

Lab Assignment X

Report

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Task Name: Deployment of REST Web Applications to AWS Elastic Beanstalk

Application (I) Name: RESTful Java web Application.

URL: <http://myapp.ceg3skr4fu.us-west-2.elasticbeanstalk.com/>

Application Function: The application can be used to calculate area values of a square or rectangle or both. It's a web application so it can be run on any web browser. The default values of the side of square and length and breadth of rectangle are 10.0 and 10.0, 5.0 respectively. The user can pass the parameters to side of square and length & breadth of rectangle through URL.

Tools Used:

Eclipse

Apache Tomcat Server

AWS Elastic Beanstalk

Number of Pages: 4

Area.java

Rectarea.java

AreaTest.java

RectareaTest.java

Working:

1. Deployment in AWS

The screenshot shows the AWS Elastic Beanstalk console dashboard for an application named 'MyApp'. The dashboard includes a sidebar with navigation links: Dashboard, Configuration, Logs, Health (marked as NEW), Monitoring, Alarms, Events, and Tags. The main content area is titled 'Overview' and features a 'Refresh' button. It displays the following information:

- Health:** A green checkmark icon and the text 'Ok'. A 'Causes' button is available.
- Running Version:** 'MyRestExample' with an 'Upload and Deploy' button.
- Configuration:** '64bit Amazon Linux 2015.09 v2.0.8 running Tomcat 8 Java 8' with a 'Change' button.
- Recent Events:** A table showing the last four events.

Time	Type	Details
2016-03-26 04:01:12 UTC-0500	INFO	Environment health has transitioned from Severe to Ok.
2016-03-26 03:53:12 UTC-0500	WARN	Environment health has transitioned from Ok to Severe. None of the instances are sending data.
2016-03-25 19:06:48 UTC-0500	INFO	Environment health has transitioned from Severe to Ok.
2016-03-25 19:05:48 UTC-0500	WARN	Environment health has transitioned from Ok to Severe. None of the instances are sending data.

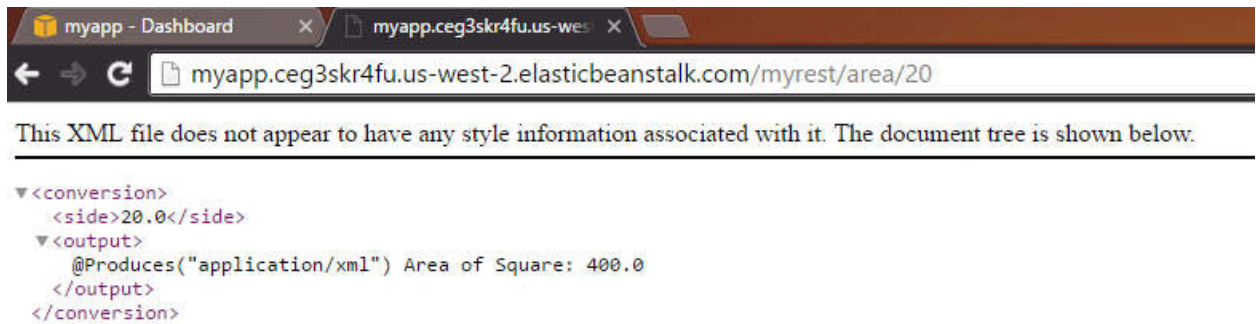
2. Area of square without Parameters.

The screenshot shows a web browser displaying the content of an XML file. The address bar shows the URL: `myapp.ceg3skr4fu.us-west-2.elasticbeanstalk.com/myrest/area/`. The page content is as follows:

