best-known examples include the Linux kernel, the BSD and Linux operating systems, the GNU Compiler Collection and C library; the MySQL relational database; the Apache web server; and the Sendmail mail transport agent.

Examples: Prime examples of open-source products are the Apache HTTP Server, the e-commerce platform Open Source Commerce, internet browsers Mozilla Firefox, and Chromium (the project where the vast majority of development of the freeware Google Chrome is done), and the full office suite LibreOffice.

1. Open source Software:

Open source software is computer software whose source code is available openly on the internet and programmers can modify it to add new features and capabilities without any cost. Here the software is developed and tested through open collaboration. This software is managed by an open-source community of developers. It provides community support, as well as commercial support, which is available for maintenance. We can get it for free of cost. This software also sometimes comes with a license and sometimes does not. This license provides some rights to users.

The software can be used for any purpose

Allows to study how the software works

Freedom to modify and improve the program

No restrictions on redistribution

Some examples of Open source software include Android, Ubuntu, Firefox, Open Office, etc.

2. Proprietary Software: Proprietary software is computer software where the source codes are publicly not available only the company that has created them can modify it. Here the software is developed and tested by the individual or organization by which it is owned not by the public. This software is managed by a closed team of individuals or groups that developed it. We have to pay to get this software and its commercial support is available for maintenance. The company gives a valid and authenticated license to the users to use this software. But this license puts some restrictions on users also like.

Number of installations of this software into computers

Restrictions on sharing of software illegally

Time period up to which software will operate

Number of features allowed to use

Some examples of Proprietary software include Windows, macOS, Internet Explorer, Google Earth, Microsoft Office, etc.

S.No. OPEN-SOURCE SOFTWARE

01. Open-source software is computer software whose source code is available openly on the internet and programmers can modify it to add new features and capabilities without any cost.
02. Here the software is developed and tested through open collaboration.
03. In open-source software the source code is public.
04. Open-source software can be installed on any computer.
05. Users do not need to have any authenticated license to use this software.
06. Open-source software is managed by an open-source community of developers.

PROPRIETARY SOFTWARE

Proprietary software is computer software where the source codes are publicly not available only the company which has created can modify it. Here the software is developed and tested by the individual or organization by which it is owned not by the public. In proprietary software, the source code is protected. Proprietary software can not be installed into any computer without a valid license. Users need to have a valid and authenticated license to use this software. Proprietary software is managed by a closed team of individuals or groups that

S.No. OPEN-SOURCE SOFTWARE

- 07. It is more flexible and provides more freedom which encourages innovation.
- 08. Users can get open software free of charge.
- 09. In open-source software faster fixes of bugs and better security are availed due to the community.
- 10. Limited Intellectual Property Protections
- 11. Usually Developed and Maintained by non-profit organizations.
- 12. Examples are Android, Linux, Firefox, Open Office, GIMP, VLC Media player, etc.

PROPRIETARY SOFTWARE

developed it.

It is not much flexible so there is a very limited innovation scope with the restrictions.

Users must have to pay to get the proprietary software.

In proprietary software, the vendor is completely responsible for fixing malfunctions.

Full Intellectual Property Protections

Usually Developed and Maintained by for-profit entities.

Examples are Windows, macOS, Internet Explorer, Google Earth, Microsoft Office, Adobe Flash Player, Skype, etc.

2. Enlist some examples along with its purpose and properties (at least 10) of FOSS and proprietary software with respect to database.

1 PostgreSQL

PostgreSQL is an object-relational database management system, founded on July 8, 1996. Developed by the PostgreSQL Global Development Group, it is written in C and works in most UNIX-like operating systems and Windows.

Features

- a. PostgreSQL works with every significant language and middleware.
- b. It bolsters simultaneous control.
- c. Its server-side programming usefulness is extremely full-grown.
- d. It has support for JSON licences.

2 MariaDB

MariaDB is a network created relational database management software system, written in C, C++, Bash and Perl. The stable version 10.3.12 of this free and open source database management software has the date January 7, 2019. MariaDB Corporation AB and MariaDB Foundation are the developers of this database.

Features

- a. MariaDB is comparable to MySQL, with some additional features. It can be viewed as an evolved variant of MySQL.
- b. Programming in MariaDB is covered by BSD, GPL, and LGPL licences.
- c. The framework uses a rearranged and standard questioning language.
- d. It supports an assortment of working frameworks and programming dialects.
- e. It offers special help for PHP.

3 CockroachDB

CockroachDB is a distributed SQL (newSQL) database built on a transactional and strongly-consistent key-value store. It's heavily inspired by Google's Spanner and has many similarities with it.

