

# MongoDB- Storing Reviews

## Tutorial – 3, Download, Set up and Implementation

CSP 584 - Enterprise Web Application

Dr. Atef Bader

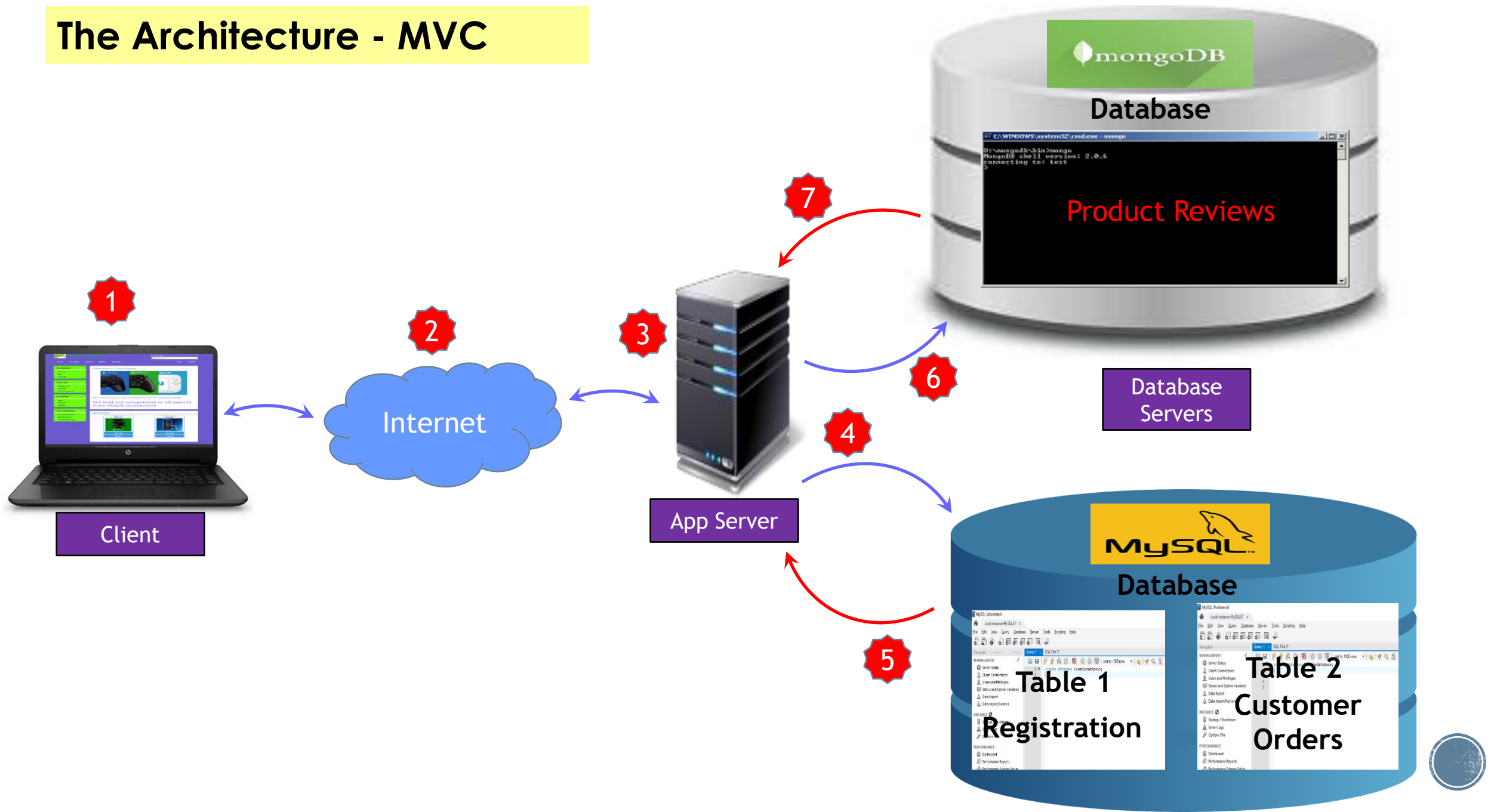
Illinois Institute of Technology

- Presentation By

Pradeep Kumar Lokesh



# The Architecture - MVC



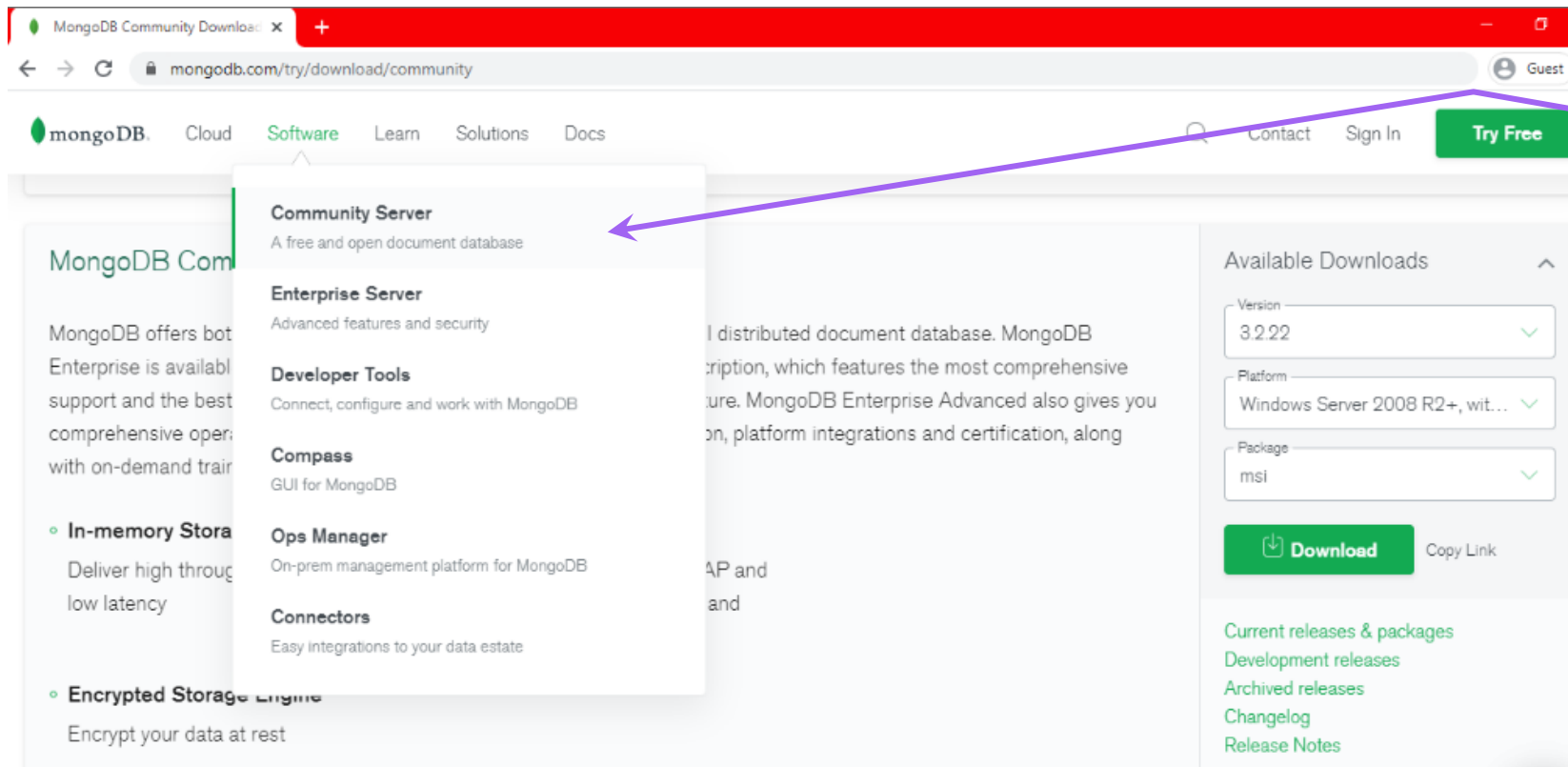
# 1. Mongo DB - Overview

- Mongo DB is a cross platform, document oriented database
- Mongo DB works on the concept of Collections and documents
- Terminologies:
  - Database: This is the physical container for the collections
  - Collection: Collection is a group of Mongo DB documents
  - Document: Document is a set of key - value pairs
- Advantages:
  - Schema-less: The number of fields, content and size of the document can vary from one another
  - Scalability: Mongo DB is easy to scale



## 2. Mongo DB - Download

- Go to <https://www.mongodb.com/> and click on the 'Products' button and select Mongo DB Server under the software to download Mongo DB (Direct Link : <https://www.mongodb.com/try/download/community>)

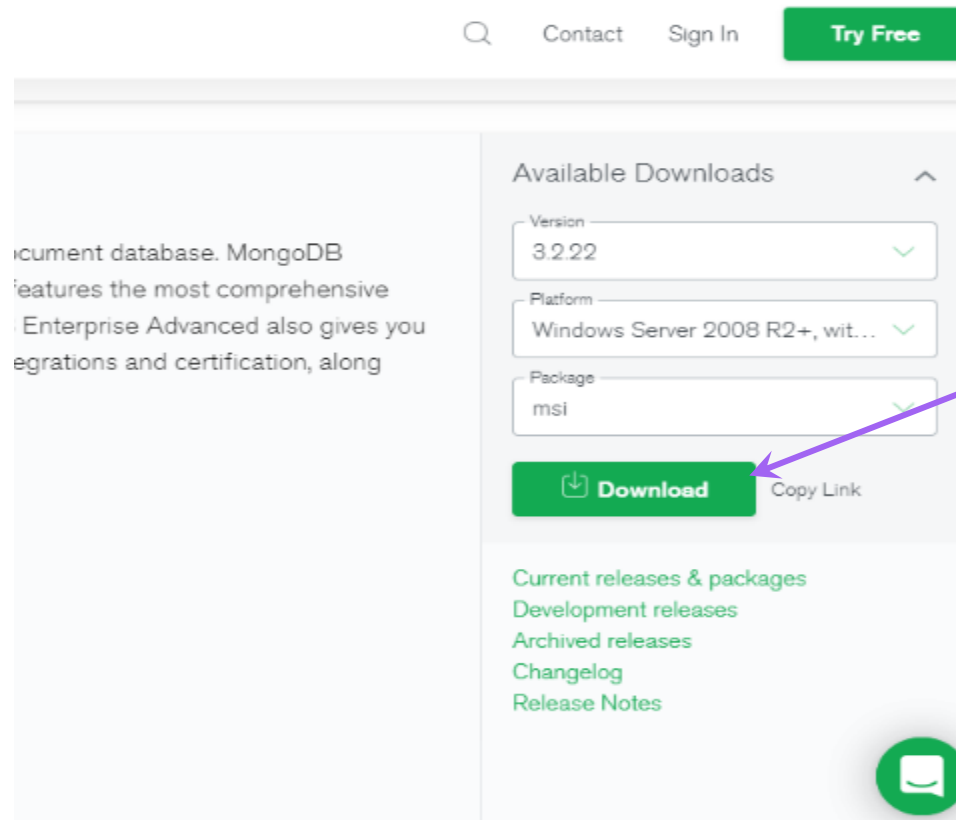


Click on the Community Server for downloading MongoDB



## 2. Mongo DB - Download

- Select the Version, Platform as Windows and the version as 'Windows Server 64 - bit 2008 R2 64 bit and later with SSL support x64'
- Click on the 'Download' to begin the download

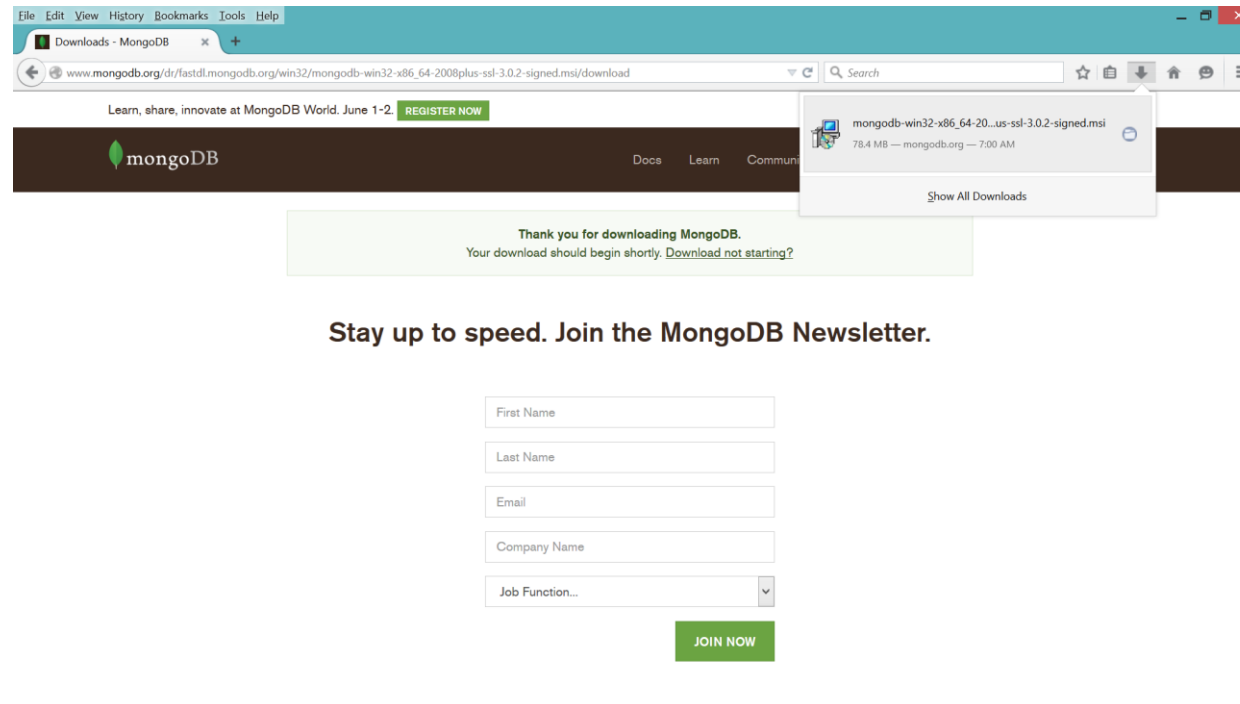


Click on the Download Button



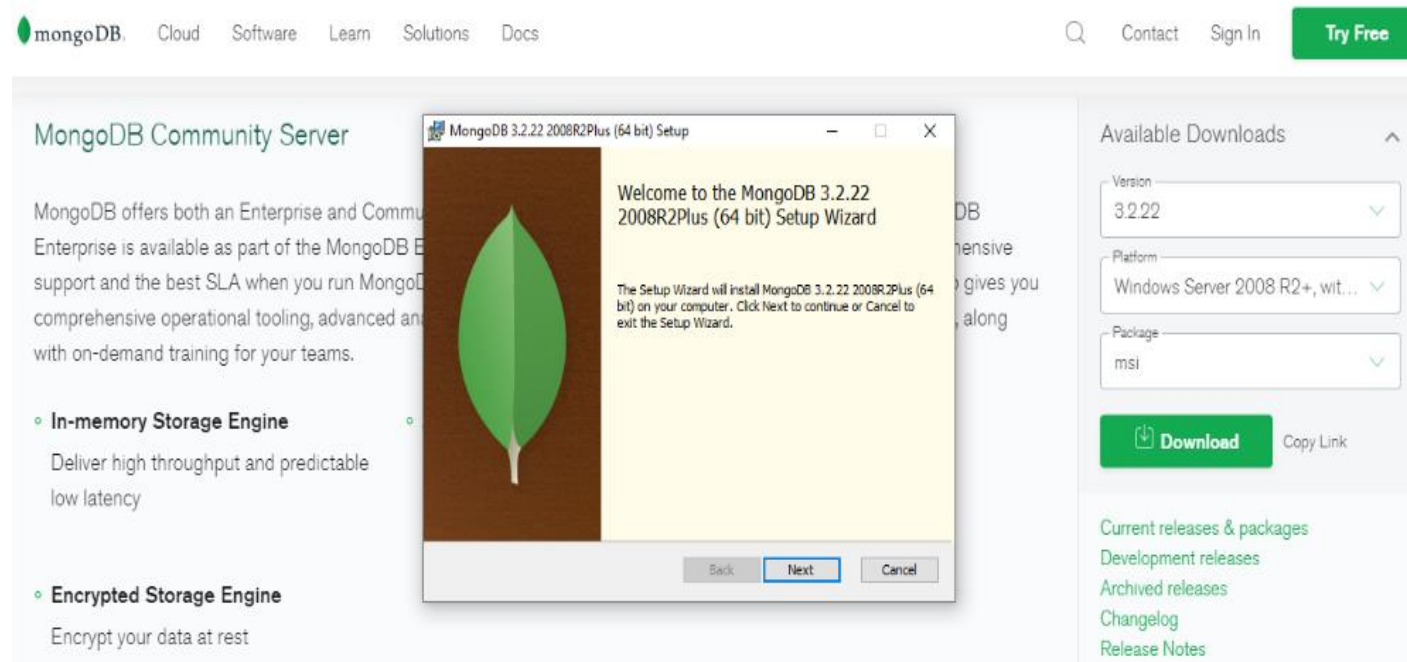
## 2. Mongo DB - Download

- Please note the location of the folder where MongoDB is being downloaded



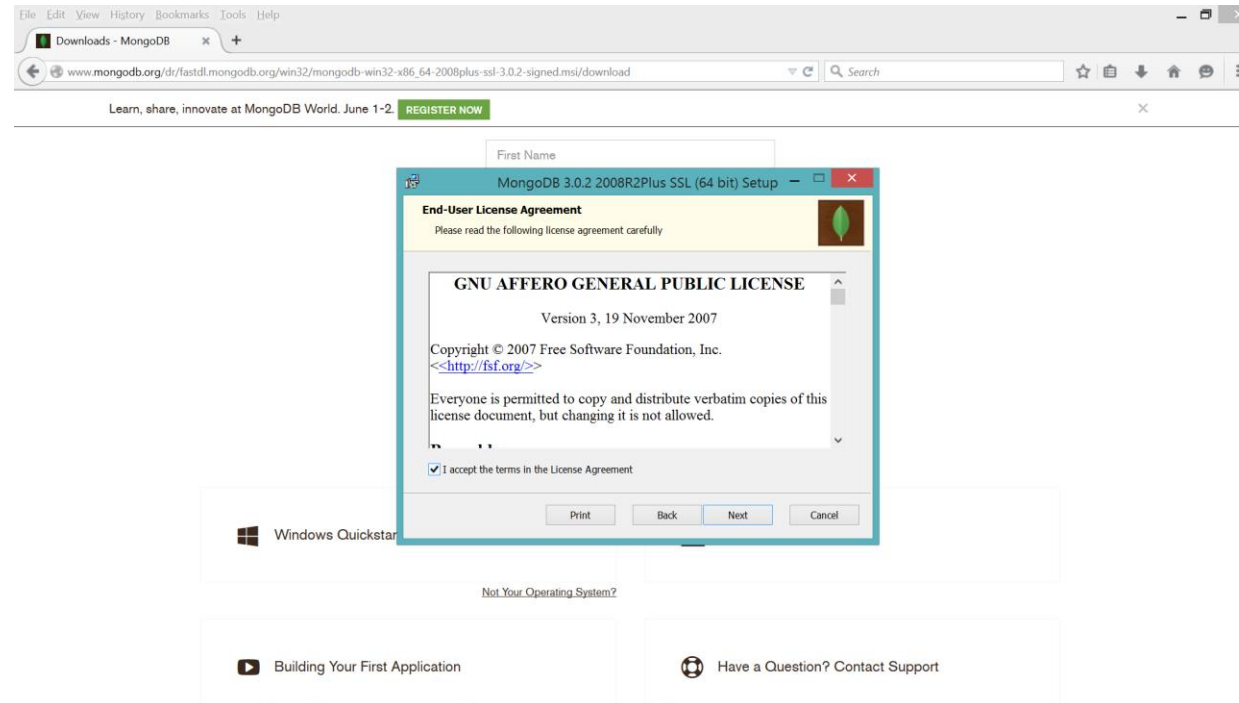
### 3. Mongo DB - Setup

- To start the installation, go to the folder where MongoDB has been downloaded and double click on the installation file
- This should open the MongoDB setup wizard as shown below
- Click on 'Next' to proceed with the installation



