

Tushar Patil| 2020BTECS00075 | T7 batch

SET lab | Assignment 1 | Module 1-Introduction to FOSS

Q1. Differentiate in between free software, Open source software and proprietary software with respect to its properties.

→

Free software	Open source software
Free Software is that software against which developing companies demands no cost. It is widely open and free to public.	It refers to the software that is developed and tested through open collaboration
Source code liberty of free software is lesser than open source software.	Source code liberty of open source software is greater than free software.
All open source software are free software	Not every piece of open source software are free
Examples: Google talk, Yahoo messenger, VLC media player, Adobe pdf, etc.	Examples: Android, Firefox, LibreOffice, Ubuntu, etc.

Open source software	Proprietary software
It refers to the software that is developed and tested through open collaboration	It refers to the software that is solely owned by individual or the organization that developed it
Anyone can get software for free of charge	User must pay to get the proprietary software
Users can modify the software	User cannot modify the software
Examples: Android, Firefox, LibreOffice, Ubuntu, etc.	Examples: Windows, macOS, iTunes, Google Earth, etc.

Q2. Enlist some examples along with its purpose and properties (at least 10) of FOSS and proprietary software with respect to database.

→

- Examples of FOSS: GNU/Linux, Mozilla Firefox, VLC media player, SugarCRM, GIMP, VNC, Apache web server, LibreOffice, jQuery.
- Properties of FOSS:
 - i. Better flexibility
 - ii. Cost effectiveness
 - iii. Enhanced reliability
 - iv. Increased scalability
 - v. Licensing convenience
 - vi. Quicker integration
 - vii. Improved security

- Examples of proprietary software: Microsoft Windows, Adobe Flash Player, PS3 OS, iTunes, Adobe Photoshop, Google earth, macOS, Skype, WinRAR, Oracle's version of java and some versions of Unix.
- Properties of proprietary software:
 - i. Increased functionality and convenience
 - ii. Superior customer support
 - iii. Lower maintenance costs
 - iv. Predictable releases

Q3. Enlist some examples of free open source exam software for online assessment.

→

- i. FlexiQuiz
- ii. Test Invite
- iii. TestGorilla
- iv. Classtime
- v. SurveyLab
- vi. QuestBase
- vii. ProProfs Quiz Maker

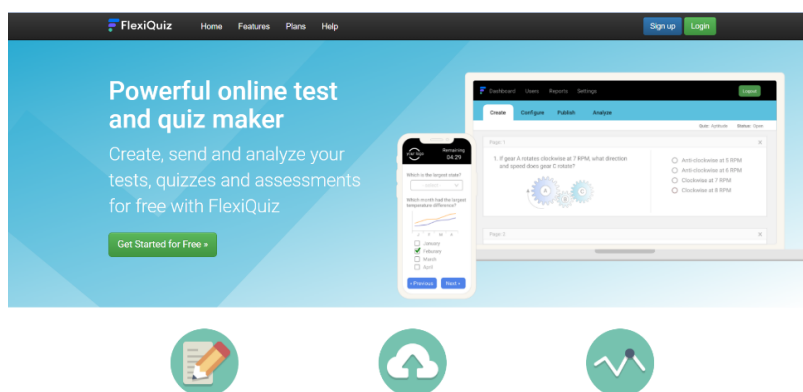
Q4. Demonstrate any one exam software which is open source and freely available.