Features

- a. Distributed or replicated OLTP
- b. Multi-data centre deployments
- c. Multi-region deployments
- d. Cloud migrations
- e. Cloud-native infrastructure initiatives

4 Neo4j

Neo4j is a graph database management system. Its stable version 3.5.1 was released on December 20, 2018.

Features

- a. It is ACID (atomicity, consistency, isolation, and durability) compliant.
- b. It encourages versatility.
- c. Replicates information with quality and security.
- d. It works with Web applications for recovering chart information.
- e. It bolsters enquiry information sent out to JSON and XLS design.

5 CouchDB

CouchDB has been developed by the Apache Software Foundation, and is written in Erlang language. The stable version 2.3.0 was released on December 6, 2018.

Features

- a. It is ACID compliant.
- b. Has a distributed design with replication.
- c. CouchDB gives accessibility such as parcel resilience, ensuring competency.
- d. The information in the CouchDB framework is stored as 'records'.

6 RethinkDB

RethinkDB is an open source database that, in contrast to customary database frameworks, stores data in the JSON (JavaScript Object Notation) group. It's viewed as a NoSQL (Not only SQL) database, just like MongoDB, Cassandra, and CouchDB.

Features

- a. No mapping or table structure is required for putting away the data.
- b. Distributed engineering helps it to scale (in groups).
- c. It has:

Consistency (similar information can be viewed by all the customers of the framework)

Availability

Partition tolerance

7 Redis

Redis is an open source (BSD authorised), in-memory information structure store, used as a database, reserve and message dealer. It enhances information structures — for example, strings, hashes, records, sets, arranged sets with extend enquiries, bitmaps, hyperlogs, and geospatial files.

Features

- a. In-memory data store
- b. Flexible data structures
- c. Simplicity and ease-of-use
- d. Replication and persistence
- e. High availability and scalability

8 SQLite

SQLite is a C programming library. The word 'lite' in the name indicates that the organisation, arrangement, and basic source of the database is lightweight. Created by D. Richard Hipp on August 17, 2000, the stable version of SQLite 3.26.0 was released on December 1, 2018.

Features

- a. SQLite programming enhances cross-stage document design.
- b. It needs less programming. The whole library is under 500 KiB in size.
- c. It has a static composing group, which is usable in most SQL database motors.
- d. SQLite utilises variable-length records.
- e. The SQL explanations are compiled into virtual machine code.

9 Cassandra

Cassandra comes from the stable of the Apache Software Foundation, and is a free and open source DBMS written in Java. Authorised under Apache License 2.0, its stable version 3.11.3 was released on August 1, 2018.

Features

- a. Apache Cassandra is a NoSQL database.
- b. It supports replication and multi-server farm replication.
- c. It is adaptable and reliable.
- d. A distributed database, its conveyance plan relies on Amazon DynamoDB and information model on Google Cloud Bigtable.
- e. Cassandra can run on sensitive equipment and perform quick writes to store a lot of information.

10 Timescale

New technologies require new sorts of databases. One of the best open source databases for the Internet of Things is Timescale.