### 3. Mongo DB - Setup

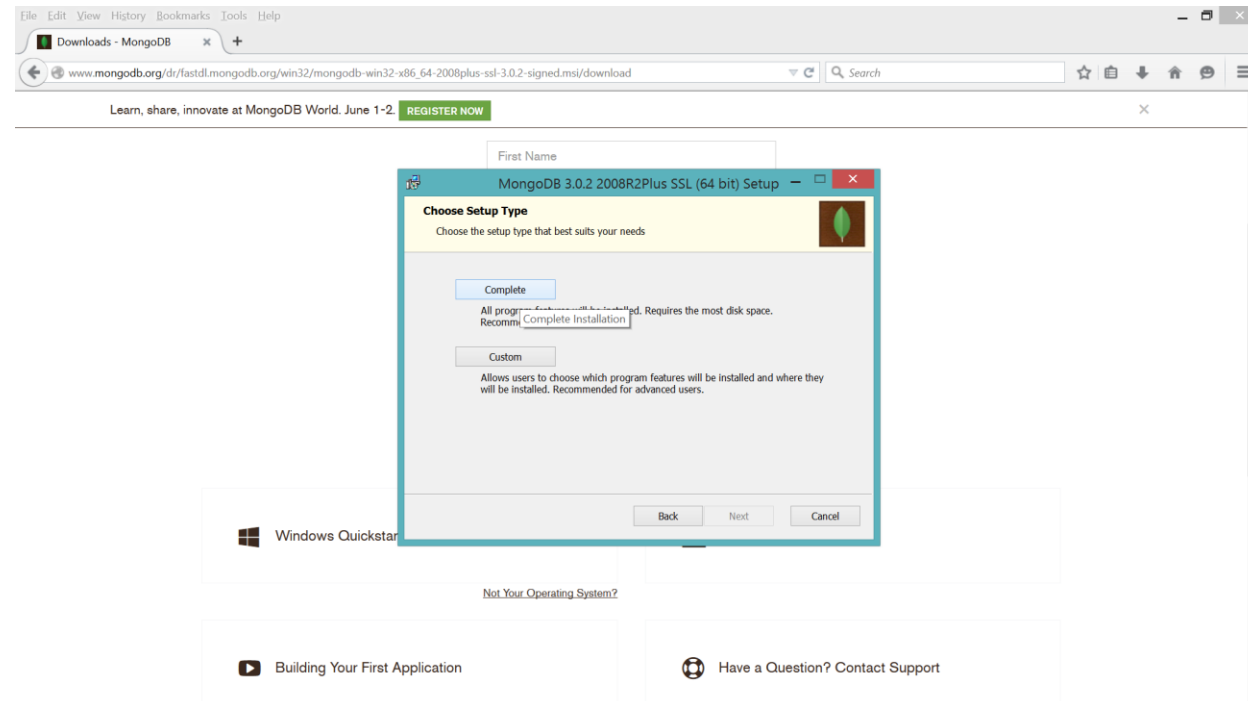
- Accept the license agreement and proceed by clicking on 'Next'





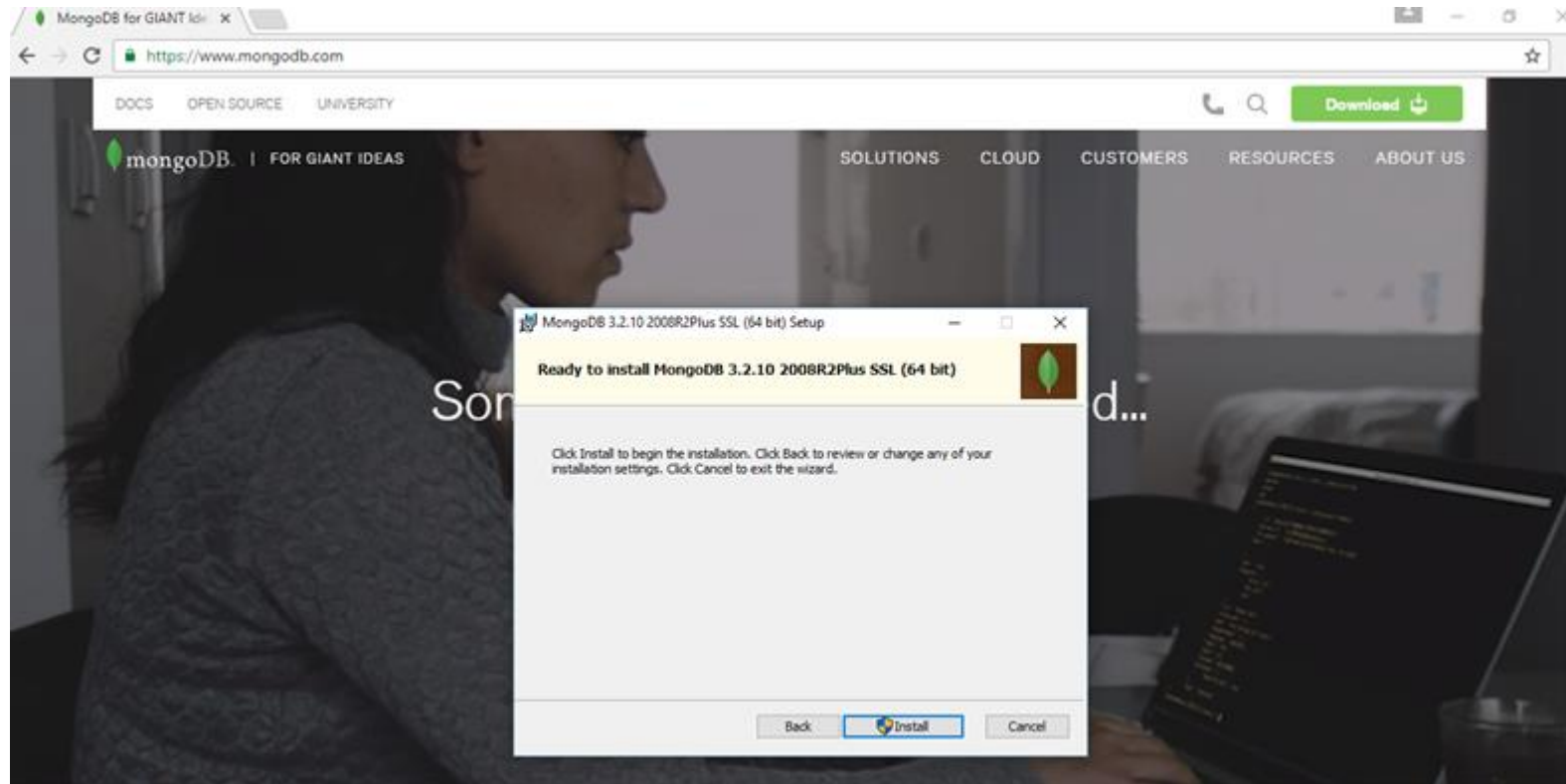
### 3. Mongo DB - Setup

- Select the setup type as 'Complete' and then click on 'Next'
- Since we are at the beginners level with MongoDB, hence, it is recommended that you select the setup type as 'Complete'



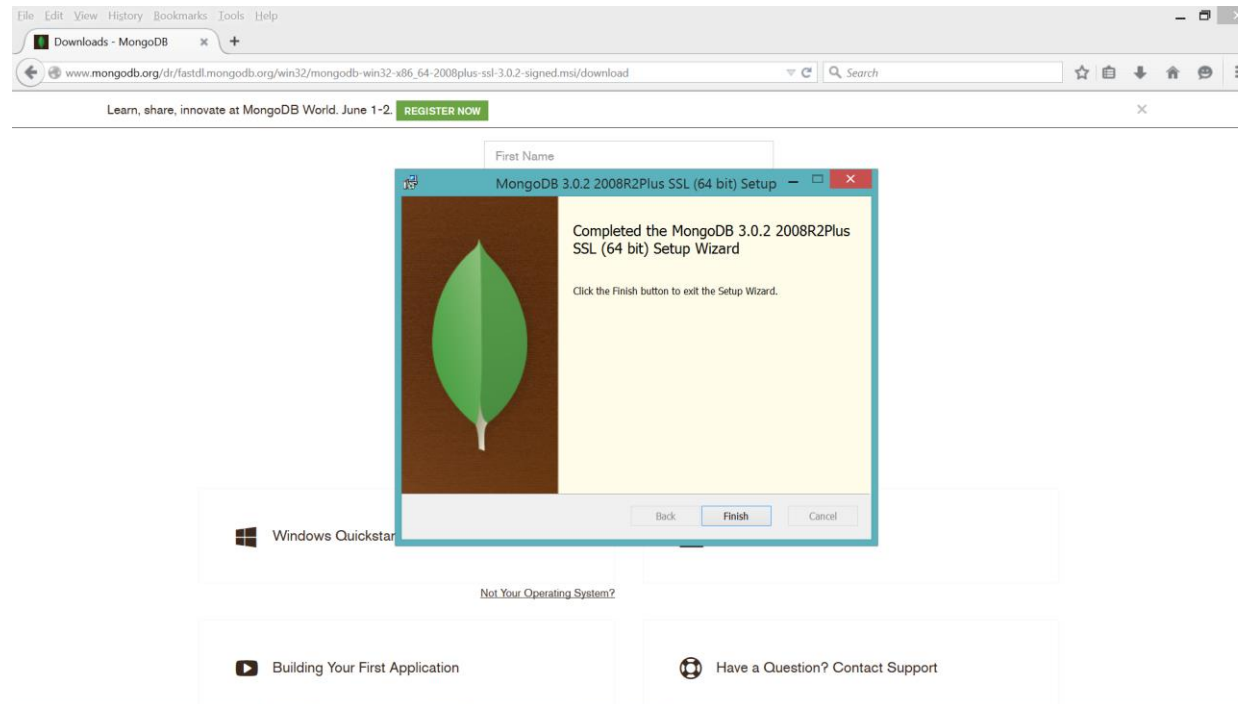
### 3. Mongo DB - Setup

- Click on install to install Mongo database



### 3. Mongo DB - Setup

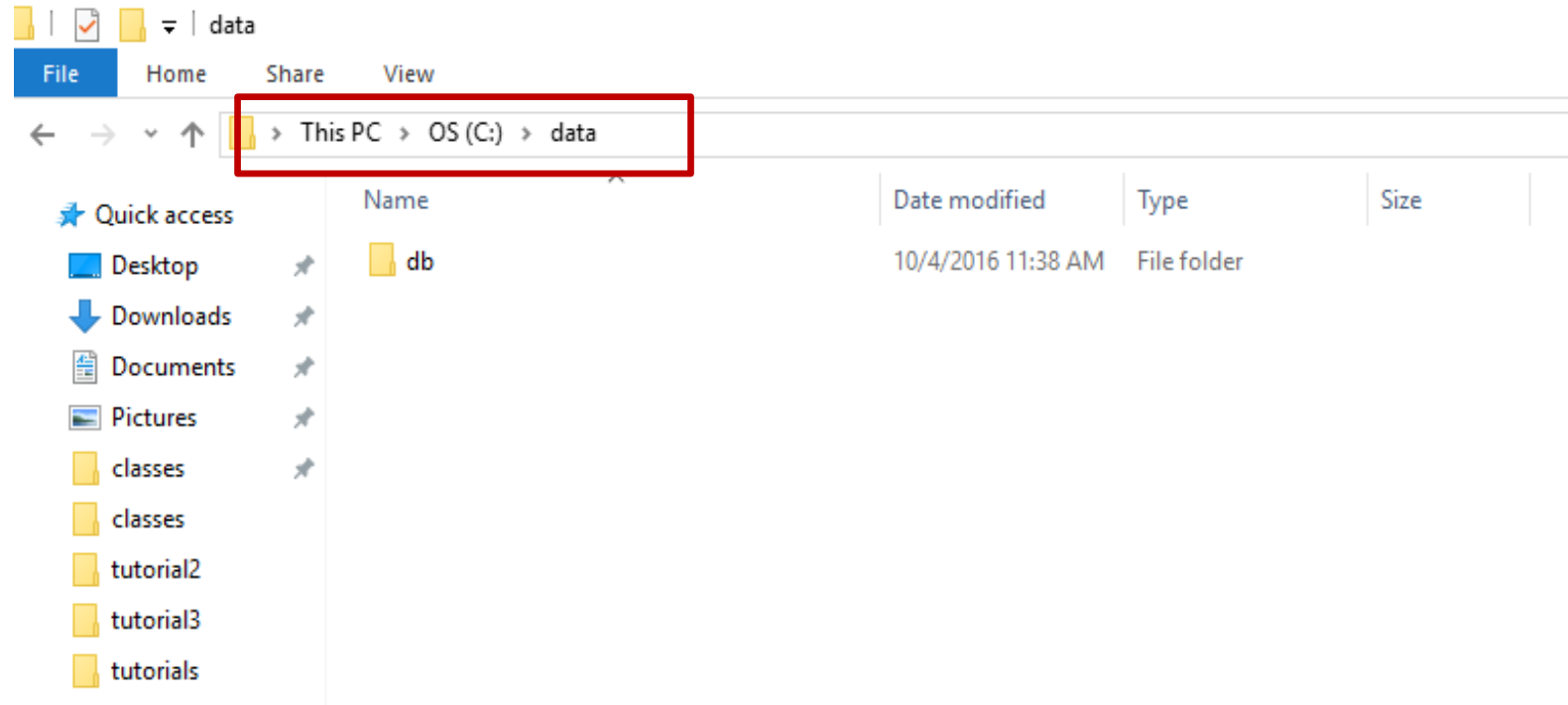
- Once the installation is complete, click on 'Finish' to complete the process



## 4. Mongo DB – Startup Instructions

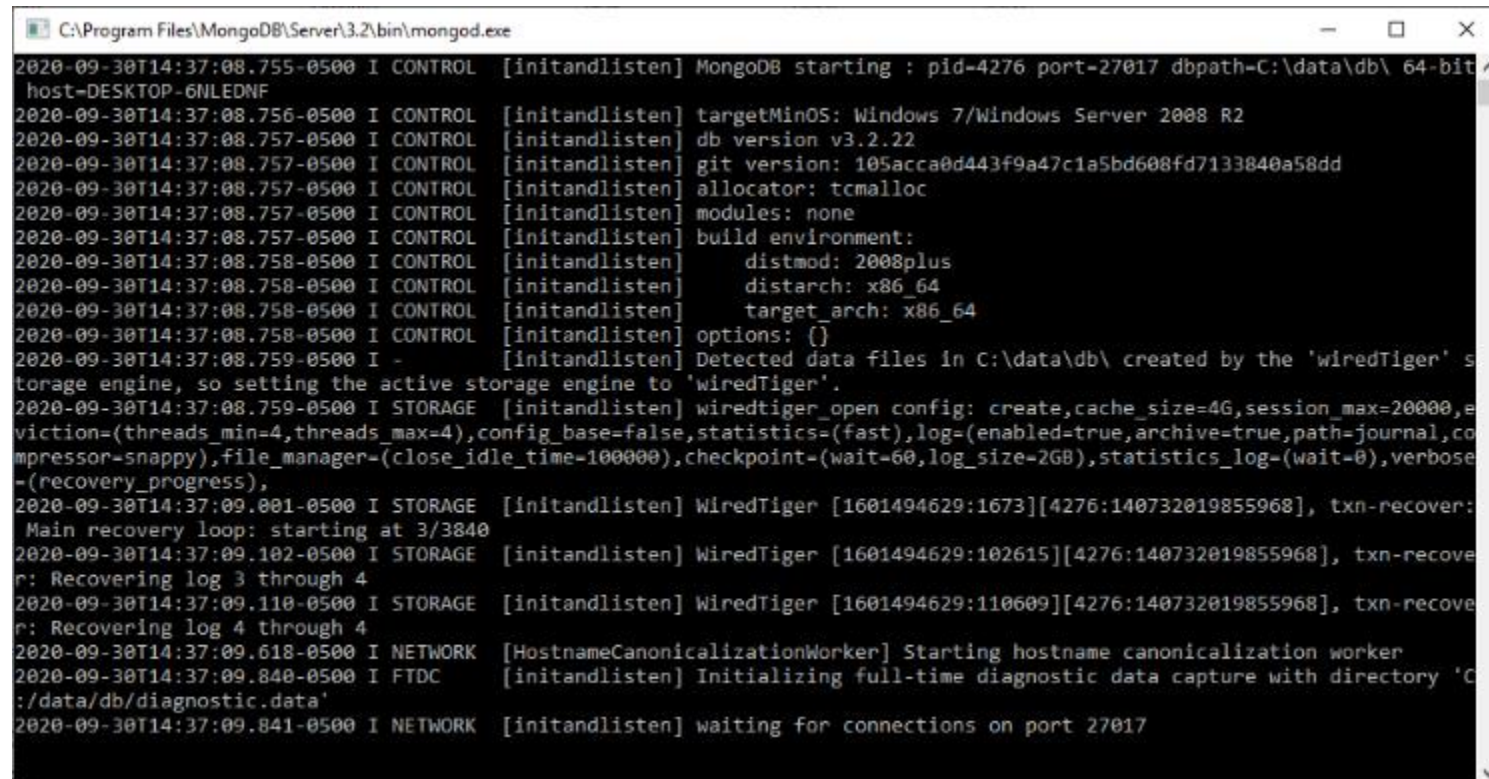
Create a data and db folder inside C drive as c:\data\db

Make sure that you directly create data\db folder inside c drive only



## 4. Mongo DB – Startup Instructions

- To start Mongo DB, open command prompt and enter the command ‘mongod’ .
- Mongo DB is usually installed under C:/Program Files/MongoDB
- To start Mongo DB server process , locate the “mongod.exe” stored in C:\Program Files\MongoDB\Server\3.2\bin and click it.