→

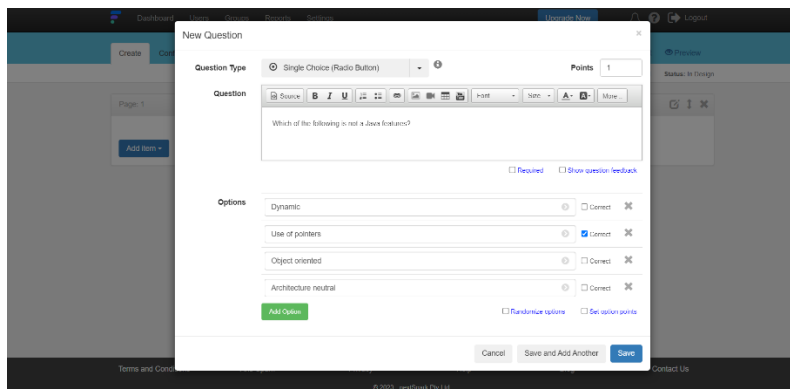
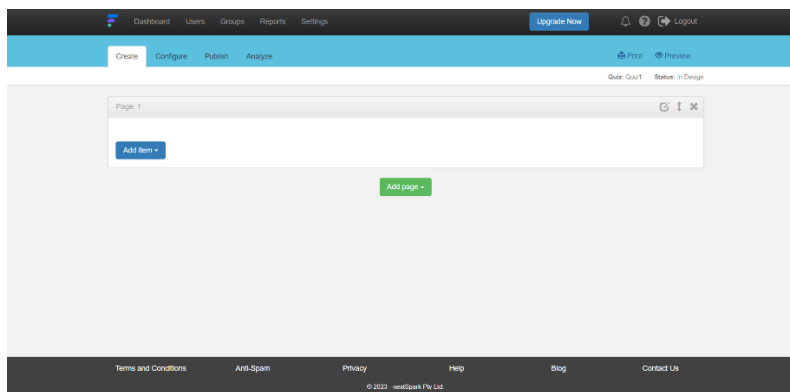
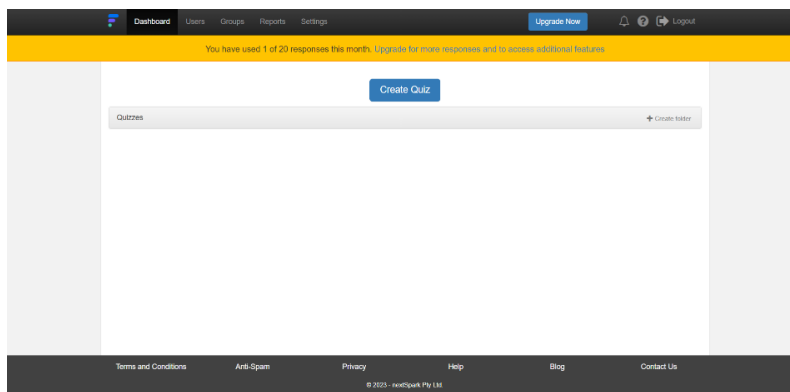
FlexiQuiz is a cloud-based exam maker where educators can quickly create, share, and analyze custom exams. We can choose from hundreds of configurable features to build professional exams that engage students and test their knowledge on any subject. The platform includes features such as; question banks, time limits, question randomization, email notifications, 9 question types, and the ability to add images, video, or audio.

Features: Auto-grading, powerful reports, schedule your tests, public and private tests, custom email invites, include images, free plan option, mobile ready, multiple question types, secured with SSL encryption, PDF reports, advanced configuration options, timed tests, respondent accounts, access anywhere, include video.

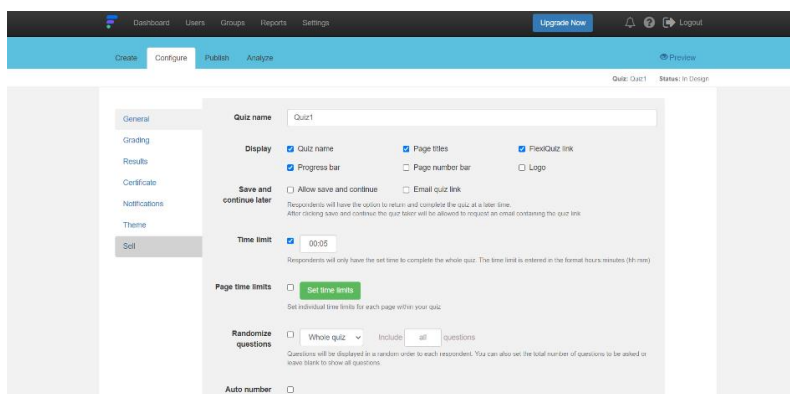
Interface



Create



Configure



Dashboard
Users
Groups
Reports
Settings
Upgrade Now
Logout

Create
Configure
Publish
Analyze
Preview

General
Grading
Results
Certificate
Notifications
Theme
Sell

Grade
Minimum %
Pass

Fail	0	<input checked="" type="checkbox"/>	✕
Pass	50	<input checked="" type="checkbox"/>	✕

Add grade

The result and grade can be shown to the respondent by setting the Display Options within the Results tab

☐ Redirect based on grade

After completing the quiz respondents can be redirected to a specific URL or another quiz based on the grade they have achieved. Any registration details will also be automatically passed to the new quiz

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Dashboard
Users
Groups
Reports
Settings
Upgrade Now
Logout

Create
Configure
Publish
Analyze
Preview

General
Grading
Results
Certificate
Notifications
Theme
Sell

Show answers during quiz

As each page is completed the answers and any feedback will be displayed to the respondent.