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<conversion>
  <side>10.0</side>
  <output>
    @Produces("application/xml") Area of square: 100.0
  </output>
</conversion>
```

3. Area of square with side value = 20.0 through URL.



4. Area of rectangle with default values.



5. Area of rectangle with length = 20.0, breadth = 70.0 passed through URL.



Application (II) Name: RESTful Java web Application with MongoDB Implementation.

Application Function: The application can be used to calculate area values of a rectangle and store it in MongoDB database. The user can perform CRUD(Create, Retrieve, Update, Delete) Operations on the values stored in MongoDB Database.

URL: <http://mymongorestapp.wmvbbvtsrq.us-west-2.elasticbeanstalk.com/>

Tools Used:

Eclipse

Apache Tomcat Server

MongoDB Software as a service (mlab.com)

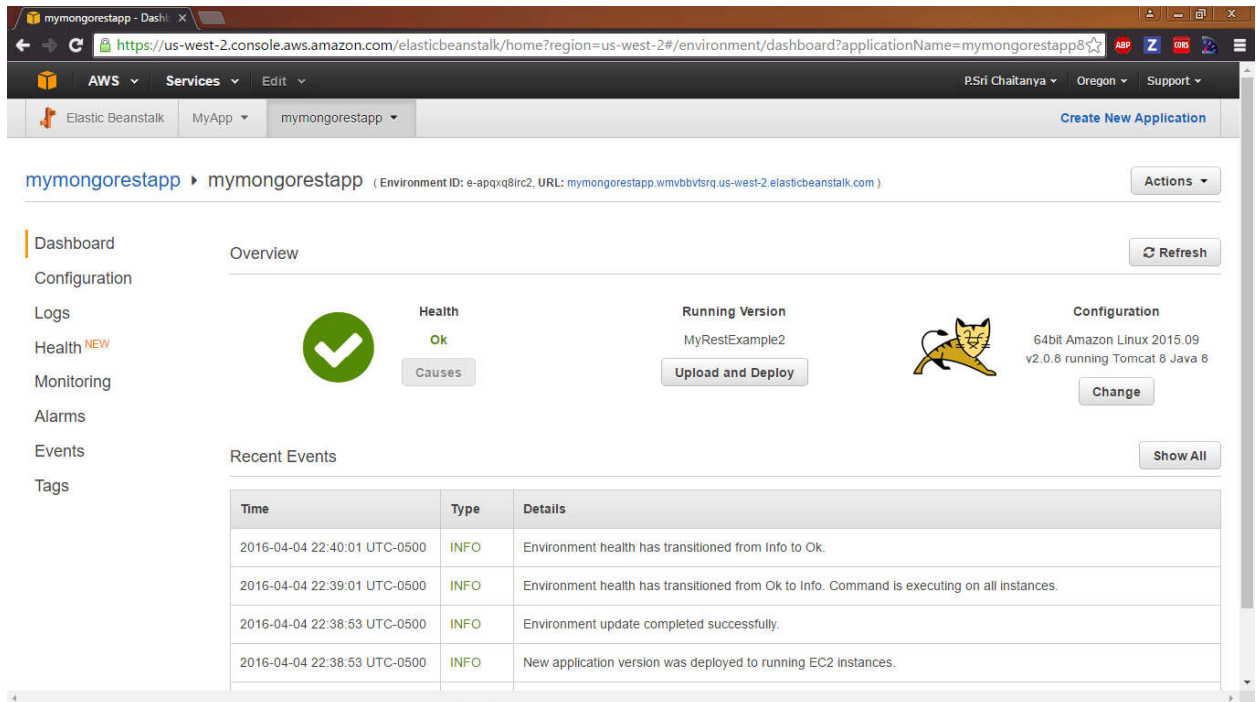
AWS Elastic Beanstalk

Number of Pages: 1

AreaRect.java

Working:

1. Deployment in AWS.



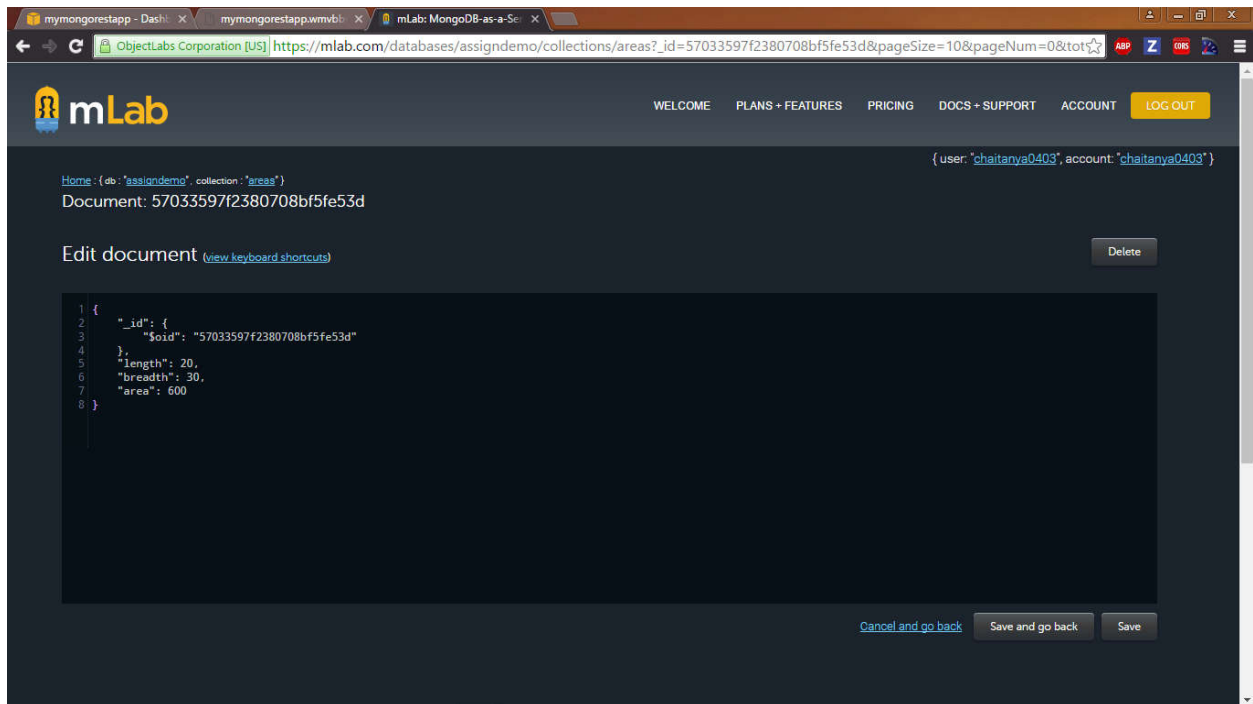