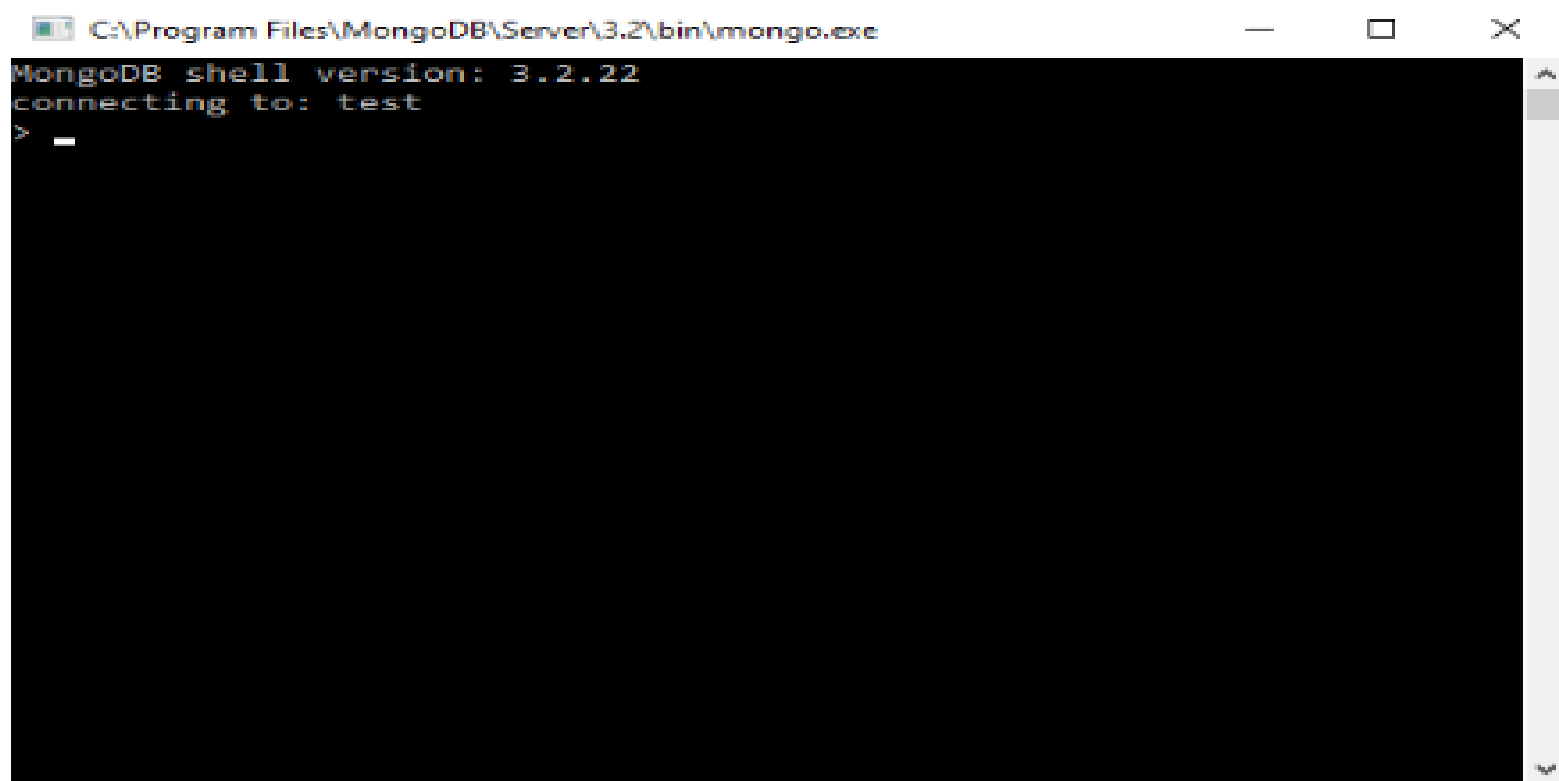


```
C:\Program Files\MongoDB\Server\3.2\bin\mongod.exe
2020-09-30T14:37:08.755-0500 I CONTROL [initandlisten] MongoDB starting : pid=4276 port=27017 dbpath=C:\data\db\ 64-bit
host=DESKTOP-6NLEDNF
2020-09-30T14:37:08.756-0500 I CONTROL [initandlisten] targetMinOS: Windows 7/Windows Server 2008 R2
2020-09-30T14:37:08.757-0500 I CONTROL [initandlisten] db version v3.2.22
2020-09-30T14:37:08.757-0500 I CONTROL [initandlisten] git version: 105acca0d443f9a47c1a5bd608fd7133840a58dd
2020-09-30T14:37:08.757-0500 I CONTROL [initandlisten] allocator: tcmalloc
2020-09-30T14:37:08.757-0500 I CONTROL [initandlisten] modules: none
2020-09-30T14:37:08.757-0500 I CONTROL [initandlisten] build environment:
2020-09-30T14:37:08.758-0500 I CONTROL [initandlisten]     distmod: 2008plus
2020-09-30T14:37:08.758-0500 I CONTROL [initandlisten]     distarch: x86_64
2020-09-30T14:37:08.758-0500 I CONTROL [initandlisten]     target_arch: x86_64
2020-09-30T14:37:08.758-0500 I CONTROL [initandlisten] options: {}
2020-09-30T14:37:08.759-0500 I - [initandlisten] Detected data files in C:\data\db\ created by the 'wiredTiger' storage engine, so setting the active storage engine to 'wiredTiger'.
2020-09-30T14:37:08.759-0500 I STORAGE [initandlisten] wiredtiger_open config: create,cache_size=4G,session_max=20000,eviction=(threads_min=4,threads_max=4),config_base=false,statistics=(fast),log=(enabled=true,archive=true,path=journal,compressor=snappy),file_manager=(close_idle_time=100000),checkpoint=(wait=60,log_size=2GB),statistics_log=(wait=0),verbose=(recovery_progress),
2020-09-30T14:37:09.001-0500 I STORAGE [initandlisten] WiredTiger [1601494629:1673][4276:140732019855968], txn-recovery: Main recovery loop: starting at 3/3840
2020-09-30T14:37:09.102-0500 I STORAGE [initandlisten] WiredTiger [1601494629:102615][4276:140732019855968], txn-recovery: Recovering log 3 through 4
2020-09-30T14:37:09.110-0500 I STORAGE [initandlisten] WiredTiger [1601494629:110609][4276:140732019855968], txn-recovery: Recovering log 4 through 4
2020-09-30T14:37:09.618-0500 I NETWORK [HostnameCanonicalizationWorker] Starting hostname canonicalization worker
2020-09-30T14:37:09.840-0500 I FTDC [initandlisten] Initializing full-time diagnostic data capture with directory 'C:\data\db\diagnostic.data'
2020-09-30T14:37:09.841-0500 I NETWORK [initandlisten] waiting for connections on port 27017
```



## 4. Mongo DB – Startup Instructions

- To start Mongo shell, open command prompt and enter the command ‘mongo’
- Mongo DB is usually installed under C:/Program Files/MongoDB
- To start Mongo shell, locate the “mongo.exe” stored in C:\Program Files\MongoDB\Server\3.2\bin and click it.

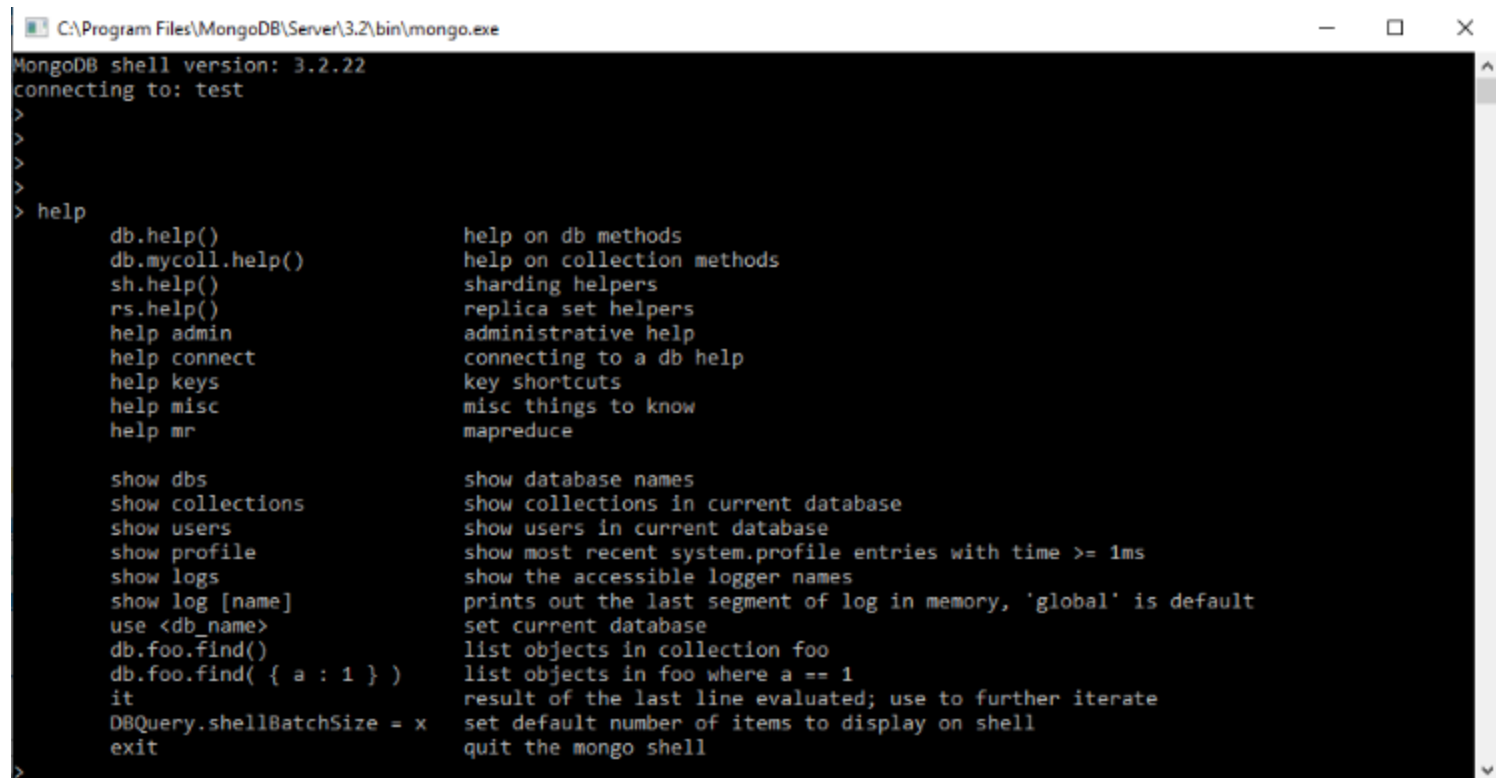
A screenshot of a Windows command prompt window titled "C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe". The window has a black background with white text. The text inside the window reads: "MongoDB shell version: 3.2.22", "connecting to: test", and a prompt ">" followed by a cursor. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
MongoDB shell version: 3.2.22
connecting to: test
> _
```



## 4. Mongo DB – Help command & Documentation

- The 'Help' command is a very handy command and can be used to check various commands available with Mongo DB
- To learn more on MongoDB Commands , visit: <https://docs.mongodb.com/manual/reference/mongo-shell/>

A screenshot of a Windows command prompt window titled "C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe". The window shows the MongoDB shell version 3.2.22 connecting to a 'test' database. The user has entered the 'help' command, and the shell displays a list of available commands and their descriptions in two columns.

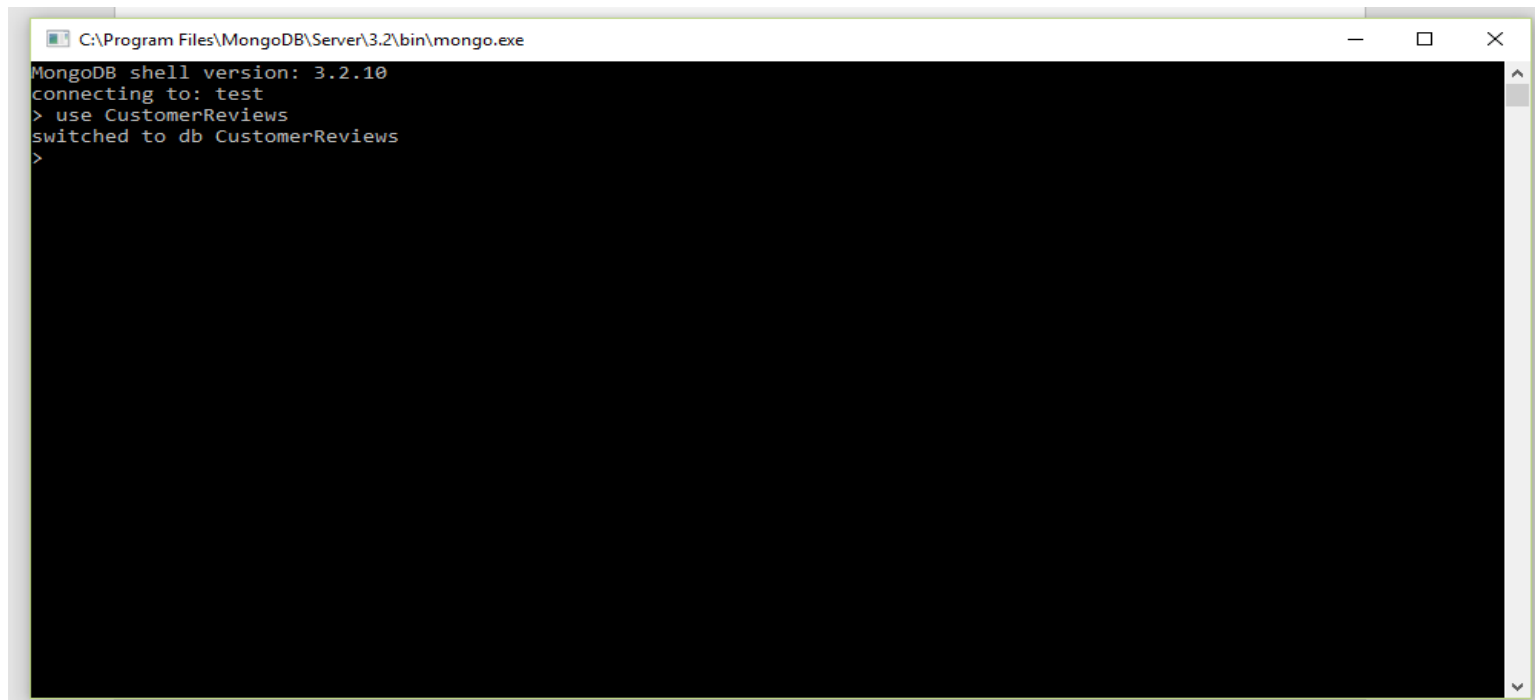
```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
MongoDB shell version: 3.2.22
connecting to: test
>
>
>
>
> help
  db.help()           help on db methods
  db.mycoll.help()    help on collection methods
  sh.help()           sharding helpers
  rs.help()           replica set helpers
  help admin          administrative help
  help connect        connecting to a db help
  help keys           key shortcuts
  help misc           misc things to know
  help mr             mapreduce

  show dbs            show database names
  show collections    show collections in current database
  show users          show users in current database
  show profile        show most recent system.profile entries with time >= 1ms
  show logs           show the accessible logger names
  show log [name]     prints out the last segment of log in memory, 'global' is default
  use <db_name>       set current database
  db.foo.find()       list objects in collection foo
  db.foo.find( { a : 1 } ) list objects in foo where a == 1
  it                 result of the last line evaluated; use to further iterate
  DBQuery.shellBatchSize = x set default number of items to display on shell
  exit               quit the mongo shell
>
```



## 4. Mongo DB – Use a database

- In order to use a database, you must select it first
- To select a database along with the startup, use the command 'use databasename'
- Example, to select the 'CustomerReviews' database, the command is 'use CustomerReviews'
- You can then check the db you are in by typing db command