☐

Show results page

The results page will be displayed to the respondent when they submit the quiz. Configure the results page below

☒

Results page options

☐ Name
☐ Email
☐ Result
☐ Grade
☒ Points score
☒ Percentage score
☐ Category scores
☐ Duration
☒ Review answers report

☒ Show question marking
☒ Show question points
☐ Show page times
☐ Show category scores
☒ Show question feedback

Publish

Dashboard
Users
Groups
Reports
Settings
Upgrade Now
Logout

Create
Configure
Publish
Analyze
Preview

Quiz status
Open
Close Quiz

Distribution
☒ Use Quiz Link

Copy and share this link using your email, social media, website, blog etc

URL
https://www.hexspark.com/NC/705c3bba-6fa4476490ba-ad3c003b1f6e
Customize Link

☒ Register for quiz

Private quizzes are required to enter a first name, last name and optional email address to access your quiz. Or you can customize the fields with dates, passwords and more

Customize Registration

☐ Send Email Invites

HexSpark will send an email to your invitees. Completed quizzes are tracked using the Unique Link and invitees email address.

☐ Assign Users / Groups

Users login to their own customized portal to access assigned quizzes. Groups allow you to assign a group of users to your quiz. You will need to manually notify a user that a quiz has been assigned to their portal

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Test

Register for Quiz1

First name*	<input type="text" value="a"/>
Last name*	<input type="text" value="b"/>
Email address	<input type="text" value="abc@gmail.com"/>
<input type="button" value="Register"/>	

Quiz1

Time remaining
0:04:41

Which of the following is not a Java features?

- ☐ Dynamic
- ☒ Use of pointers
- ☐ Object oriented
- ☐ Architecture neutral

_____ is used to find and fix bugs in the Java programs.

- ☐ JVM
- ☐ JDK
- ☒ JDB
- ☐ JRE

Answered 2 of 2 (100%)

Powered by FlexQuiz

Results for Quiz1

Score 2/2 (100%)

Duration 01m:10s

Results

Review Answers

PDF

✓

Points: 1/1

Which of the following is not a Java features?