The screenshot displays the AWS Elastic Beanstalk console for the application 'mymongorestapp'. The interface includes a navigation sidebar on the left with options like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Events, and Tags. The main content area shows the 'Overview' tab with a green checkmark indicating 'Health: Ok'. It also displays the 'Running Version' as 'MyRestExample2' and the 'Configuration' as '64bit Amazon Linux 2015.09 v2.0.8 running Tomcat 8 Java 8'. A 'Recent Events' table at the bottom lists four events, all of type 'INFO', detailing the health transitions and successful deployment of the application version.

Time	Type	Details
2016-04-04 22:40:01 UTC-0500	INFO	Environment health has transitioned from Info to Ok.
2016-04-04 22:39:01 UTC-0500	INFO	Environment health has transitioned from Ok to Info. Command is executing on all instances.
2016-04-04 22:38:53 UTC-0500	INFO	Environment update completed successfully.
2016-04-04 22:38:53 UTC-0500	INFO	New application version was deployed to running EC2 instances.

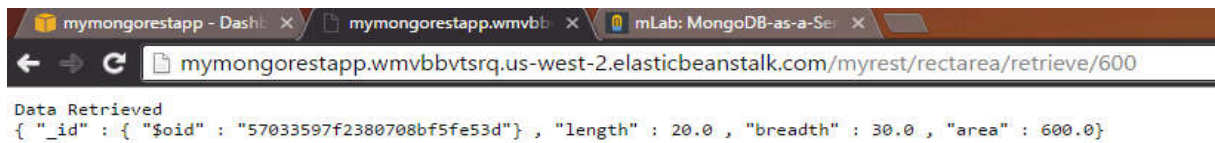
2. The area of rectangle can be computed by giving the length and breadth of the rectangle in the URL. The area of the rectangle is then computed and the values of Length, Breadth and Area are stored in mlab database in json format.