```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
MongoDB shell version: 3.2.10
connecting to: test
> use CustomerReviews
switched to db CustomerReviews
>
```





## 4. Mongo DB – Create Collections

- You can manually create collection or automatic by running your java program
- To create a collection manually type `db.createCollection(collectionname)`

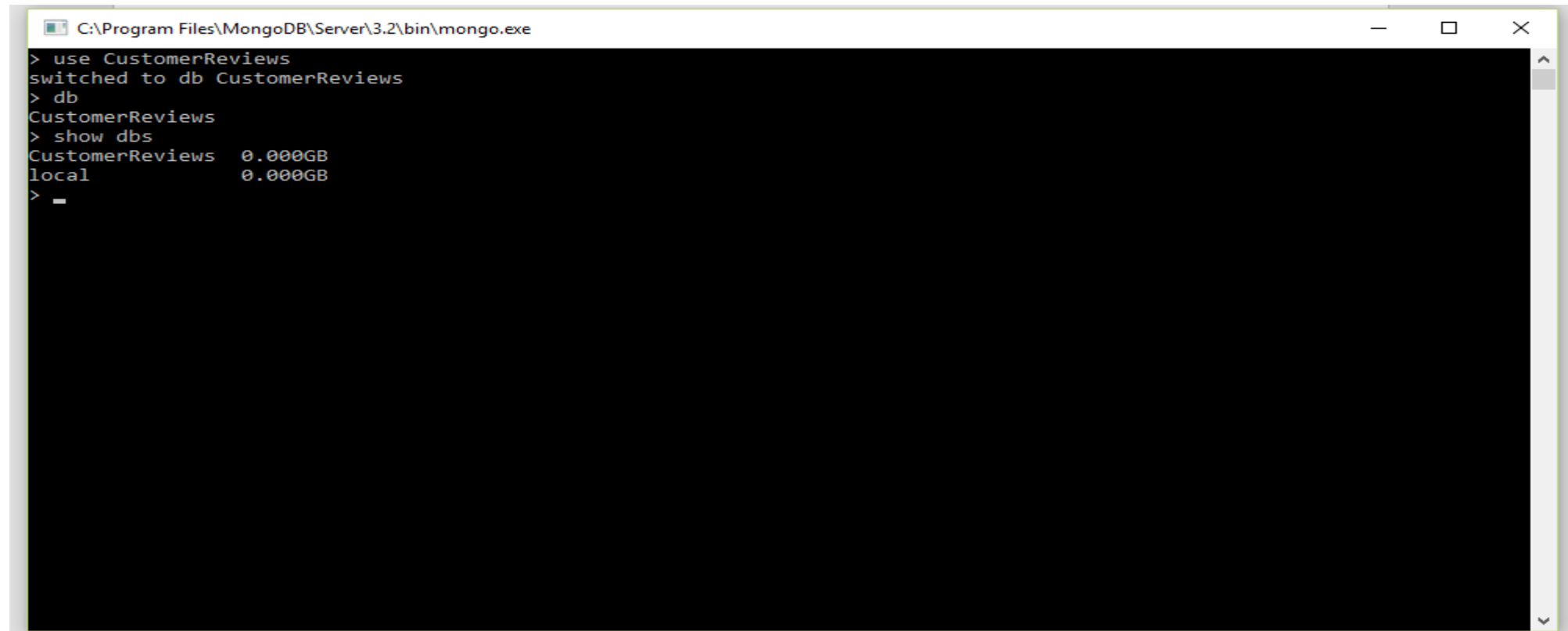
A screenshot of a MongoDB shell window. The title bar shows the path 'C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe'. The shell prompt is '>'. The command entered is 'db.createCollection("myReviews")'. The output is '{ "ok" : 1 }'.

```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
>
> db.createCollection("myReviews")
{ "ok" : 1 }
>
```



## 4. Mongo DB – Display list of available databases

- To check the databases that exist, use the command 'show dbs'
- This will show the list of available databases



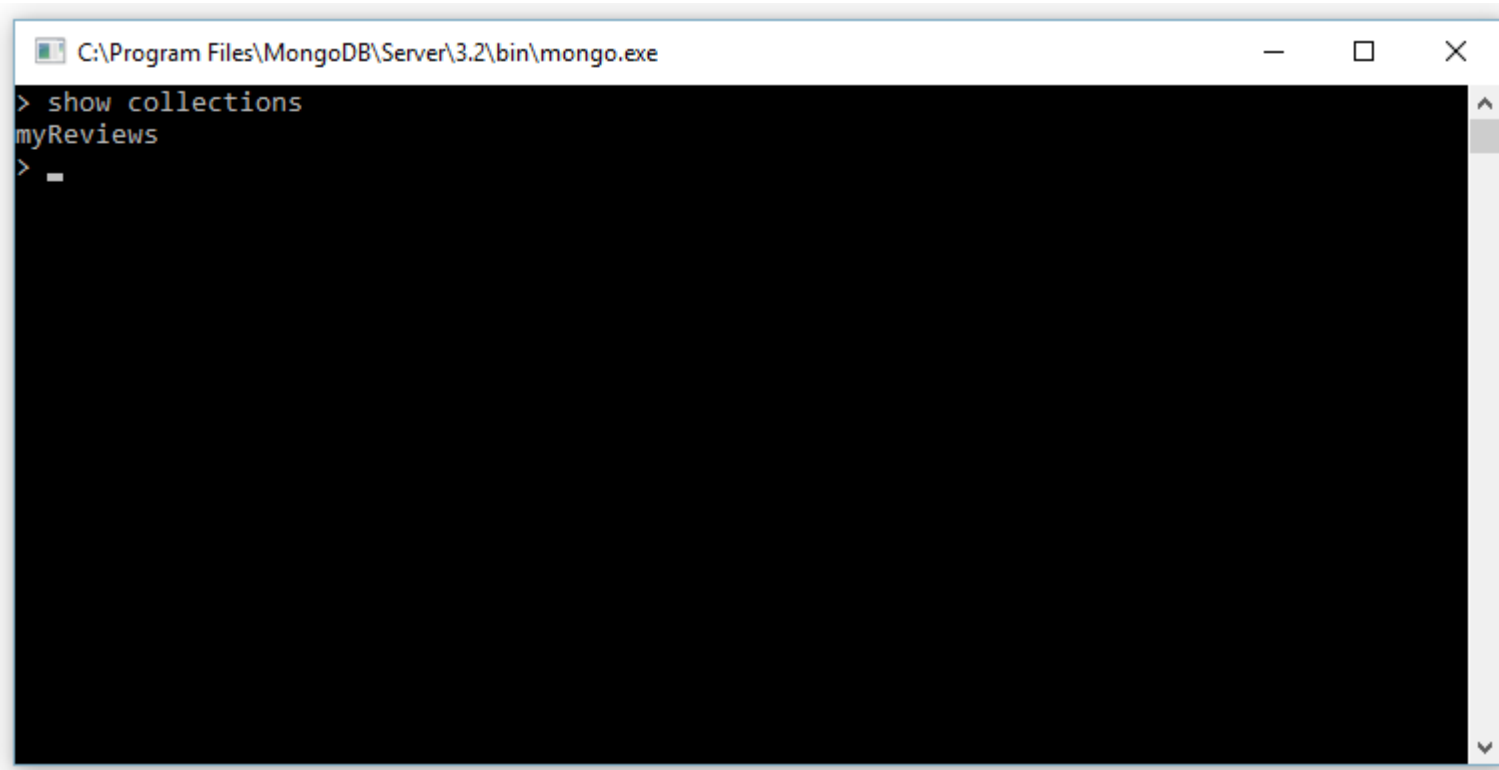
```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
> use CustomerReviews
switched to db CustomerReviews
> db
CustomerReviews
> show dbs
CustomerReviews  0.000GB
local            0.000GB
> _
```

The screenshot shows a terminal window titled "C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe". The user has entered the command 'use CustomerReviews', which has switched the context to the 'CustomerReviews' database. Then, the user entered 'show dbs', which displays a list of databases: 'CustomerReviews' with a size of 0.000GB and 'local' with a size of 0.000GB. The prompt is currently at the next line, indicated by a dash.



## 4. Mongo DB – Show collections

- Use the command 'show collections' to view the list of available collections in the selected database



```
C:\Program Files\MongoDB\Server\3.2\bin>mongo.exe
> use myReviews
> show collections
myReviews
> _
```

The screenshot shows a Windows command prompt window titled "C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe". The prompt is at the MongoDB shell, where the command 'show collections' has been entered. The output shows 'myReviews' as the only collection in the current database. The prompt is currently at the end of a new line, indicated by a small horizontal bar.



## 4. Mongo DB – Query data

- In order to query data, use the command 'db.COLLECTION\_NAME.find()'
- The find() queries the data available in the selected collection.
- Example, to query the 'myReviews' collection we use the command 'db.myReviews.find()'



```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe
>
>
> db.myReviews.find()
{ "_id" : ObjectId("57f3e06441e5be1e543b3e0d"), "title" : "myReviews", "userName" : "customer1", "productName" : "xbox360", "productType" : "consoles", "productMaker" : "microsoft", "reviewRating" : "5", "reviewDate" : "2016-09-13", "reviewText" : " Amazing Game to Play" }
> _
```



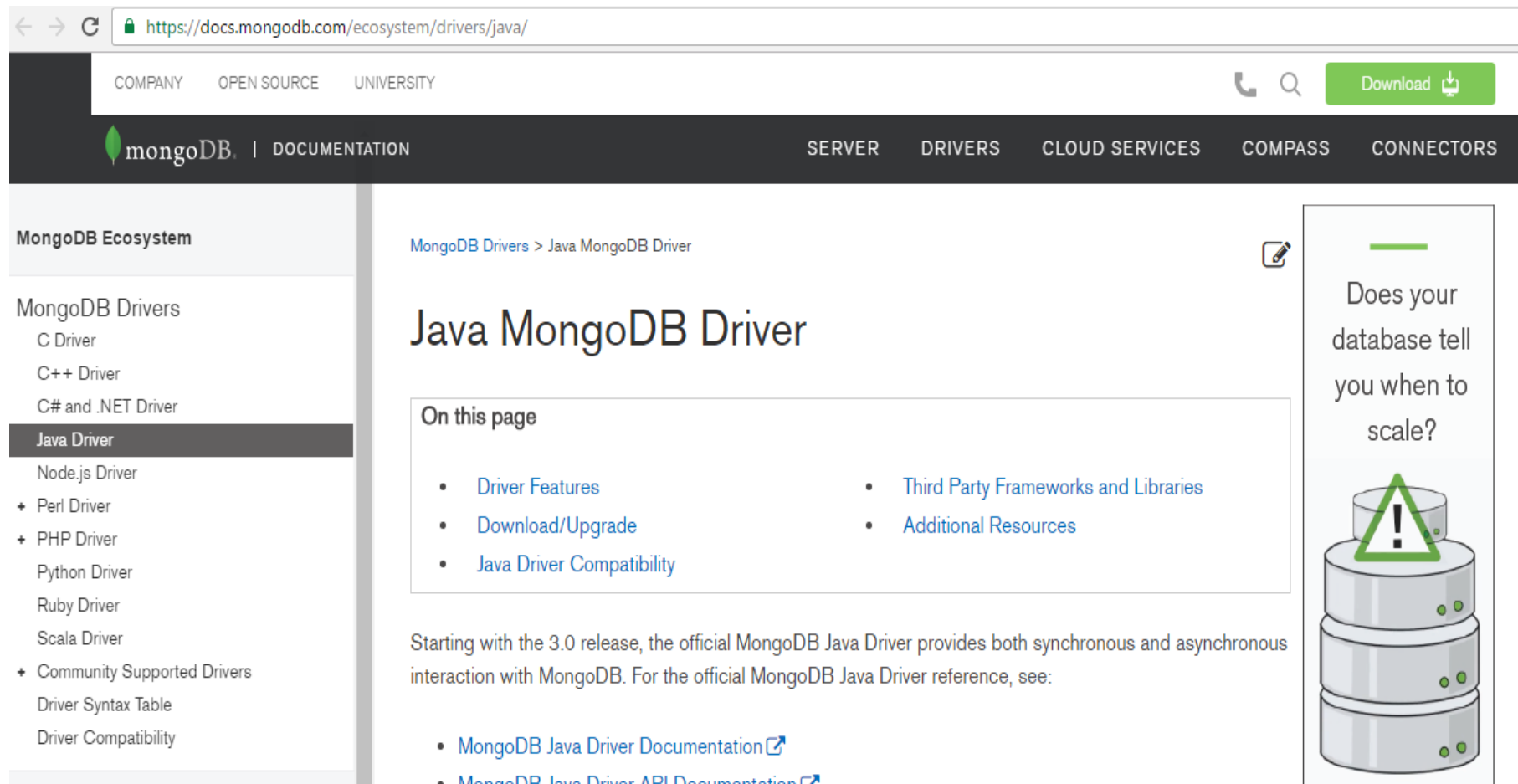
## 5. Compile and run

- You need to include all the JAR files before you compile your Java program which imports external libraries (Such as Servlets, MongoDB in this tutorial)
- To download MongoDB Connector jar go to [http://mongodb.github.io/mongo-java-driver/?\\_ga=1.142913397.1760375742.1470875192](http://mongodb.github.io/mongo-java-driver/?_ga=1.142913397.1760375742.1470875192)
- To see the documentation for Java MongoDB Driver go to <https://docs.mongodb.com/drivers/java>
- To include these external JAR files, make the changes to the 'CLASSPATH' variable in your 'env-setup-for-tomcat\_backup.bat' file
- Locate and copy the location of the JAR files on your computer and edit the 'CLASSPATH' variable accordingly
- **NOTE:** Make sure you have the necessary JAR files on your computer



## 5. Compile and run

- Go to <https://docs.mongodb.com/drivers/java> to see documentation for Java MongoDB Driver .



The screenshot shows the MongoDB documentation website for the Java driver. The browser address bar displays <https://docs.mongodb.com/ecosystem/drivers/java/>. The page features a dark navigation bar with links for COMPANY, OPEN SOURCE, UNIVERSITY, SERVER, DRIVERS, CLOUD SERVICES, COMPASS, and CONNECTORS. A sidebar on the left, titled 'MongoDB Ecosystem', lists various drivers, with 'Java Driver' highlighted. The main content area is titled 'Java MongoDB Driver' and includes a 'On this page' section with links to Driver Features, Download/Upgrade, Java Driver Compatibility, Third Party Frameworks and Libraries, and Additional Resources. A sidebar on the right contains a warning icon and the text 'Does your database tell you when to scale?' above an illustration of a database stack.

COMPANY OPEN SOURCE UNIVERSITY

mongoDB | DOCUMENTATION SERVER DRIVERS CLOUD SERVICES COMPASS CONNECTORS

MongoDB Ecosystem

MongoDB Drivers

- C Driver
- C++ Driver
- C# and .NET Driver
- Java Driver**
- Node.js Driver
- + Perl Driver
- + PHP Driver
- Python Driver
- Ruby Driver
- Scala Driver
- + Community Supported Drivers
- Driver Syntax Table
- Driver Compatibility

MongoDB Drivers > Java MongoDB Driver

## Java MongoDB Driver


On this page

- Driver Features
- Download/Upgrade
- Java Driver Compatibility
- Third Party Frameworks and Libraries
- Additional Resources

Starting with the 3.0 release, the official MongoDB Java Driver provides both synchronous and asynchronous interaction with MongoDB. For the official MongoDB Java Driver reference, see:

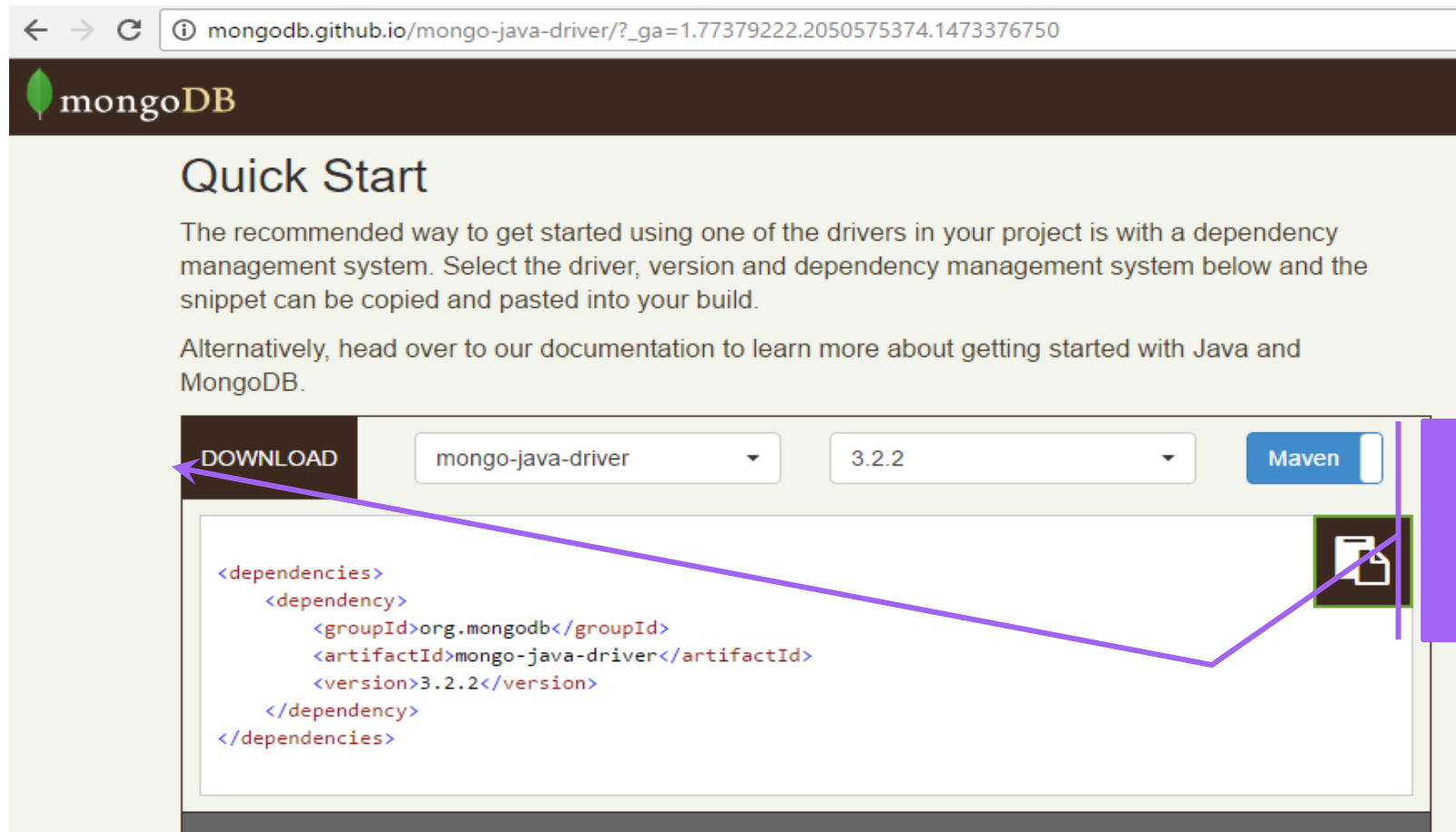
- MongoDB Java Driver Documentation
- MongoDB Java Driver API Documentation

Does your database tell you when to scale?



## 5. Compile and run

- Go to [http://mongodb.github.io/mongo-java-driver/?\\_ga=1.142913397.1760375742.1470875192](http://mongodb.github.io/mongo-java-driver/?_ga=1.142913397.1760375742.1470875192) to Download jar File.
- Select mongo-java-driver and version 3.2.2 and click Download Button. (Direct link: <https://repo1.maven.org/maven2/org/mongodb/mongo-java-driver/3.2.2/>)



Click on the download button for downloading Mongo java Driver



## 5. Compile and run

- To download click on mongo-java-driver-3.2.2.jar

Central Repository: org/mongodl x +

← → ↻ repo1.maven.org/maven2/org/mongodb/mongo-java-driver/3.2.2/

### org/mongodb/mongo-java-driver/3.2.2

|  |                  |         |
|--|------------------|---------|
| <a href="#">../</a>  |                  |         |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar</a>          | 2016-02-15 16:20 | 2558850 |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar.asc</a>      | 2016-02-15 16:20 | 475     |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar.asc.md5</a>  | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar.asc.sha1</a> | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar.md5</a>      | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2-javadoc.jar.sha1</a>     | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2-sources.jar</a>          | 2016-02-15 16:20 | 1046583 |
| <a href="#">mongo-java-driver-3.2.2-sources.jar.asc</a>      | 2016-02-15 16:20 | 475     |
| <a href="#">mongo-java-driver-3.2.2-sources.jar.asc.md5</a>  | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2-sources.jar.asc.sha1</a> | 2016-02-15 16:20 | 40      |
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| <a href="#">mongo-java-driver-3.2.2-sources.jar.sha1</a>     | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2.jar</a>                  | 2016-02-15 16:20 | 1484724 |
| <a href="#">mongo-java-driver-3.2.2.jar.asc</a>              | 2016-02-15 16:20 | 475     |
| <a href="#">mongo-java-driver-3.2.2.jar.asc.md5</a>          | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2.jar.asc.sha1</a>         | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2.jar.md5</a>              | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2.jar.sha1</a>             | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2.pom</a>                  | 2016-02-15 16:20 | 2084    |
| <a href="#">mongo-java-driver-3.2.2.pom.asc</a>              | 2016-02-15 16:20 | 475     |
| <a href="#">mongo-java-driver-3.2.2.pom.asc.md5</a>          | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2.pom.asc.sha1</a>         | 2016-02-15 16:20 | 40      |
| <a href="#">mongo-java-driver-3.2.2.pom.md5</a>              | 2016-02-15 16:20 | 32      |
| <a href="#">mongo-java-driver-3.2.2.pom.sha1</a>             | 2016-02-15 16:20 | 40      |

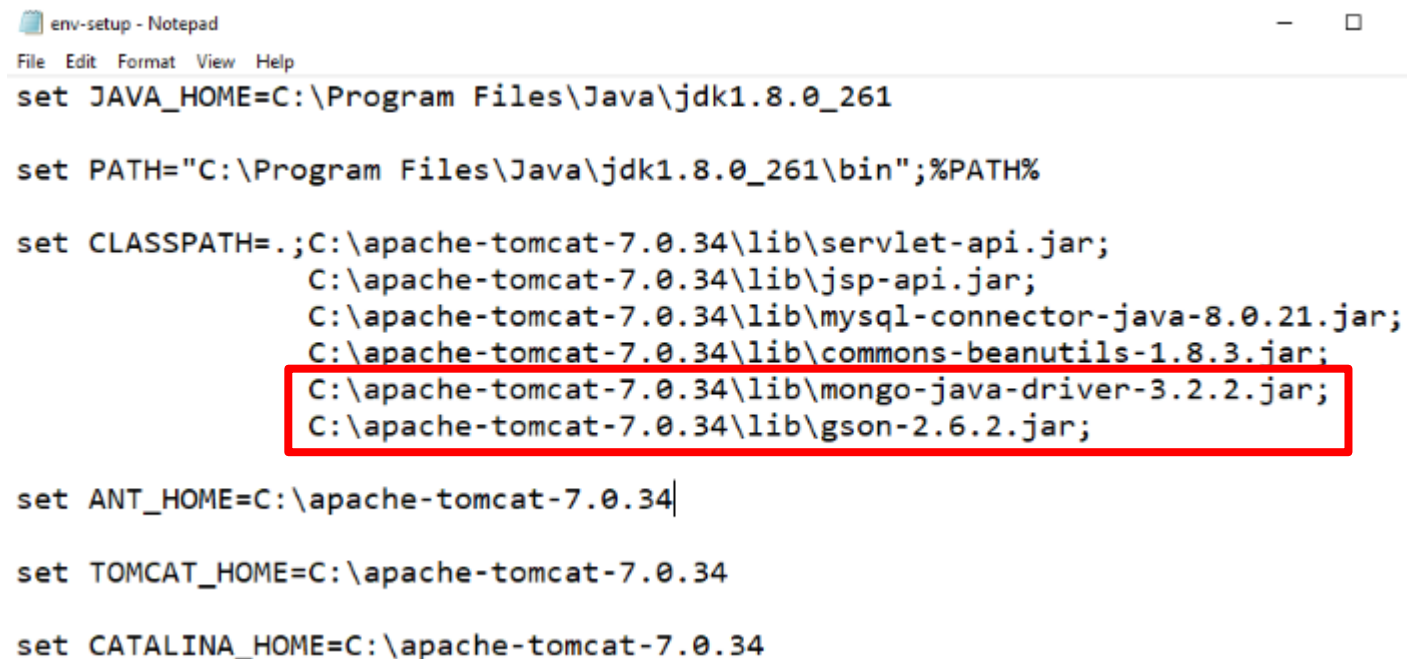
Click on the link for  
downloading Mongo java  
Driver





## 5. Compile and run

- Here is the snapshot of my 'env-setup-for-tomcat\_backup.bat'
- The location of the JAR files highlighted will differ based on where they are present on your computer. Please make sure you do the changes accordingly
- For Tutorial\_3 to work, you also need to install **gson-2.6.2.jar** into the TOMCAT\_HOME\lib folder and give the path into env-setup-for-tomcat\_backup.bat or class path in system similarly to this (<https://repo1.maven.org/maven2/com/google/code/gson/gson/2.6.2/>)