☐ Dynamic

☒ Use of pointers ✓

☐ Object oriented

☐ Architecture neutral

✓

Points: 1/1

_____ is used to find and fix bugs in the Java programs.

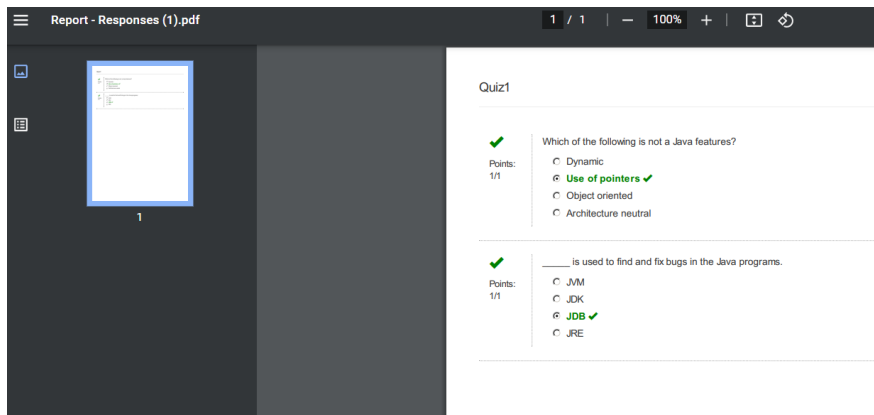
☐ JVM

☐ JDK

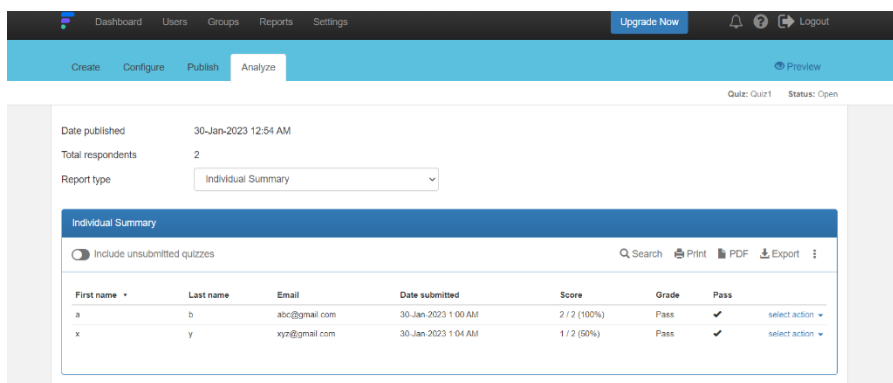
☒ JDB ✓

☐ JRE

Close



Analyze



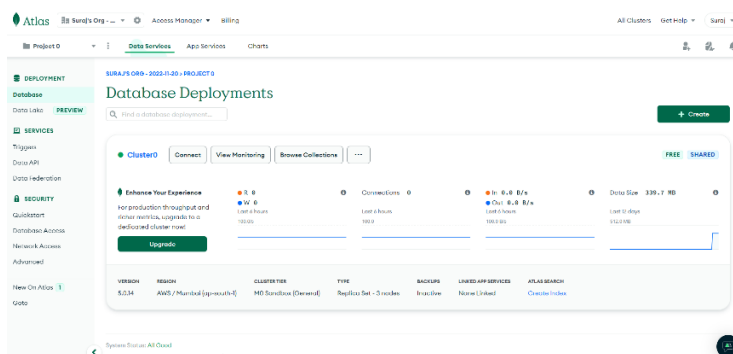
Q5. Demonstrate FOSS software related to database.

→ MongoDB is a popular open-source NoSQL database written in C++. MongoDB is a Dynamic Schema Document-Oriented Database that stores data in JSON-like documents.

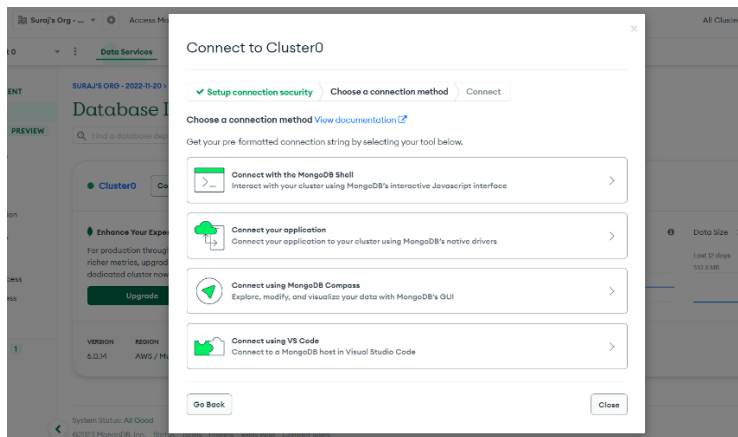
Each database is made up of collections, which are made up of documents. Because of the varying number of fields, each document can be unique. Each document's size and content may differ from one another. MongoDB is a database that is highly scalable and performance-oriented.