```
Data Created
{ "_id" : { "$oid" : "57033597f2380708bf5fe53d" }, "length" : 20.0, "breadth" : 30.0, "area" : 600.0 }
```



3. The specific area json can be retrieved from the database by providing the area value in URL retrieve function.

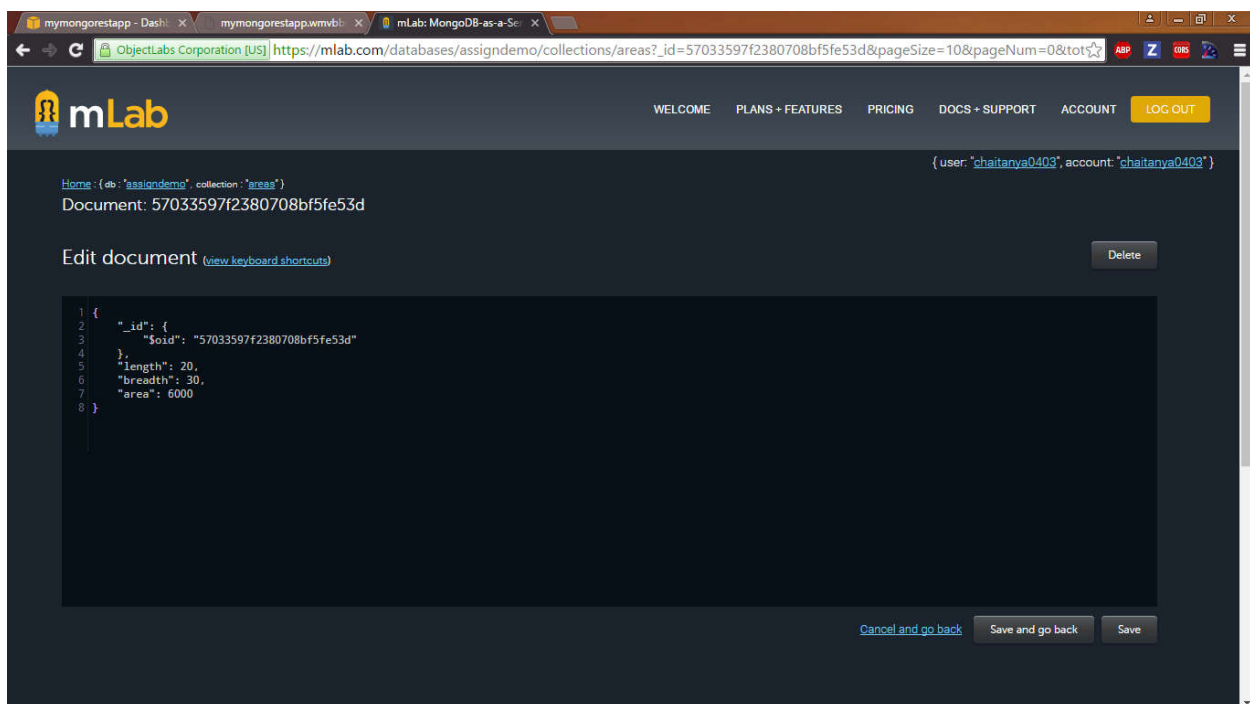


The screenshot shows a web browser with three tabs: 'mymongorestapp - Dash...', 'mymongorestapp.wmvb...', and 'mLab: MongoDB-as-a-Se...'. The address bar displays the URL 'mymongorestapp.wmvbvtstrq.us-west-2.elasticbeanstalk.com/myrest/rectarea/retrieve/600'. Below the browser, the text 'Data Retrieved' is followed by a JSON object: { "_id" : { "\$oid" : "57033597f2380708bf5fe53d" }, "length" : 20.0 , "breadth" : 30.0 , "area" : 600.0 }.

4. The values of database can be updated by specifying the old and new value in the URL with update function.



The screenshot shows a web browser with three tabs: 'mymongorestapp - Dash...', 'mymongorestapp.wmvb...', and 'mLab: MongoDB-as-a-Se...'. The address bar displays the URL 'mymongorestapp.wmvbvtstrq.us-west-2.elasticbeanstalk.com/myrest/rectarea/update/600/6000'. Below the browser, the text 'Database Updated' is followed by two JSON objects. The first, 'Before Updation', is { "_id" : { "\$oid" : "57033597f2380708bf5fe53d" }, "length" : 20.0 , "breadth" : 30.0 , "area" : 600.0 }. The second, 'After Updation', is { "_id" : { "\$oid" : "57033597f2380708bf5fe53d" }, "length" : 20.0 , "breadth" : 30.0 , "area" : 6000.0 }.



5. The value can be deleted from the database by specifying it in URL with delete function.