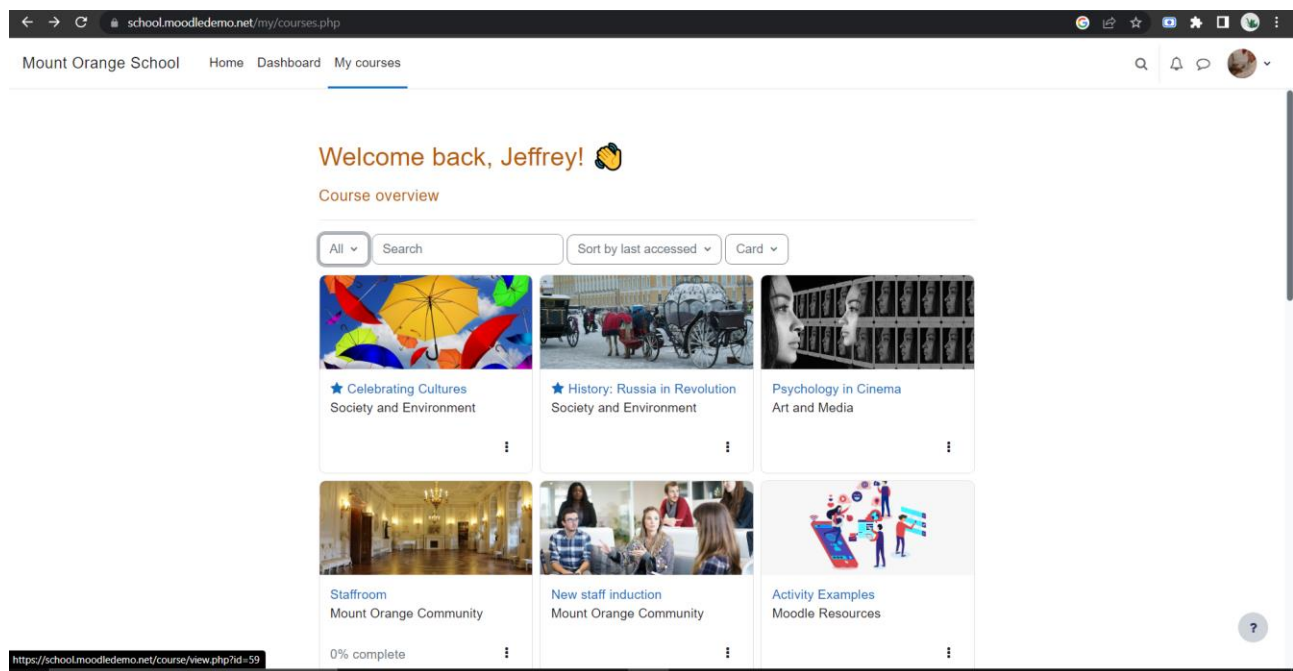
Features

- a. Hypertable abstraction layer
- b. Automatic partitioning
- c. Optimised time based constraint exclusion
- d. Works across time-series and relational tables
- e. Built-in flexible time bucketing

3. Enlist some examples of free open source exam software for online assessment.

TCEexam
VirtualX
Moodle
TAO
Kaldin
Papershala
Edbase
Mettl
FlexiQuiz
Eklavya
Think Exam

4. Demonstrate any one exam software which is open source and freely available.



← → ↺ school.moodledemo.net/course/view.php?id=69

Mount Orange School Home Dashboard My courses

🔍 🔔 👤 Edit mode

✕

▼ ... and breathe!

○ Course noticeboard

○ About this course

○ Prior experience check

How mindful an educator...

▼ Why this course?

● Help build our understand...

● Let's talk about stress!

○ The Freiburg Mindfulness...

○ The need for mindfulness

▼ Mindful teaching

○ What we as teachers can...

● (Research paper) Mindful...

○ Your personal action plan

○ Supporting our learners


▼ Course check and feed


Mindful course creation

Course Settings Participants Grades Reports More ▼

▼ ... and breathe! [Collapse all](#)


Create your course and give your learners a mindful, stress-free experience with the new features of Moodle 4.0.



 FORUM

Course noticeboard

To do: View

 BOOK

To do: View

?

Mount Orange School

Home

Dashboard

My courses

Grader report

























All participants: 11/11

First name

All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Last name

All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

First name / Last name	Email address	Assignment: Requireme...	Peer Assessment: Rate ...	Peer Assessment: R
 Frances Banks	  francesbanks231@example.com	-	-	-
 Mark Ellis	  markellis267@example.com	-	-	-
 Brian Franklin	  brianfrankli228@example.com	-	-	-
 Barbara Gardner	  barbaragardner249@example.com	-	-	-
 Amanda Hamilton	  amandahamilton205@example.com	-	-	-
 Joshua Knight	  joshuaknight196@example.com	-	-	-
 George Lopez	  georgelopez271@example.com	-	-	-
 Anthony Ramirez	  anthonyramirez359@example.com	-	-	-
Overall average		-	-	-

Questions

Question bank

Select a category: Default for Alpinism (5)

The default category for questions shared in context 'Alpinism'.

No tag filters applied

Filter by tags...


☐ Show question text in the question list

Search options

☒ Also show questions from subcategories

☐ Also show old questions

Create a new question ...

Question	Actions	Status	Version	Created by	Comments	Needs checking?	Usage	Last used	Modified by	Facility index	Discriminative efficiency
Question name / ID number				First name / Last name / Date					First name / Last name / Date		
<input type="checkbox"/> Video	 Edit	Ready	v1	Admin User 27 November 2011, 1:45 PM	0	-	0	Never	Admin User 27 November 2011, 3:28 PM	N/A	N/A

Mount Orange School Home Dashboard My courses

Quiz: Test your knowledge on Alpinism

Receive a grade

This quiz contains a variety of questions to test your knowledge of Alpine mountaineering. At the end of the quiz you will be given your score with suggestions for improvement.