```
env-setup - Notepad
File Edit Format View Help
set JAVA_HOME=C:\Program Files\Java\jdk1.8.0_261

set PATH="C:\Program Files\Java\jdk1.8.0_261\bin";%PATH%

set CLASSPATH=.;C:\apache-tomcat-7.0.34\lib\servlet-api.jar;
C:\apache-tomcat-7.0.34\lib\jsp-api.jar;
C:\apache-tomcat-7.0.34\lib\mysql-connector-java-8.0.21.jar;
C:\apache-tomcat-7.0.34\lib\commons-beanutils-1.8.3.jar;
C:\apache-tomcat-7.0.34\lib\mongo-java-driver-3.2.2.jar;
C:\apache-tomcat-7.0.34\lib\gson-2.6.2.jar;

set ANT_HOME=C:\apache-tomcat-7.0.34\

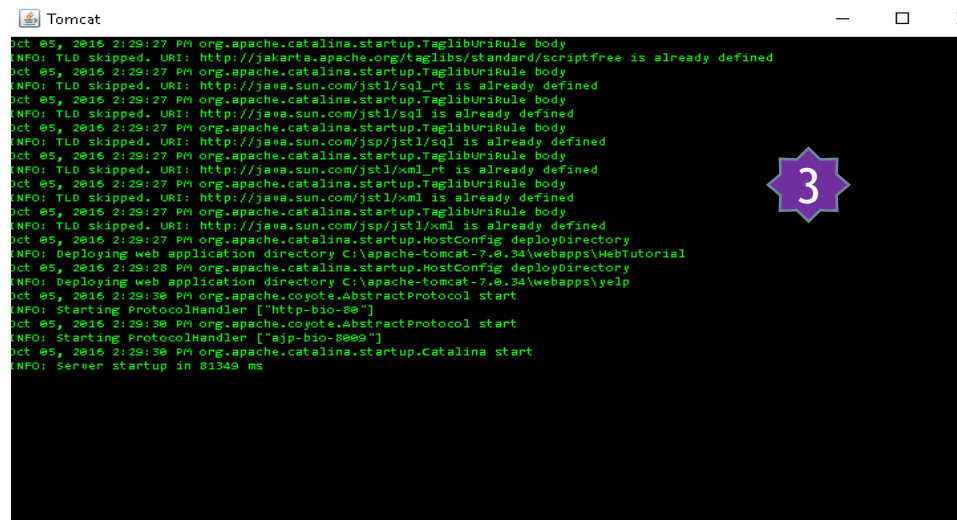
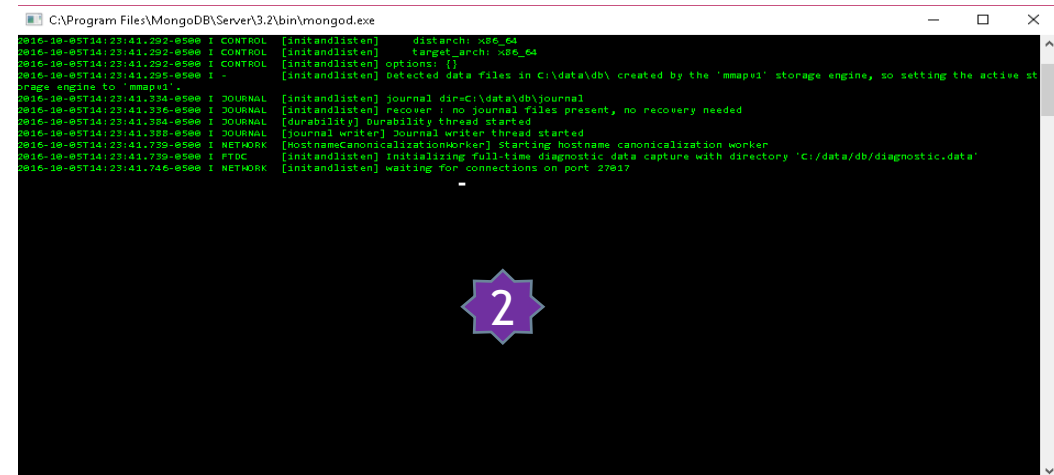
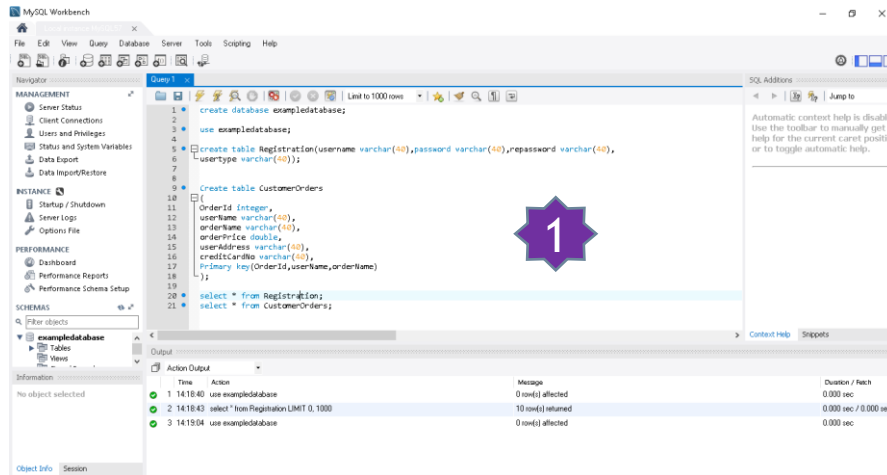
set TOMCAT_HOME=C:\apache-tomcat-7.0.34