Create account on MongoDB Atlas

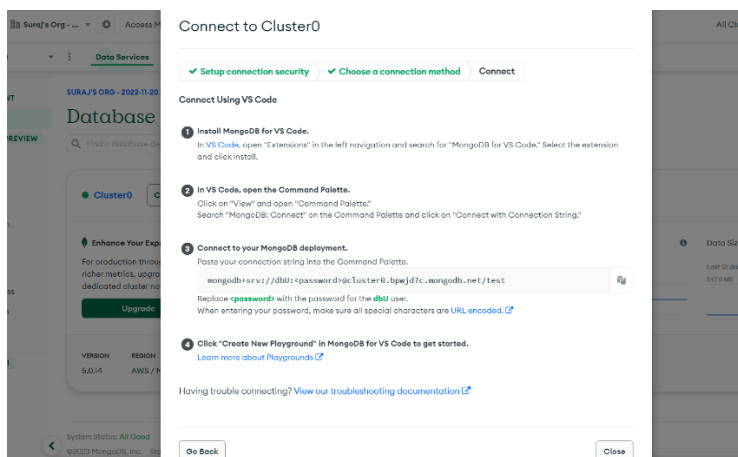
Create cluster



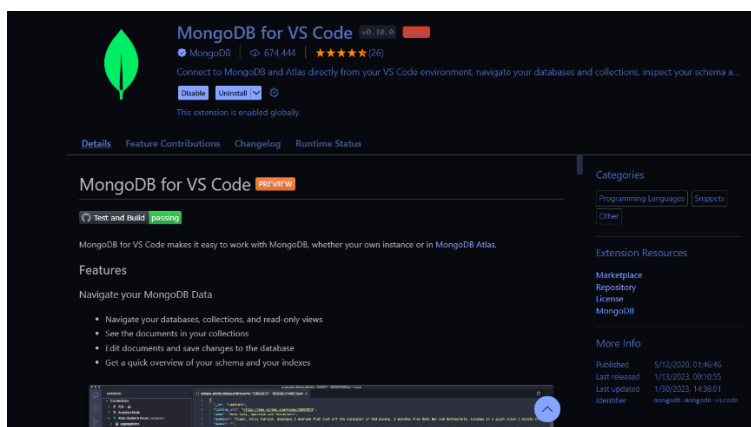
Choose an option to connect with cluster



In these case I chose 'Connect using VS Code', follow given steps



In VS Code, install extension 'MongoDB for VS Code'



Connect to MongoDB deployment by pasting connection string containing username and password in command palette by using 'MongoDB: Connect' command.

Click 'Create New Playground' in VS Code to get started.

Create database

```
const database = 'wce';
const collection = 'students';

use(database);

db.createCollection(collection);
```

Result

```
{
  "ok": 1
}
```

Insert

```
use('wce');

db.students.insertMany([
  { "PRN": "2020WCE00025", "Name": "Amey Ajit Patil", "Department": "CSE", "Class": "TY" },
  { "PRN": "2020WCE00034", "Name": "Abhijeet Anil Lad", "Department": "EN", "Class": "TY" },
  { "PRN": "2020WCE00040", "Name": "Omkar Ramesh Rajput", "Department": "IT", "Class": "TY" },
  { "PRN": "2020WCE00050", "Name": "Disha Sunil Nikam", "Department": "EL", "Class": "TY" },
  { "PRN": "2020WCE00010", "Name": "Aniket Vinay Kale", "Department": "MECH", "Class": "TY" },
  { "PRN": "2020WCE00004", "Name": "Jay Abhay Bhosale", "Department": "CV", "Class": "TY" }
]);
```

Result

```
{
  "acknowledged": true,
  "insertedIds": {
    "0": {
      "$oid": "63d79ceafc580bd2b8834887"
    },
    "1": {
      "$oid": "63d79ceafc580bd2b8834888"
    },
    "2": {
      "$oid": "63d79ceafc580bd2b8834889"
    },
    "3": {
```



```

    "$oid": "63d79ceafc580bd2b883488a"
  },
  "4": {
    "$oid": "63d79ceafc580bd2b883488b"
  },
  "5": {
    "$oid": "63d79ceafc580bd2b883488c"
  }
}
}
}

```

Query

```

use('wce');

db.students.find(
  { "Department": "CSE" }
);

```

Result

```

[
  {
    "_id": {
      "$oid": "63d79ceafc580bd2b8834887"
    },
    "PRN": "2020WCE00025",
    "Name": "Amey Ajit Patil",
    "Department": "CSE",
    "Class": "TY"
  }
]

```

Q6. How does the Exam software work?

→ Remote proctoring is usually represented by a cloud-based solution that can easily be integrated into a Learning Management System (LMS) or a test platform. Different types of proctoring come with various customizable features, so educators can configure the assessments in compliance with their objectives. When it comes to the process of test-taking, an online proctored exam usually consists of the following steps,

- i. Verification: The system verifies students' identities by comparing an image from their web cameras and a photo or a scan of their authentication documents. Once they've passed this procedure, they are allowed to commence the test.
- ii. Real time monitoring: Online proctoring implies continuous student invigilation. It helps educators spot and prevent any suspicious activities. Depending on the proctoring type, the role of an observer can be taken by a human proctor or by AI-based software.
- iii. Data storage and review: As soon as the exam is finished, proctoring software analyses the results and forms the reports. It's important to note, that all audio

and video data is recorded and stored, thus, making it possible to review documentation in case of any controversies.