Preview quiz

Attempts allowed: 3

Grading method: Highest grade

Quiz: Test your knowledge on Alpinism

Quiz Settings Questions Results Question bank More

Back

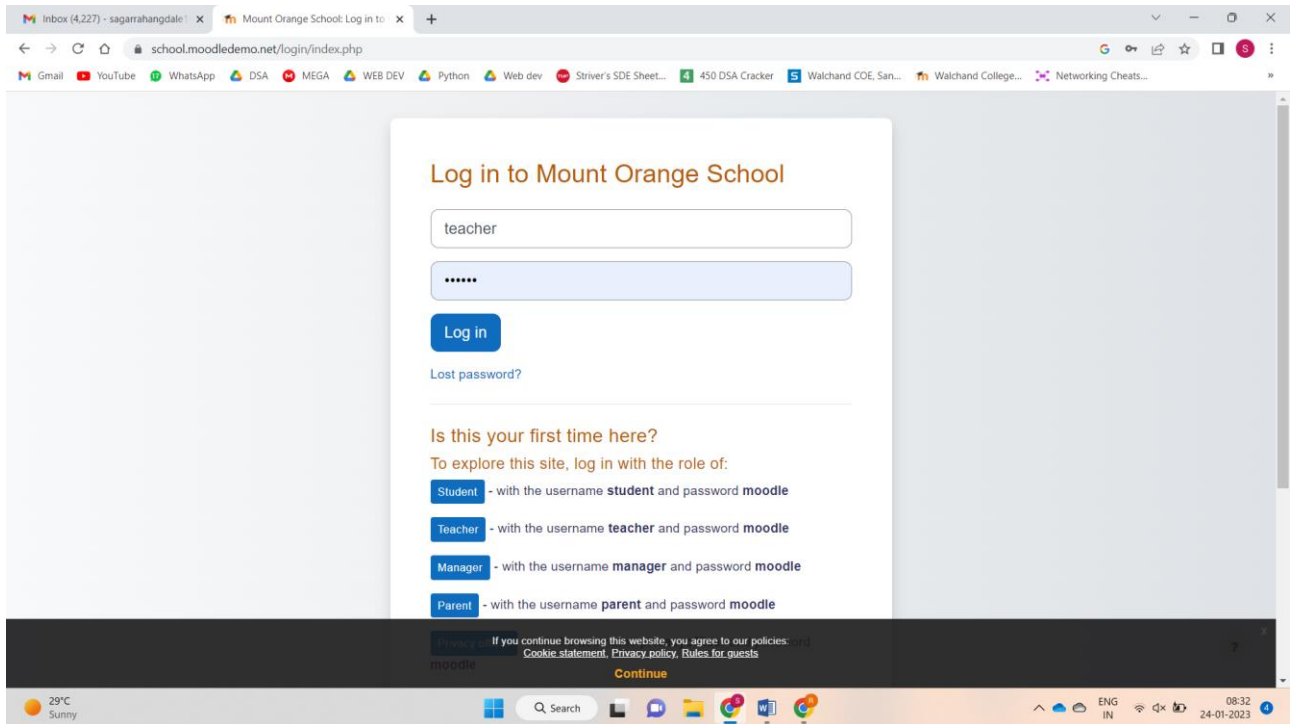
Question 1
Not yet answered
Marked out of 1
Flag question
Edit question

The Mer de Glace has receded by 1 kilometre (0.62 miles) in the last 130 years. True? Or false?

Select one:

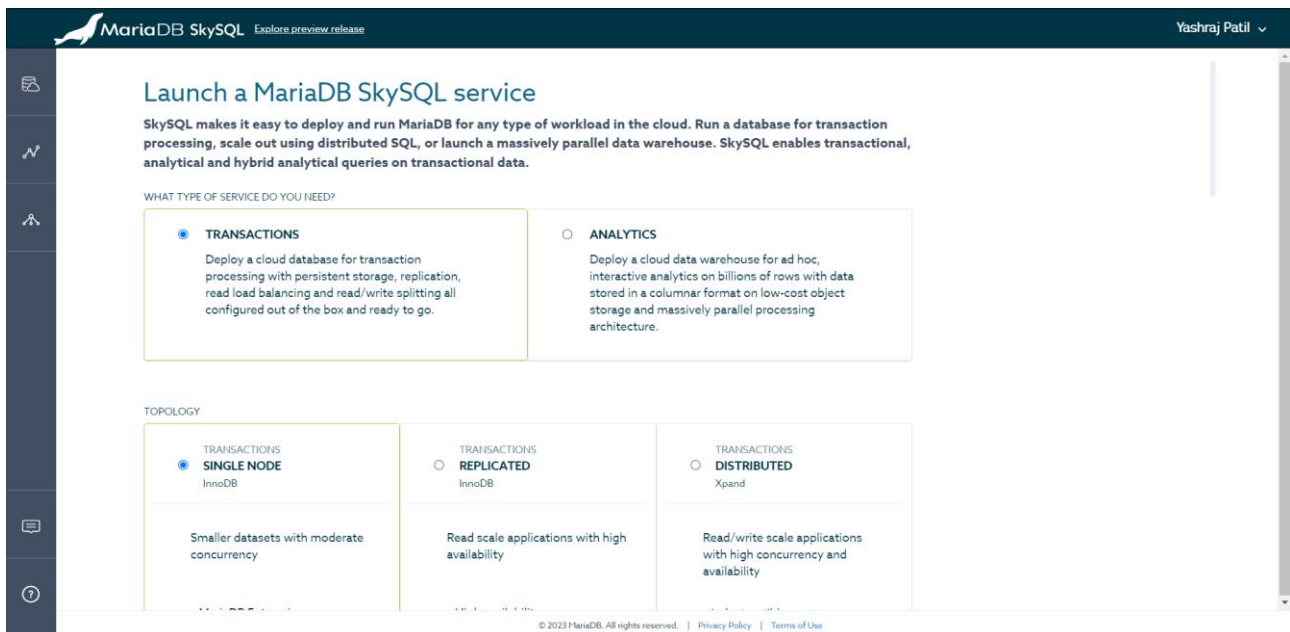
Quiz navigation
Jeffrey Sanders
1 2 3 4
Finish attempt ...
Start a new preview


29°C Sunny








5. Demonstrate FOSS software related to database.

MariaDB





 MariaDB SkySQL [Explore](#) [preview](#) [release](#)

Yashraj Patil



CLOUD PROVIDER

 Google Cloud

 aws

REGION

AMERICAS

northamerica-northeast1
Montréal, Canada

us-central1
Council Bluffs, USA

us-east1
Moncks Corner, USA

us-east4
Ashburn, USA

us-west1
The Dalles, USA

us-west2
Los Angeles, USA

EMEA

europa-north1
Helsinki, Finland

europa-west1
St. Ghislain, Belgium

europa-west2
London, UK

europa-west3
Frankfurt, Germany

europa-west4
Eemshaven, Netherlands

europa-west9
Paris, France

APAC


asia-northeast1
Tokyo, Japan

asia-southeast1
Jurong West, Singapore






asia-southeast2
Jakarta, Indonesia

australia-southeast1
Sydney, Australia

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 MariaDB SkySQL [Explore](#) [preview](#) [release](#)

Yashraj Patil



View cost [per hour](#) [per month](#)

INSTANCE SIZE	CPU	MEMORY	COST (PER NODE)
Sky-2x8	2 vCPU	8 GB	\$0.1702 / hour
Sky-4x16	4 vCPU	16 GB	\$0.3405 / hour
Sky-4x32	4 vCPU	32 GB	\$0.4942 / hour
Sky-8x32	8 vCPU	32 GB	\$0.6810 / hour
Sky-8x64	8 vCPU	64 GB	\$0.9883 / hour

Looking for more powerful instances? Check out our [Power](#) service offering.

TRANSACTIONAL STORAGE SIZE (GB)

Transactional data storage uses Google Cloud SSD persistent disk. With this storage type IOPS are correlated to disk size. [Learn more](#)

100

SERVER VERSION


We recommend using the latest version of MariaDB Enterprise Server. [Read Release Notes](#)

MariaDB Enterprise Server 10.6.8-4

SERVICE NAME

Service names can be up to 24 characters long. Names must start with a letter, and only include lowercase letters, numbers, and hyphens.

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 MariaDB SkySQL [Explore preview release](#)

Yashraj Patil

Your Services

Monitoring

Allowlist for Monitor/Analysis

Configuration Manager

Remote Observability Service

Support

Documentation

Your services

+ Launch new service

yashraj


Pending

Single Node Transactions

us-west1


FOUNDATION TIER

CONNECT TO SERVICE



Service launch in progress (0%)

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 MariaDB SkySQL [Explore preview release](#)