set CATALINA_HOME=C:\apache-tomcat-7.0.34
```



# Things to Remember Before Running your Application in localhost:

- Check **MySQL Server** is up and Running or else start the **MySQL Server** .
- Check **MongoDB Server** is up and Running or else start the **MongoDB Server** .
- Check **Apache Tomcat** is up and Running or else start the **Apache Tomcat** .



## 6. Example – Write Review:

To write a review for the product, click on ‘Write Review’ button on the products page

The screenshot displays the Game Speed website interface. The header features the Game Speed logo with a green controller icon and the tagline "World's Largest Online Games Center". A search bar is located in the top right corner. The navigation menu includes links for Home, Consoles, Games, Tablets, and Trending. On the left side, there are three yellow sidebar categories: Consoles (listing Microsoft, Sony, and Nintendo), Games (listing Electronic Arts, Activision, and Take-Two Interactive), and Tablets. The main content area is titled "Microsoft Consoles" and displays two product listings. The first listing is for the Xbox One, priced at \$399.99, with a green background image. The second listing is for the Xbox 360, also priced at \$399.99, with a white background image. Both listings include "Buy Now", "WriteReview", and "ViewReview" buttons. A red rectangular box highlights the "WriteReview" button for the Xbox 360 product.

**Game Speed**  
World's Largest Online Games Center

Search Product:  
search here..

Home Consoles Games Tablets Trending View Order Login Cart(0)

**Consoles**

- Microsoft
- Sony
- Nintendo

**Games**

- Electronic Arts
- Activision
- Take-Two Interactive

**Tablets**

**Microsoft Consoles**

**Xbox One**  
\$399.99

**xbox360**  
\$399.99

Buy Now WriteReview ViewReview

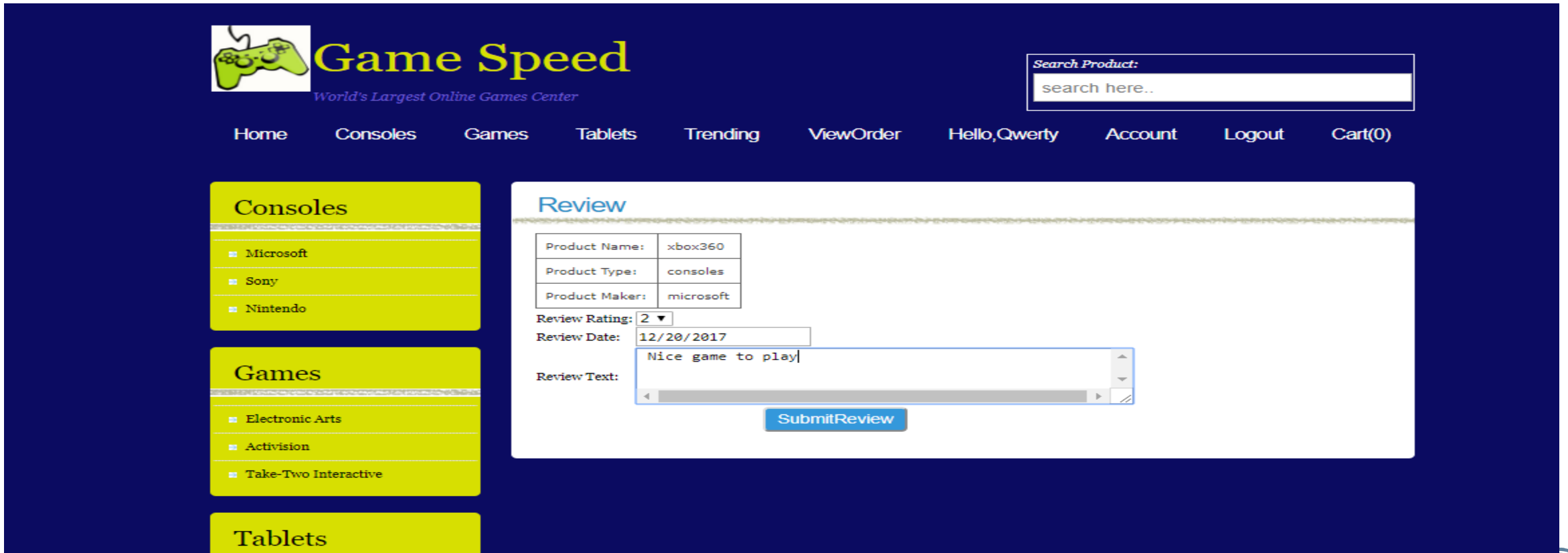
Buy Now WriteReview ViewReview



## 6. Example – Write Review:

On clicking the WriteReview Button from products page user will be directed to WriteReview webpage where he can give review for product.

Click the SubmitReview button to store the review in Mongo database



The screenshot displays the 'Game Speed' website interface. The header features a logo with a green game controller and the text 'Game Speed' in yellow, with the tagline 'World's Largest Online Games Center' below it. A search bar labeled 'Search Product:' is positioned on the right. The navigation menu includes links for Home, Consoles, Games, Tablets, Trending, ViewOrder, Hello,Qwerty, Account, Logout, and Cart(0). The main content area is divided into three sections: 'Consoles' with a list of Microsoft, Sony, and Nintendo; 'Games' with a list of Electronic Arts, Activision, and Take-Two Interactive; and 'Tablets'. The 'Review' form is prominently displayed, containing fields for Product Name (xbox360), Product Type (consoles), Product Maker (microsoft), Review Rating (2), Review Date (12/20/2017), and Review Text (Nice game to play). A 'SubmitReview' button is located at the bottom of the form.

**Game Speed**  
World's Largest Online Games Center

Search Product:  
search here..

Home Consoles Games Tablets Trending ViewOrder Hello,Qwerty Account Logout Cart(0)

**Consoles**

- Microsoft
- Sony
- Nintendo

**Games**

- Electronic Arts
- Activision
- Take-Two Interactive

**Tablets**

**Review**

|                |           |
|----------------|-----------|
| Product Name:  | xbox360   |
| Product Type:  | consoles  |
| Product Maker: | microsoft |

Review Rating: 2

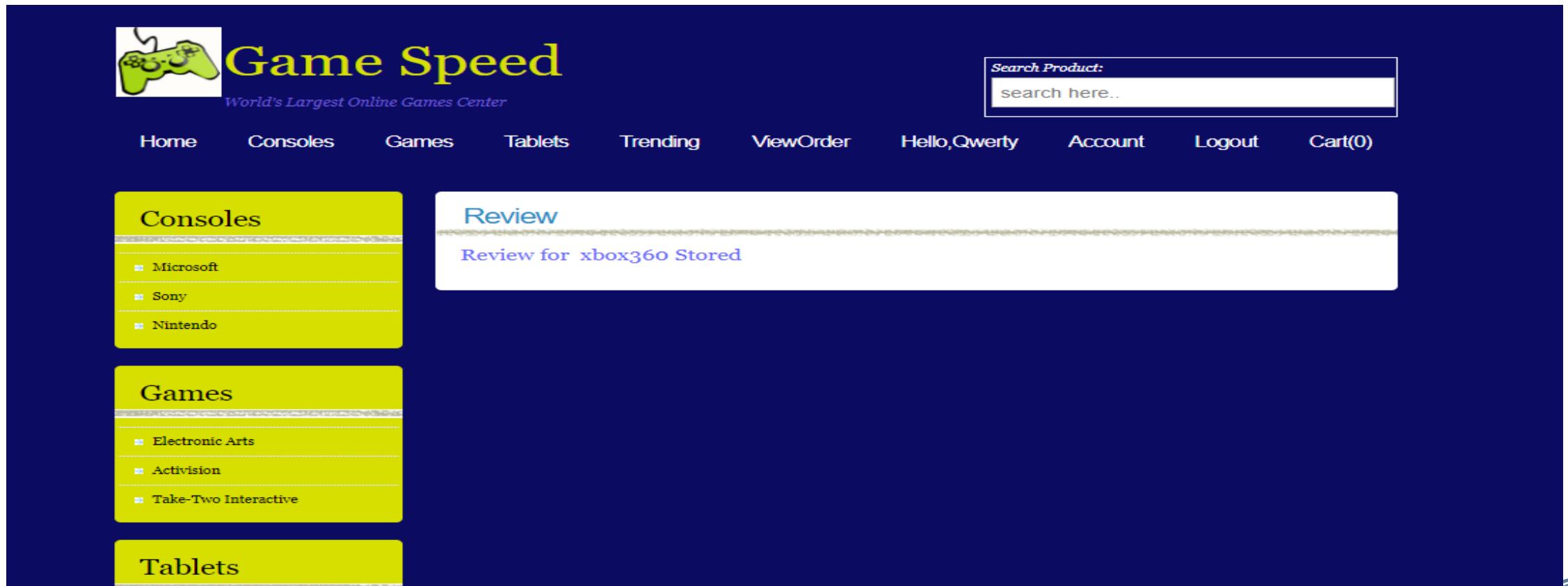
Review Date: 12/20/2017

Review Text: Nice game to play

**SubmitReview**


## 6. Example – Write Review:

On clicking the SubmitReview button user will get response that reviews for product is stored in database



## 6. Example – Write Review:

Submitting one more Review for product



# Game Speed

World's Largest Online Games Center

Search Product:

[Home](#) [Consoles](#) [Games](#) [Tablets](#) [Trending](#) [ViewOrder](#) [Hello,Qwerty](#) [Account](#) [Logout](#) [Cart\(0\)](#)

### Consoles

- Microsoft
- Sony
- Nintendo

### Games

- Electronic Arts
- Activision
- Take-Two Interactive

### Tablets

### Review

|                |           |
|----------------|-----------|
| Product Name:  | xbox360   |
| Product Type:  | consoles  |
| Product Maker: | microsoft |

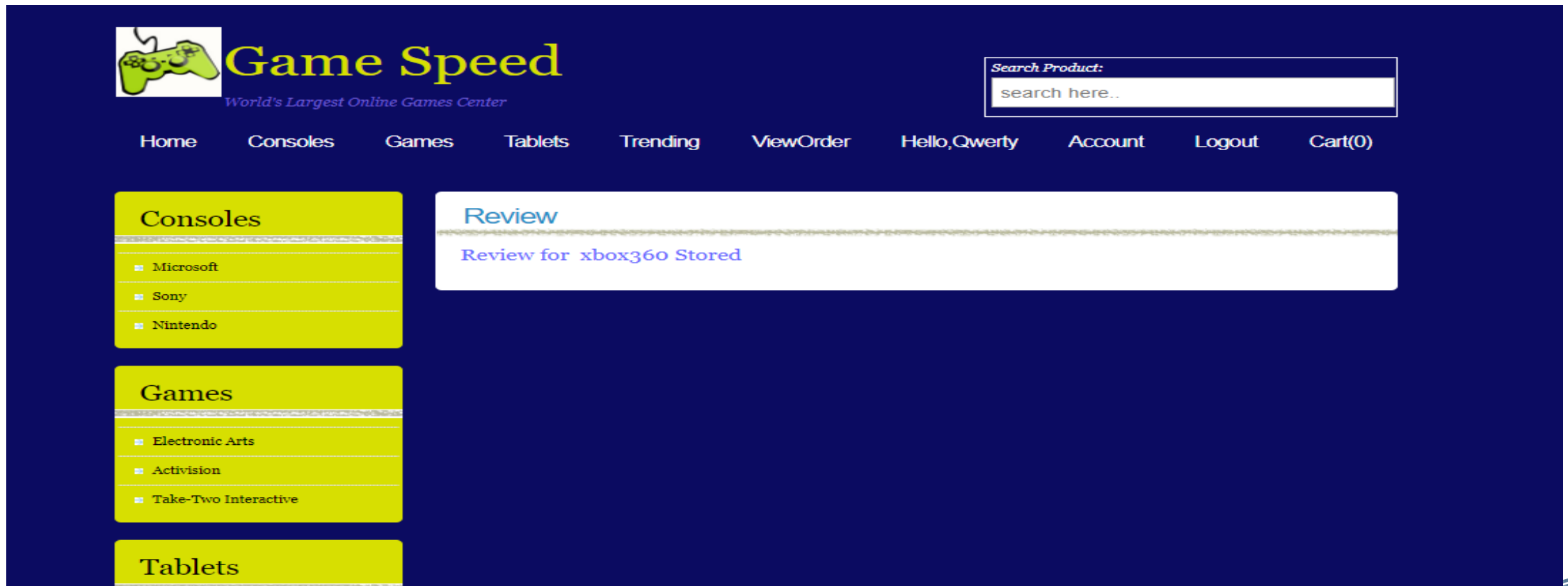
Review Rating:

Review Date:

Review Text:

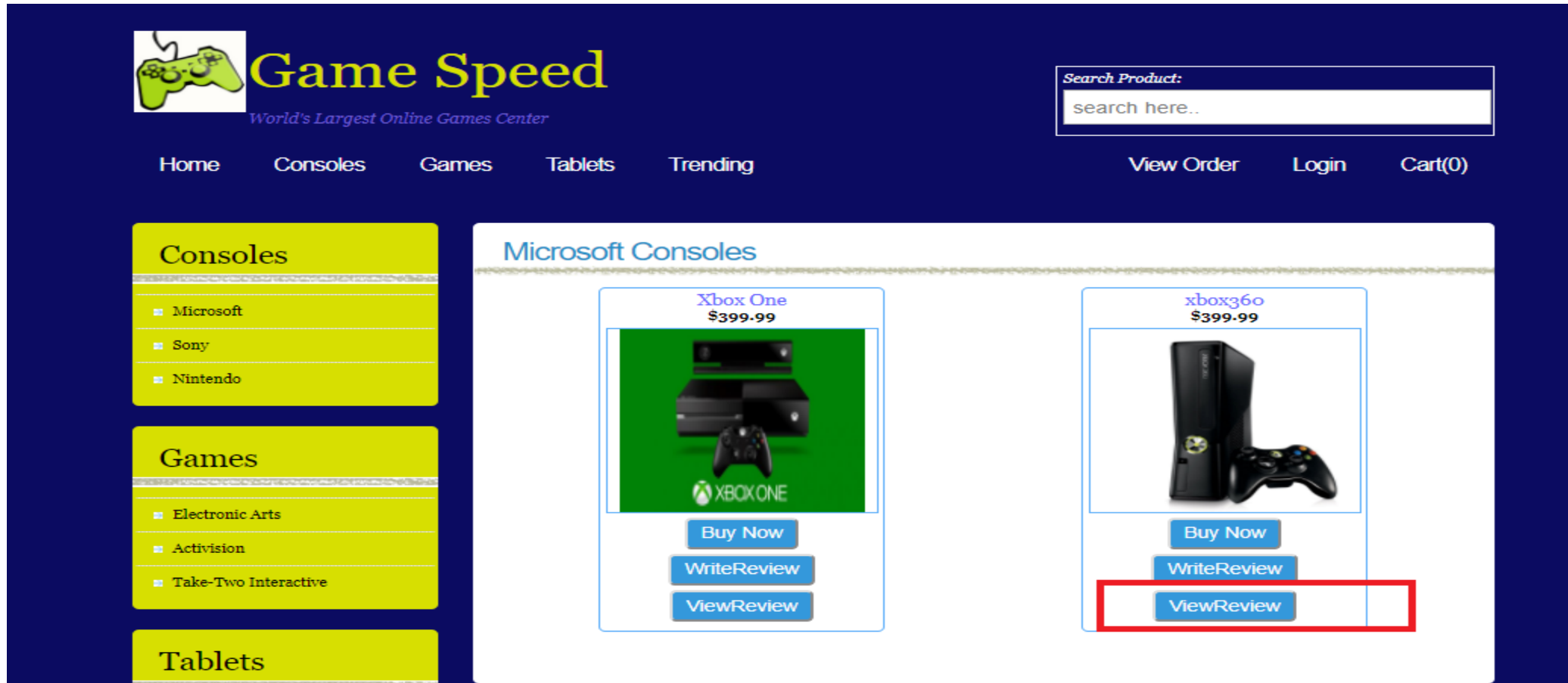
## 6. Example – Write Review:

On clicking the SubmitReview button user will get response that reviews for product is stored in database



## 6. Example – View Review:

You can view the review submitted by clicking on ViewReview button on products page



The screenshot displays the Game Speed website interface. The header features the Game Speed logo with the tagline "World's Largest Online Games Center" and a search bar labeled "Search Product:". Navigation links include Home, Consoles, Games, Tablets, and Trending. User links for View Order, Login, and Cart(0) are also present.

The main content area is divided into two columns. The left column contains category lists for Consoles (Microsoft, Sony, Nintendo), Games (Electronic Arts, Activision, Take-Two Interactive), and Tablets. The right column displays the "Microsoft Consoles" section with two product listings:

- Xbox One**: Priced at \$399.99, featuring an image of the console and controller. Below the image are buttons for "Buy Now", "WriteReview", and "ViewReview".
- xbox360**: Priced at \$399.99, featuring an image of the console and controller. Below the image are buttons for "Buy Now", "WriteReview", and "ViewReview". The "ViewReview" button for the Xbox 360 is highlighted with a red rectangular box.





## 6. Example – View Review:

All the reviews for the product will be retrieved from mongo db and displayed in web page

The screenshot shows a web application interface with a dark blue header and a light blue sidebar. The header contains navigation links: Home, Consoles, Games, Tablets, Trending, ViewOrder, Hello, Qwerty, Account, Logout, and Cart(0). The sidebar has four categories: Consoles (Microsoft, Sony, Nintendo), Games (Electronic Arts, Activision, Take-Two Interactive), Tablets (Apple, Microsoft, Samsung), and Accessories (Microsoft Accessories, Sony Accessories, Nintendo Accessories). The main content area is titled 'Review' and displays a list of reviews for the product 'xbox360'. The reviews are shown in a table format with the following data:

|                |                      |
|----------------|----------------------|
| Product Name:  | xbox360              |
| user Name:     | test                 |
| Review Rating: | 1                    |
| Review Date:   | 2017-10-09           |
| Review Text:   |                      |
| Product Name:  | xbox360              |
| user Name:     | test                 |
| Review Rating: | 5                    |
| Review Date:   | 2017-10-10           |
| Review Text:   | rftgyhujiko          |
| Product Name:  | xbox360              |
| user Name:     | test                 |
| Review Rating: | 3                    |
| Review Date:   | 2017-10-18           |
| Review Text:   | fvgbhnjklp           |
| Product Name:  | xbox360              |
| user Name:     | manager1             |
| Review Rating: | 1                    |
| Review Date:   | 2017-10-19           |
| Review Text:   | very bad             |
| Product Name:  | xbox360              |
| user Name:     | qwerty               |
| Review Rating: | 2                    |
| Review Date:   | 2017-12-20           |
| Review Text:   | Nice game to play    |
| Product Name:  | xbox360              |
| user Name:     | qwerty               |
| Review Rating: | 5                    |
| Review Date:   | 2017-12-20           |
| Review Text:   | Amazing game to play |
| Product Name:  | xbox360              |
| user Name:     | qwerty               |

Both the reviews are showed in web page



## 6. Example – View Review:

Check in the mongo shell if the myReviews collection is created inside example database and data for two reviews is stored in it