Yashraj Patil

Your Services

Monitoring

Allowlist for Monitor/Analysis

Configuration Manager

Remote Observability Service

Support

Documentation

Your services

+ Launch new service

yashraj

Healthy

Single Node Transactions

us-west1

FOUNDATION TIER

CONNECT TO SERVICE

SERVICE DETAILS

Size

Sky-2x8

Version

MariaDB Enterprise Server 10.6.8-4

Created

16:23:36 2023-01-31

TX Storage

100 GB

Read-write port

5021

Fully Qualified Domain Name

yashraj-db00009199.mdb0003538.db.skysql.net

CUSTOMIZATION

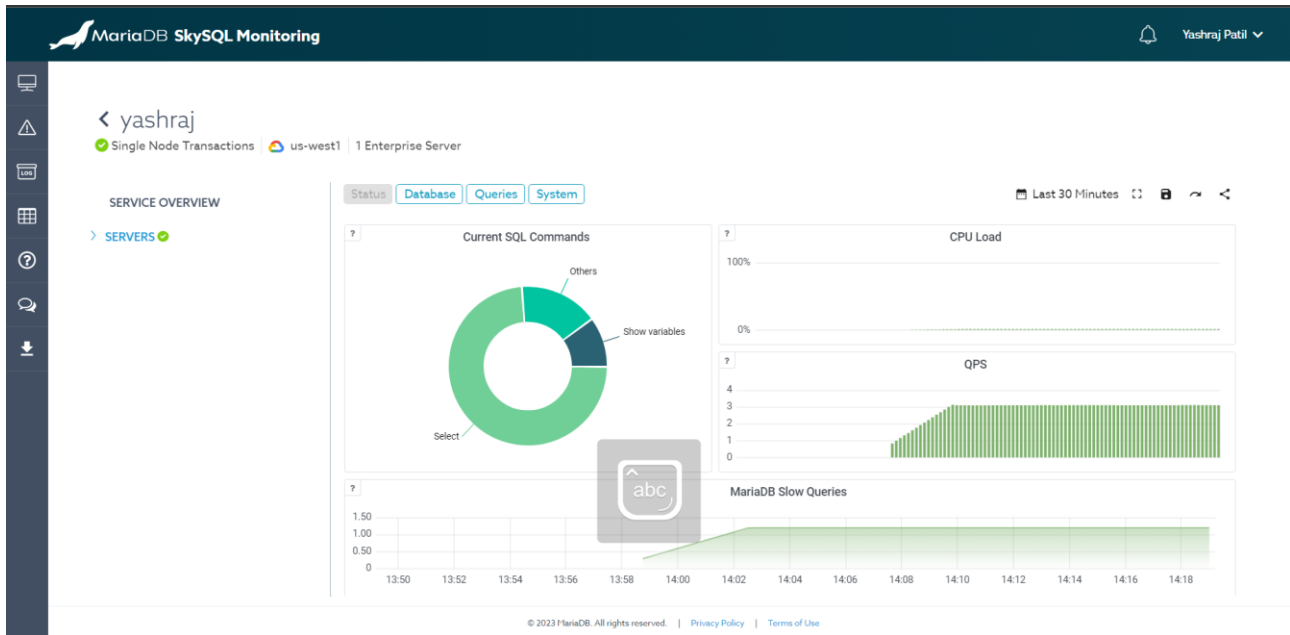
Custom configuration

+ Apply custom configuration

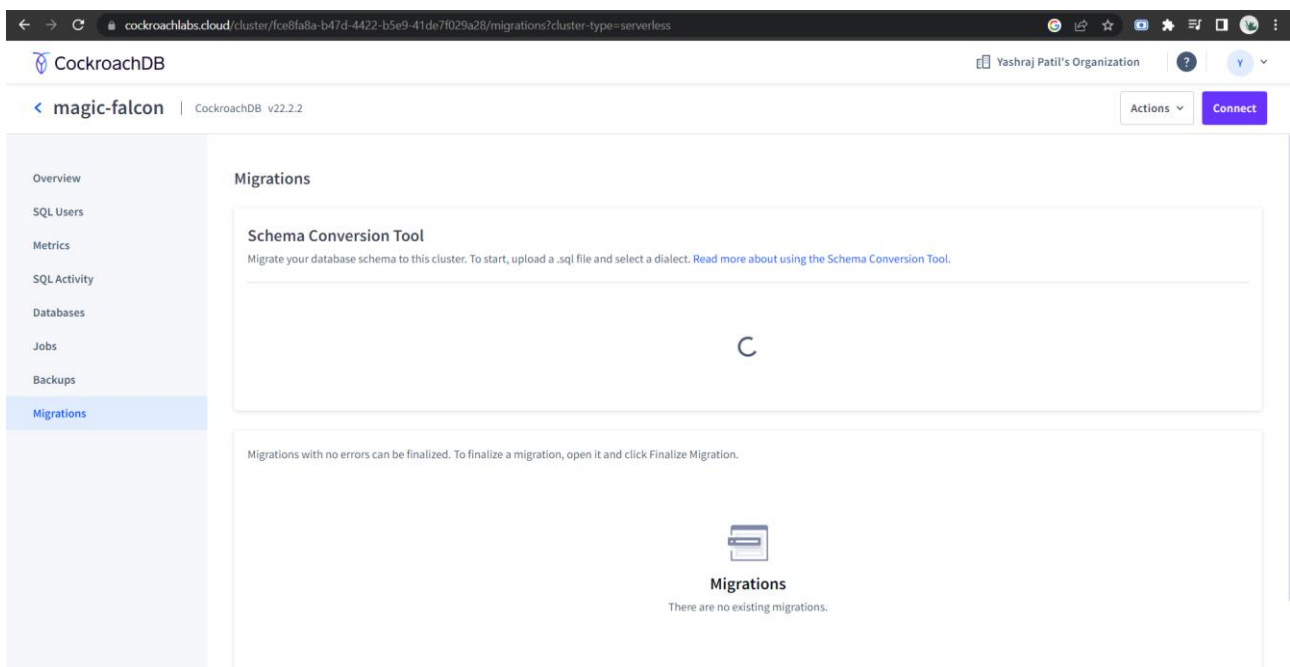
SPENDING

Fetching price and usage data

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Cockroach DB



cockroachlabs.cloud/cluster/create?accountcreated=success

Create your cluster

Cancel

Choose a Plan

Serverless

Highly available clusters that scale instantly. Only pay for what you use.

Free forever option

250M Request Units free

5 GB Storage free

Dedicated

Dedicated single-tenant clusters starting at \$330/month.

Free 30-Day trial

Multi-region capabilities

VPC Peering and IP allowlisting

Cloud provider

AWS

Regions

Mumbai (ap-south-1)

Spend limit

\$0

Cluster name

magic-falcon

Summary

Plan

Serverless

Cloud

AWS

Region

Mumbai (ap-south-1)

Performance

Run queries and use storage up to your spend limit.

\$0 maximum/month

Create your free cluster

CockroachDB

Yashraj Patil's Organization

magic-falcon

CockroachDB v22.2.2

Actions

Connect

Overview

SQL Users

Metrics

SQL Activity

Databases

Jobs

Backups

Migrations

Migrations > Schema Conversion Tool

sample-sql-file-10-rows.sql

Summary Report

Statements

Summary Report

LAST UPDATED JANUARY 31, 2023 AT 2:05 PM GMT+5:30

2 Statements Total

0 Errors

No errors to review.

1 Compatibility Note

TINYINT not supported encountered 1 time.