```
C:\Program Files\MongoDB\Server\3.2\bin\mongo.exe

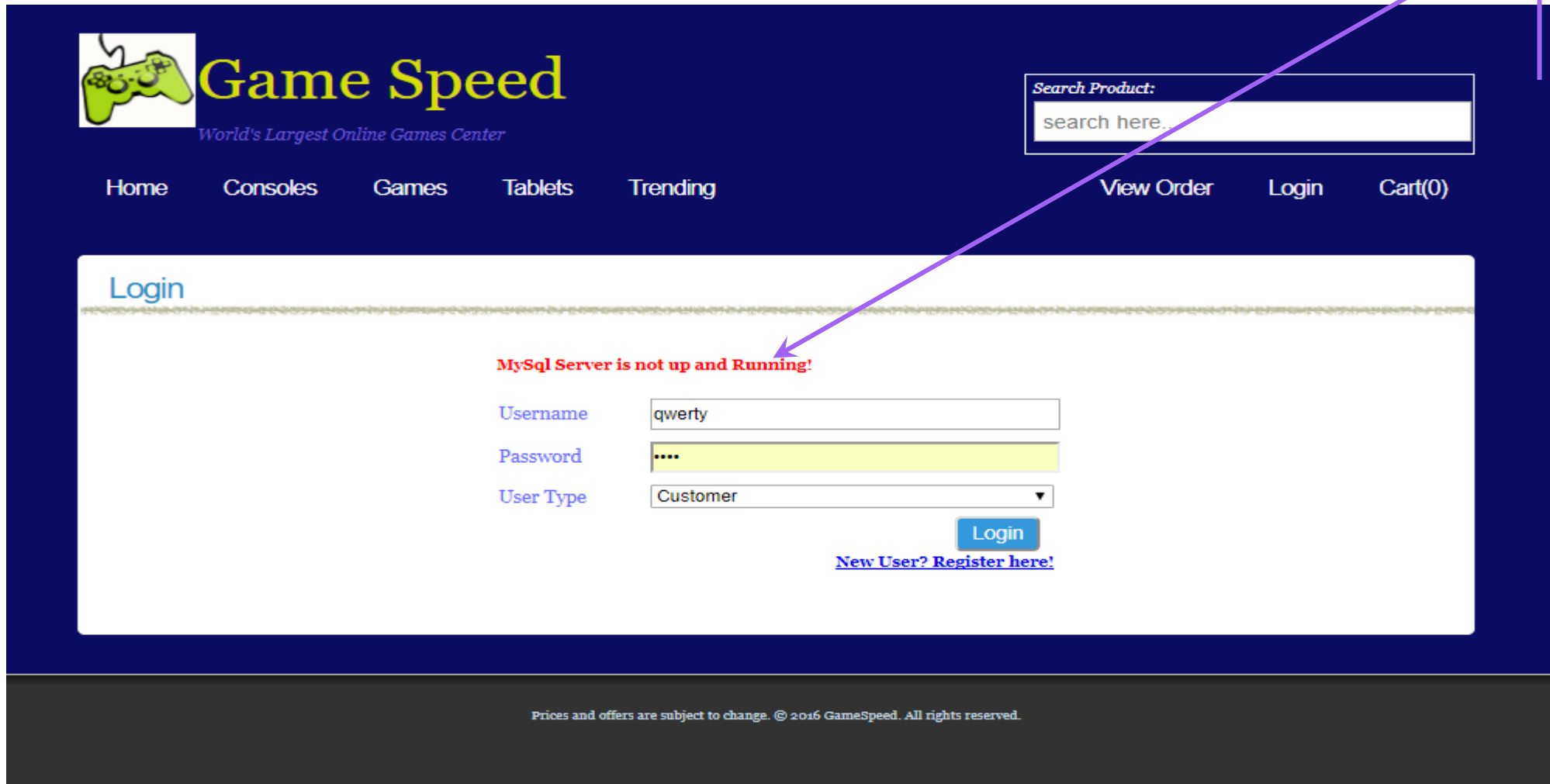
> db.myReviews.find()
{ "_id" : ObjectId("57f4495441e5be0344609c42"), "title" : "myReviews", "userName" : "customer1", "productName" : "xbox360", "productType" : "consoles", "productMaker" : "microsoft", "reviewRating" : "2", "reviewDate" : "2016-10-04", "reviewText" : " Nice Game to Play" }
{ "_id" : ObjectId("57f4498341e5be0344609c45"), "title" : "myReviews", "userName" : "customer1", "productName" : "xbox360", "productType" : "consoles", "productMaker" : "microsoft", "reviewRating" : "5", "reviewDate" : "2016-09-13", "reviewText" : " Amazing Game to Play" }
>
```



## 6. Example - Server Not Running For Registration:

Trying to Register when server is not up and running

If mySql server not running gives an error message



The screenshot shows the Game Speed website with a dark blue header. The logo features a green game controller icon next to the text "Game Speed" and the tagline "World's Largest Online Games Center". A search bar labeled "Search Product:" is in the top right. Navigation links include Home, Consoles, Games, Tablets, Trending, View Order, Login, and Cart(0). The main content area is titled "Login" and contains a red error message: "MySql Server is not up and Running!". Below the message are input fields for Username (containing "qwerty"), Password (masked with dots), and User Type (a dropdown menu set to "Customer"). A blue "Login" button and a link "New User? Register here!" are also present. The footer contains a copyright notice: "Prices and offers are subject to change. © 2016 GameSpeed. All rights reserved."

Game Speed  
World's Largest Online Games Center

Search Product:  
search here..

Home Consoles Games Tablets Trending View Order Login Cart(0)

Login

**MySql Server is not up and Running!**

Username

Password

User Type


Login

[New User? Register here!](#)

Prices and offers are subject to change. © 2016 GameSpeed. All rights reserved.

## 6. Example - Server Not Running For Orders:

Trying to Place order when server is not up and running



# Game Speed

World's Largest Online Games Center

[Home](#) [Consoles](#) [Games](#) [Tablets](#) [Trending](#) [ViewOrder](#) [Hello,Qwerty](#) [Account](#) [Logout](#) [Cart\(1\)](#)

### Consoles

- Microsoft
- Sony
- Nintendo

### Games

- Electronic Arts
- Activision
- Take-Two Interactive

### Tablets

### Order

|                    |          |
|--------------------|----------|
| Customer Name:     | qwerty   |
| Product Purchased: | Xbox One |
| Product Price:     | 399.99   |
| Total Order Cost   | 399.99   |

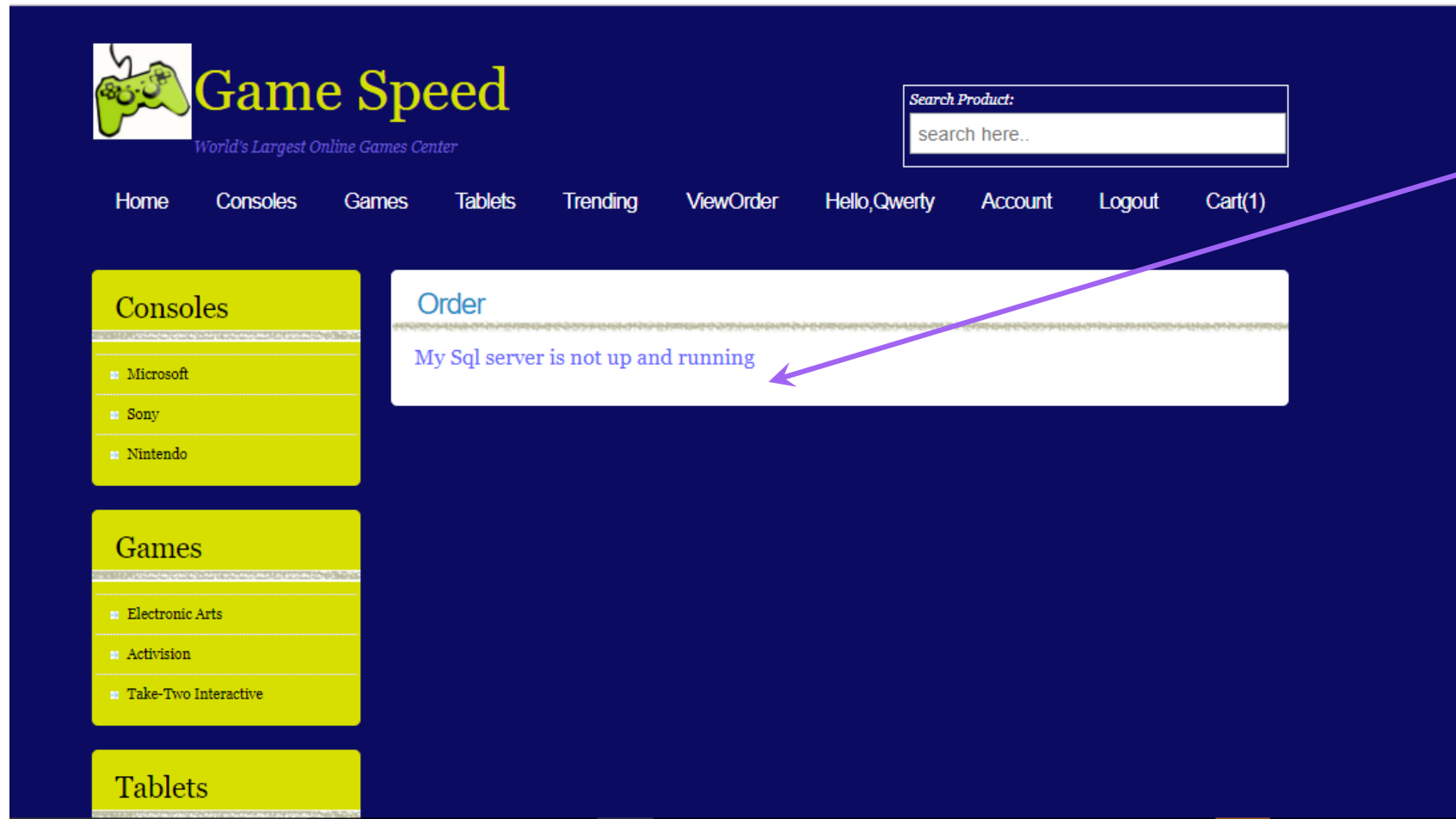
Credit/accountNo

Customer Address



## 6. Example - Server Not Running For Orders:

Trying to Place order when server is not up and running

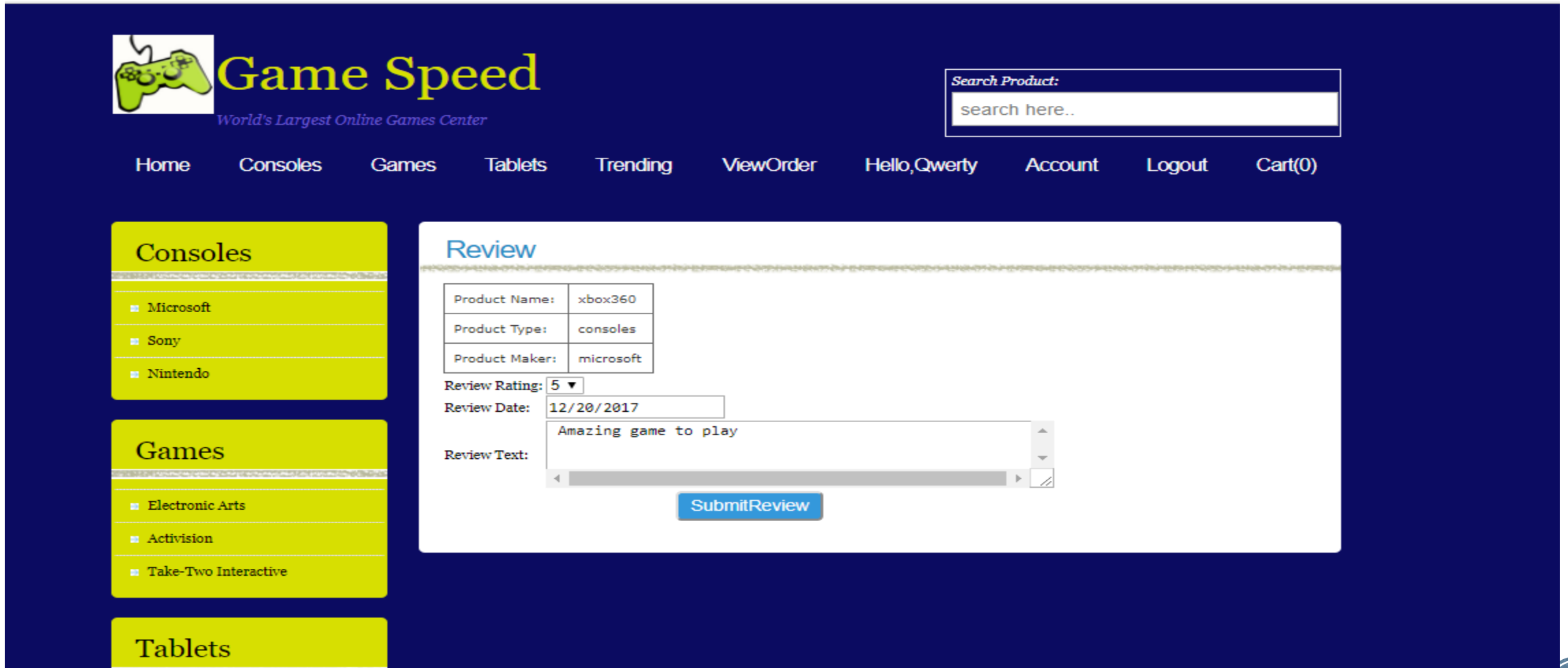


If MySql server not running gives an error message



## 6. Example – Write Review when MongoDB Server not running:

Trying to submit review for Product



The screenshot shows the 'Game Speed' website with a dark blue header. The logo features a green game controller and the text 'Game Speed' in yellow, with the tagline 'World's Largest Online Games Center' in purple. A search bar is located in the top right. The navigation menu includes links for Home, Consoles, Games, Tablets, Trending, ViewOrder, Hello, Qwerty, Account, Logout, and Cart(0). On the left, there are three yellow sidebar categories: 'Consoles' (listing Microsoft, Sony, and Nintendo), 'Games' (listing Electronic Arts, Activision, and Take-Two Interactive), and 'Tablets'. The main content area displays a 'Review' form for an Xbox 360 console. The form includes fields for Product Name, Product Type, Product Maker, Review Rating (set to 5), Review Date (12/20/2017), and Review Text (Amazing game to play). A 'SubmitReview' button is at the bottom of the form.

**Game Speed**  
World's Largest Online Games Center

Search Product:  
search here..

Home Consoles Games Tablets Trending ViewOrder Hello, Qwerty Account Logout Cart(0)

**Consoles**

- Microsoft
- Sony
- Nintendo

**Games**

- Electronic Arts
- Activision
- Take-Two Interactive

**Tablets**

**Review**

|                |           |
|----------------|-----------|
| Product Name:  | xbox360   |
| Product Type:  | consoles  |
| Product Maker: | microsoft |

Review Rating: 5 ▼

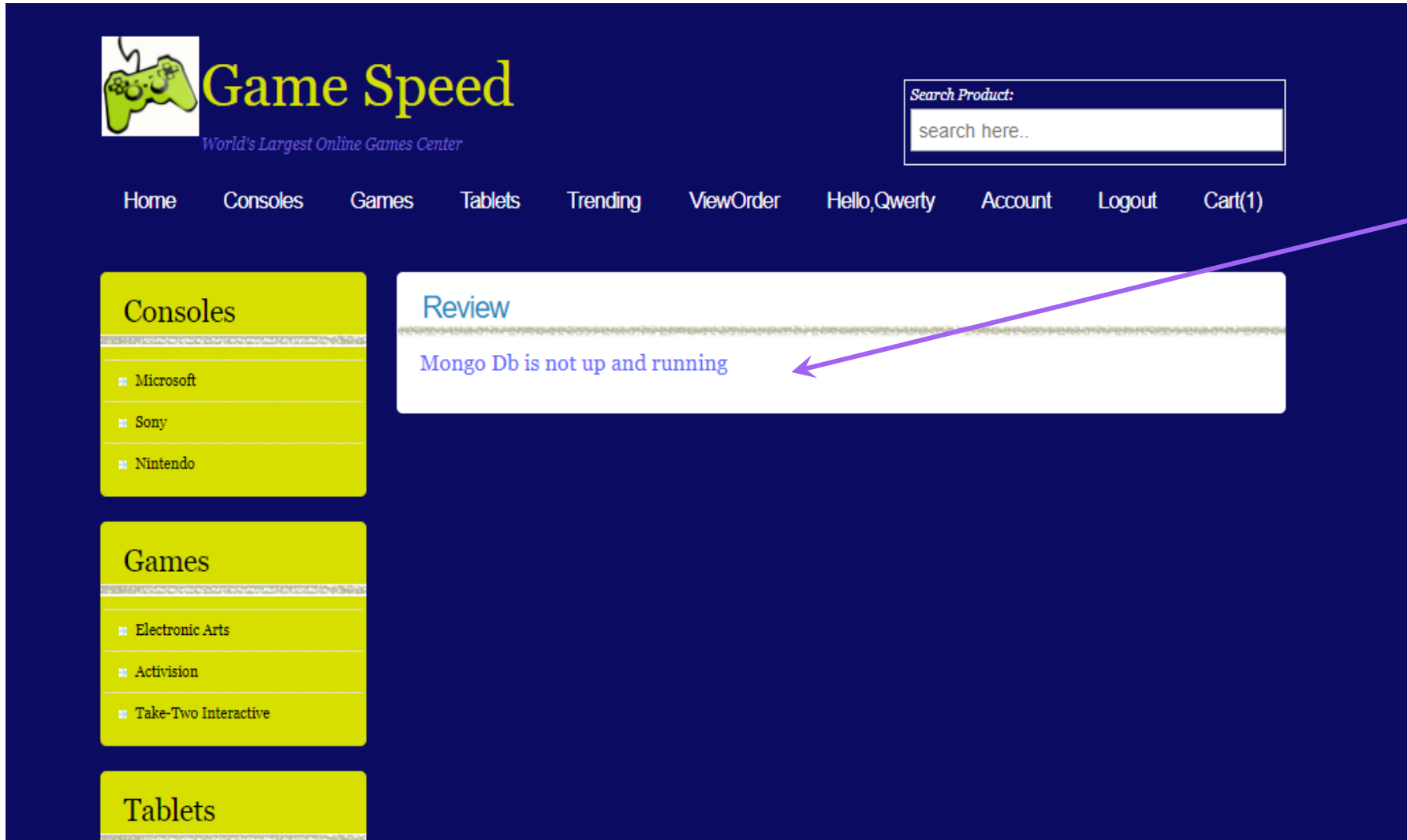
Review Date: 12/20/2017

Review Text: Amazing game to play

SubmitReview

## 6. Example – Write Review when MongoDB Server not running:

Trying to submit review for Product

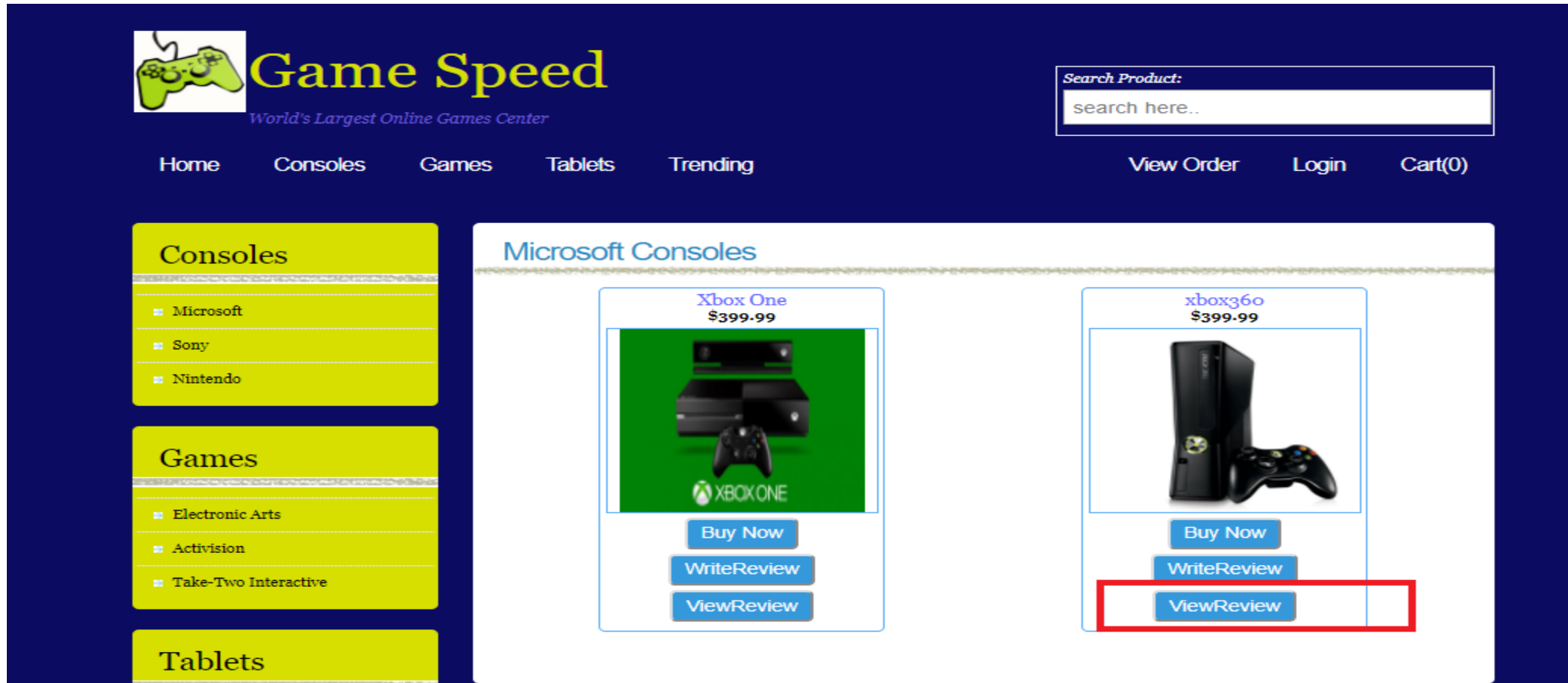


If MongoDB server not running gives an error message



## 6. Example – View Review when MongoDB Server not running:

Trying to view review for Product



The screenshot displays the 'Game Speed' website, which is described as the 'World's Largest Online Games Center'. The site features a dark blue header with a green game controller logo and a search bar. Navigation links include Home, Consoles, Games, Tablets, and Trending. On the right, there are links for View Order, Login, and Cart(0).

The main content area is divided into two columns. The left column contains three yellow boxes for 'Consoles', 'Games', and 'Tablets'. The 'Consoles' box lists Microsoft, Sony, and Nintendo. The 'Games' box lists Electronic Arts, Activision, and Take-Two Interactive. The right column is titled 'Microsoft Consoles' and features two product listings:

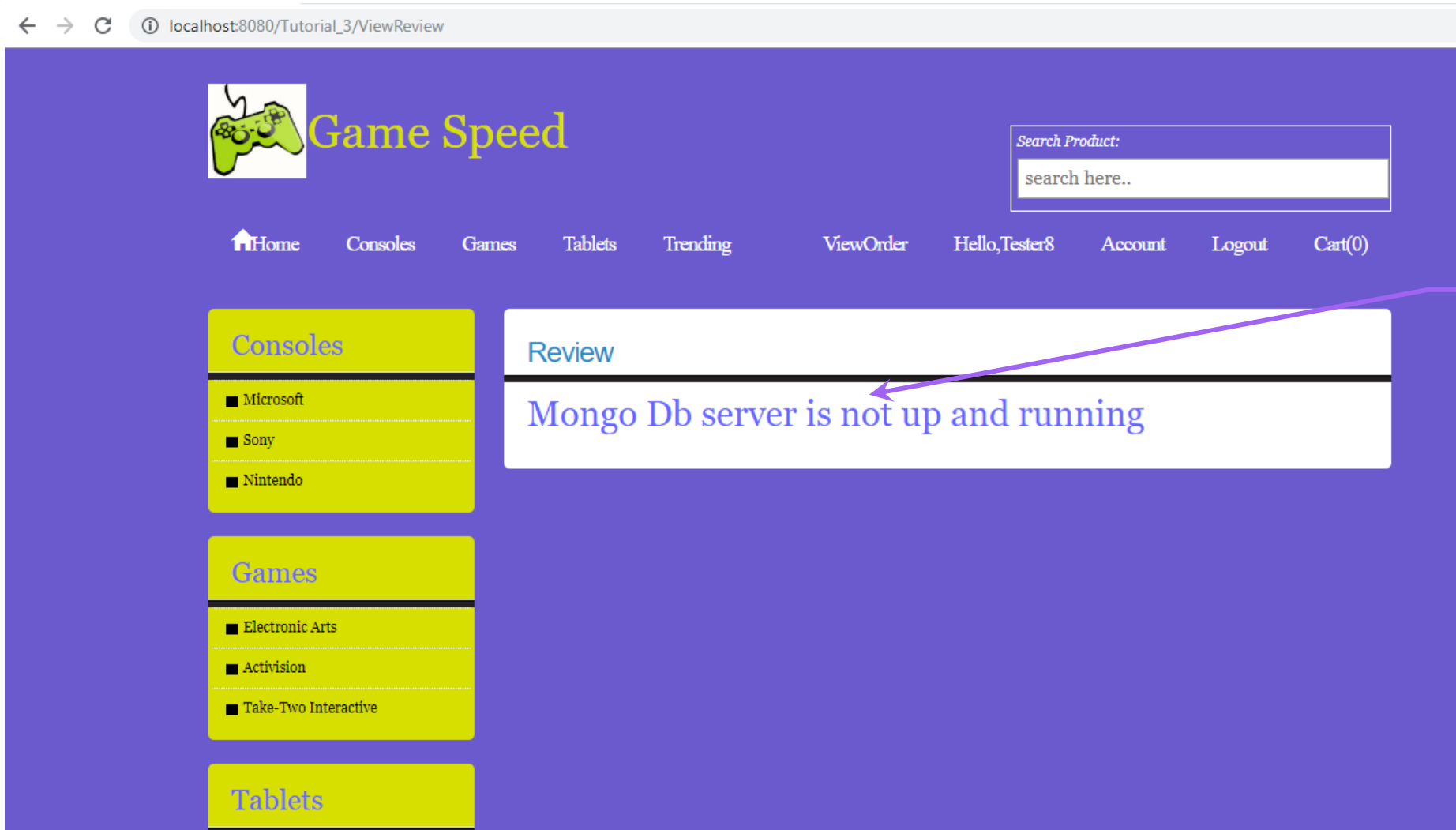
- Xbox One**: Priced at \$399.99, with an image of the console and controller. Below the image are buttons for 'Buy Now', 'WriteReview', and 'ViewReview'.
- xbox360**: Priced at \$399.99, with an image of the console and controller. Below the image are buttons for 'Buy Now', 'WriteReview', and 'ViewReview'. The 'ViewReview' button is highlighted with a red rectangular box.





## 6. Example – View Review when MongoDB Server not running:

Trying to view review for Product

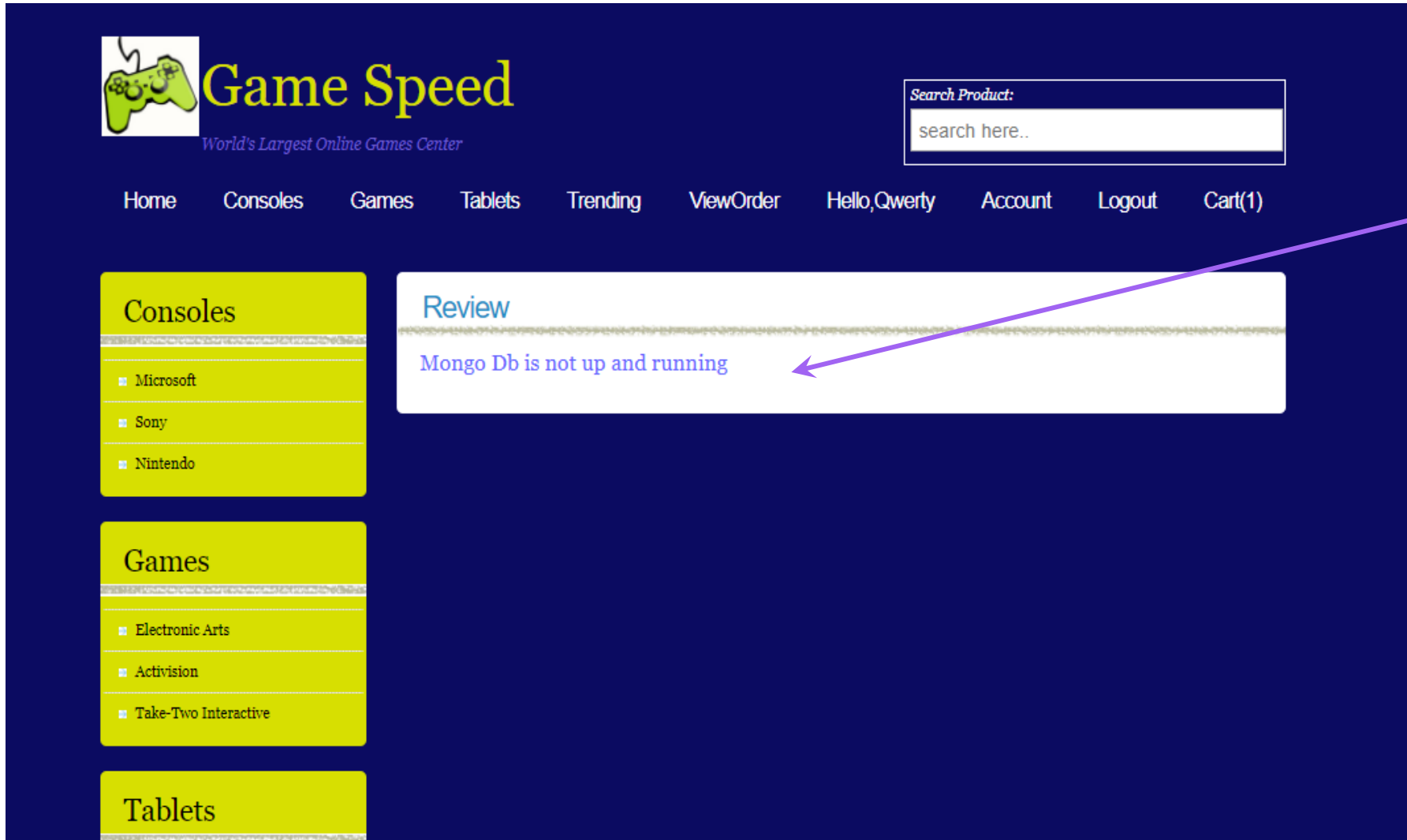


If MongoDB server not running gives an error message



## 6. Example – Write Review when MongoDB Server not running:

Trying to submit review for Product



If MongoDB server not running gives an error message



## 7. Code Snippet

Walkthrough to get connect to  
Database from Servlet



# MongoDBDataStoreUtilities class to connect Database from Servlet