2 Suggestions

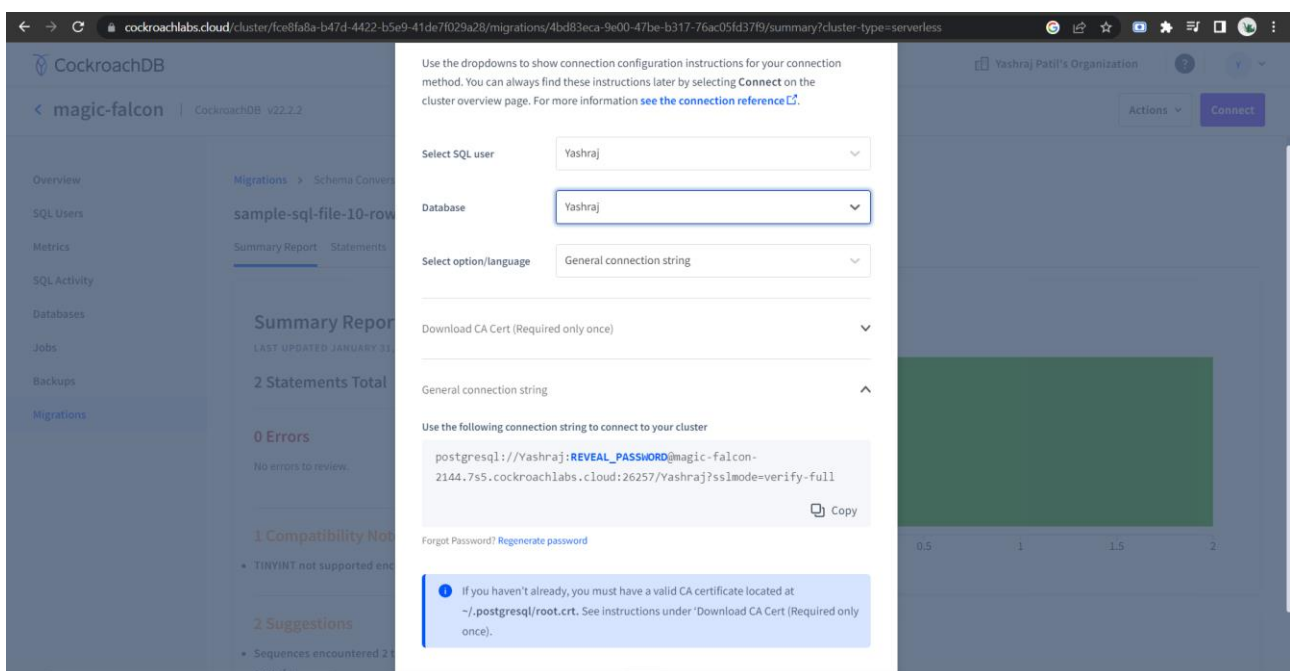
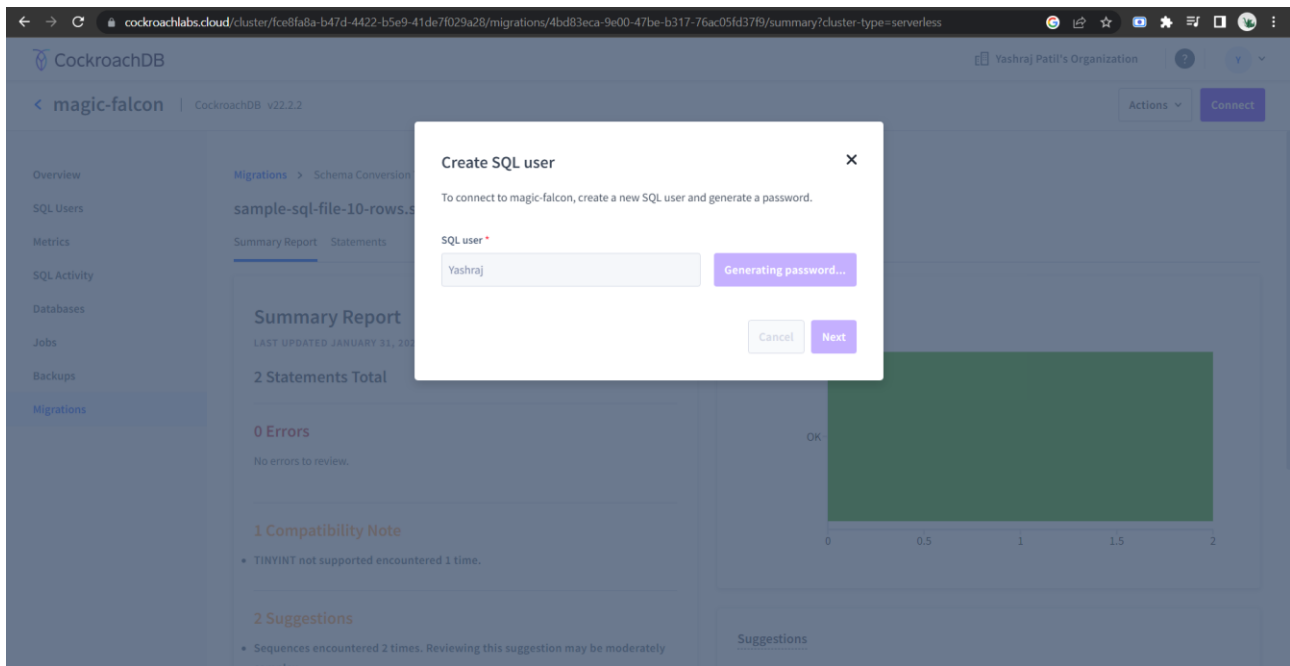
Sequences encountered 2 times. Reviewing this suggestion may be moderately complex.

Statement Status

OK

0 0.5 1 1.5 2

Suggestions



6. How does the Exam software work?

Popularly used by recruiters and educational institutions, exam software is used for setting up online exams. The best online examination software helps with the following procedures:

Students' Registration

Online exam software helps with the registration process of students and generates unique IDs for them.

Test Paper Creation

Yashraj Patil
2020BTECS00069

You can create a subjective, objective, multiple-choice, and other types of questions online and ensure zero spam.

Take Tests Anytime, Anywhere

Students can take tests from anywhere with a stable internet connection and a system. Similarly, teachers can invigilate directly through the system.

Automated Evaluation

Teachers don't need to evaluate answers manually, as the exam software helps analyze students' performance digitally.

Track Students' Progress

YouTube broadcast software enables users to list their live streams as videos on their channels. This way the live stream can be seen even after it ended.

Data analysis

The performance reports include detailed info about the strengths and weaknesses of every student. Accordingly, teachers can make the improvement plan.