```
public class MongoDBDataStoreUtilities
{
    static DBCollection myReviews;
    public static void getConnection()
    {
        MongoClient mongo;
        mongo = new MongoClient("localhost", 27017);

        DB db = mongo.getDB("CustomerReviews");
        myReviews= db.getCollection("myReviews");
    }
}
```

Connecting to  
CustomerReviews  
database

Getting Reviews data  
to DbCollection object

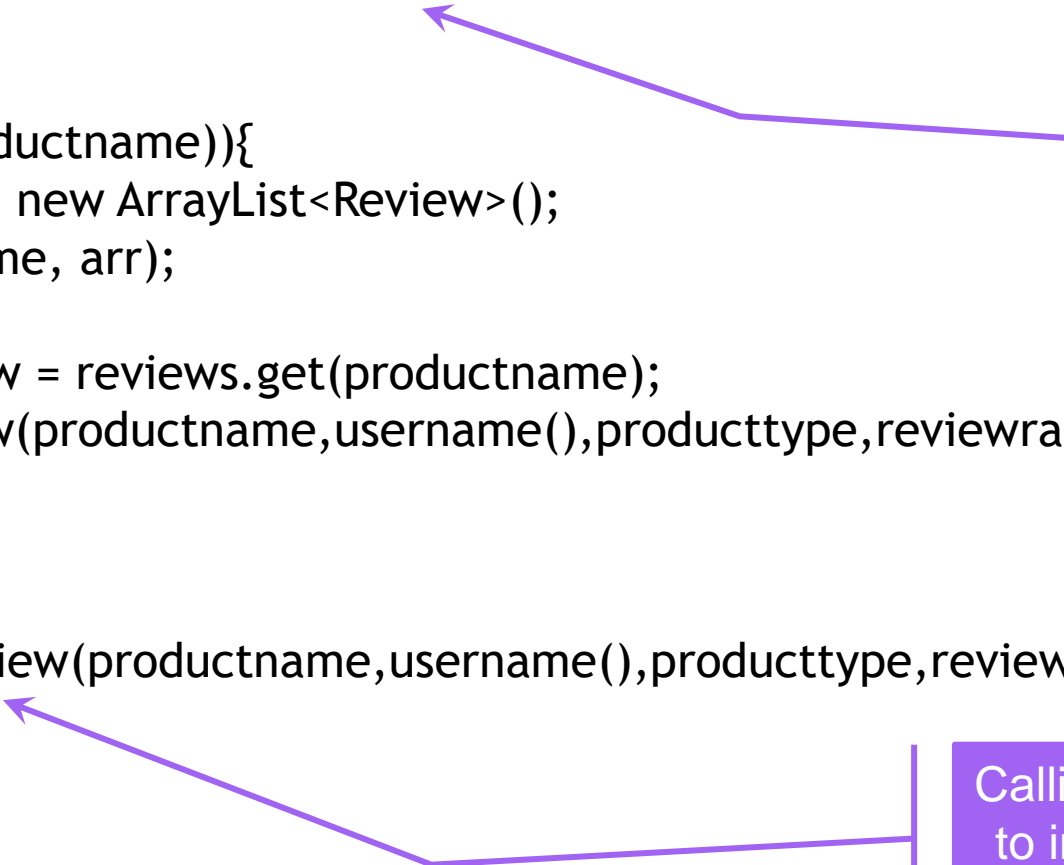


# Walkthrough for Storing Reviews Code Snippet



# Walkthrough for Storing reviews

```
public void storeReview(String productname,String producttype,String reviewrating,String reviewdate,String
reviewtext)
{
    HashMap<String, ArrayList<Review>> reviews= new HashMap<String, ArrayList<Review>>();
    try
    {reviews=MongoDBDataStoreUtilities.selectReview();}
    catch(Exception e)
    {}
    if(!reviews.containsKey(productname)){
        ArrayList<Review> arr = new ArrayList<Review>();
        reviews.put(productname, arr);
    }
    ArrayList<Review> listReview = reviews.get(productname);
    Review review = new Review(productname,username(),producttype,reviewrating,reviewdate,reviewtext);
    listReview.add(review);
    try
    {
MongoDBDataStoreUtilities.insertReview(productname,username(),producttype,reviewrating,reviewdate,reviewtext,
    }
    catch(Exception e)
    { }
}
```



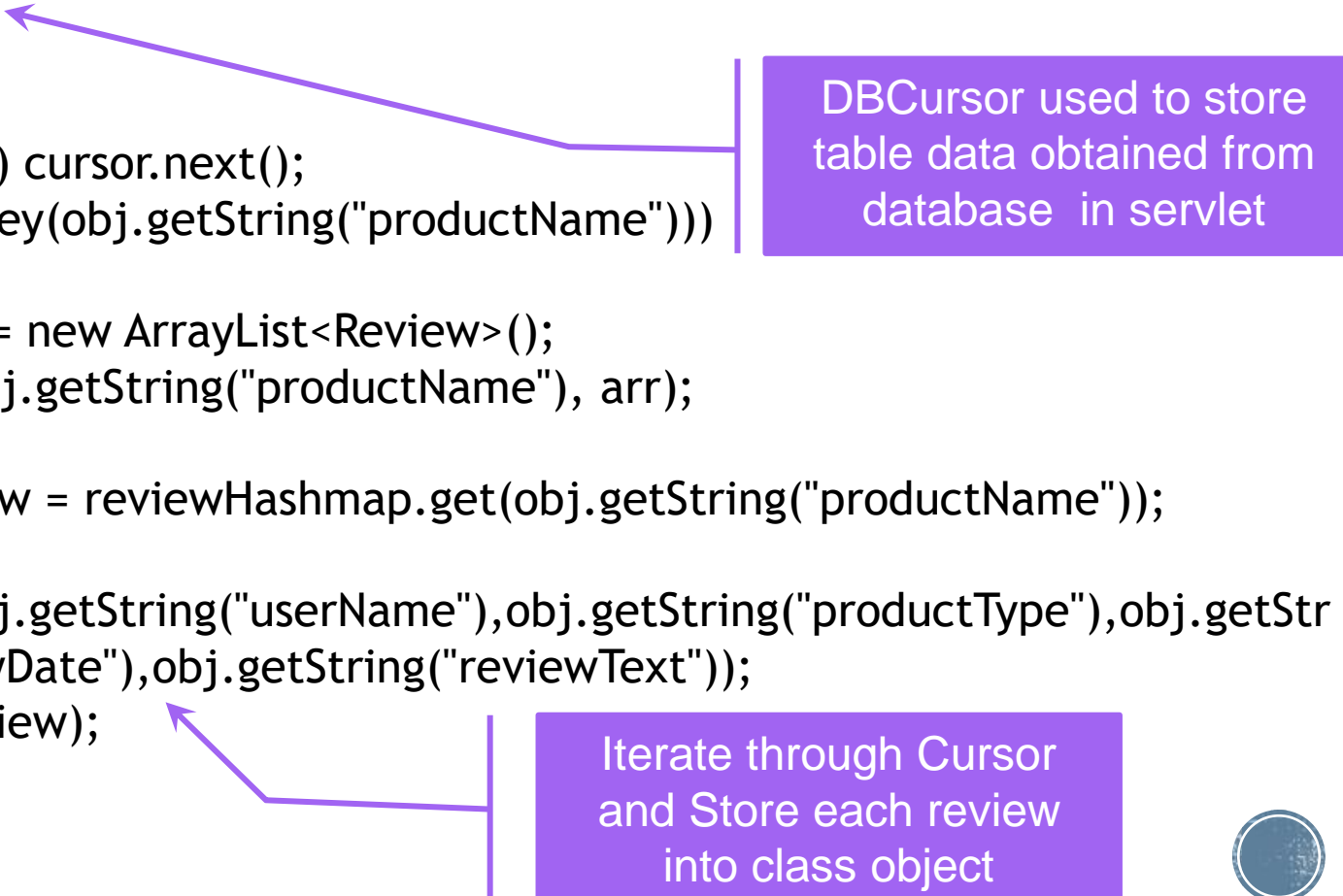
Calling utility function to select data from database and storing reviews in hashmap

Calling utility function to inserting reviews in database



# Utility Function for Selecting Review Data into Hashmap

```
public static HashMap<String, ArrayList<Review>> selectReview()
{
    getConnection();
    HashMap<String, ArrayList<Review>> reviewHashmap=new HashMap<String, ArrayList<Review>>();
    DBCursor cursor = myReviews.find();
    while (cursor.hasNext())
    {
        BasicDBObject obj = (BasicDBObject) cursor.next();
        if(! reviewHashmap.containsKey(obj.getString("productName")))
        {
            ArrayList<Review> arr = new ArrayList<Review>();
            reviewHashmap.put(obj.getString("productName"), arr);
        }
        ArrayList<Review> listReview = reviewHashmap.get(obj.getString("productName"));
        Review review =new
Review(obj.getString("productName"),obj.getString("userName"),obj.getString("productType"),obj.getStr
ing("reviewRating"),obj.getString("reviewDate"),obj.getString("reviewText"));
            listReview.add(review);
        }
    return reviewHashmap;
}
```



DBCursor used to store table data obtained from database in servlet

Iterate through Cursor and Store each review into class object



# Utility Function for Writing Reviews into Mongo database

```
public static void insertReview(String productname,String username,String  
producttype,String reviewrating,String reviewdate,String reviewtext)  
{  
    getConnection();  
    BasicDBObject doc = new BasicDBObject("title", "myReviews").  
        append("userName", username).  
        append("productName", productname).  
        append("productType", producttype).  
        append("reviewRating", reviewrating).  
        append("reviewDate", reviewdate).  
        append("reviewText", reviewtext);  
    myReviews.insert(doc);  
}
```

Creating a  
BasicObject to insert  
data into database

Specifying each  
column to insert  
value

DbCollection.insert()  
Will insert data into  
database





# Questions?

