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Fall 2015


Employee HR Connect Portal

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Abstract

Employee HR Connect Portal is essential in order to track employee time, project time. This portal can be hosted on any java based web server or application server and will be accessible via web-browsers. This portal is very user- friendly. Employee HR Connect Portal will be a useful tool to identify supply and demand of human resources. We have three main modules to maintain records of employee, department and project. Employee HR Connect Portal is very helpful for auditing. Through this portal we can judge the potentiality of the employee.

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1 Project Description

1.1 Competitive Information

This project will be useful for midsize IT and consulting companies with less than 200 employees. This has the potential to compete against others in the market with addition of further enhancements like generating performance reports and emailing them to the higher management.

1.2 Future Enhancements

This project can be extended to generate the reports of performance evaluation and emailing them and also to manage the leaves of the employees to decide their pay.

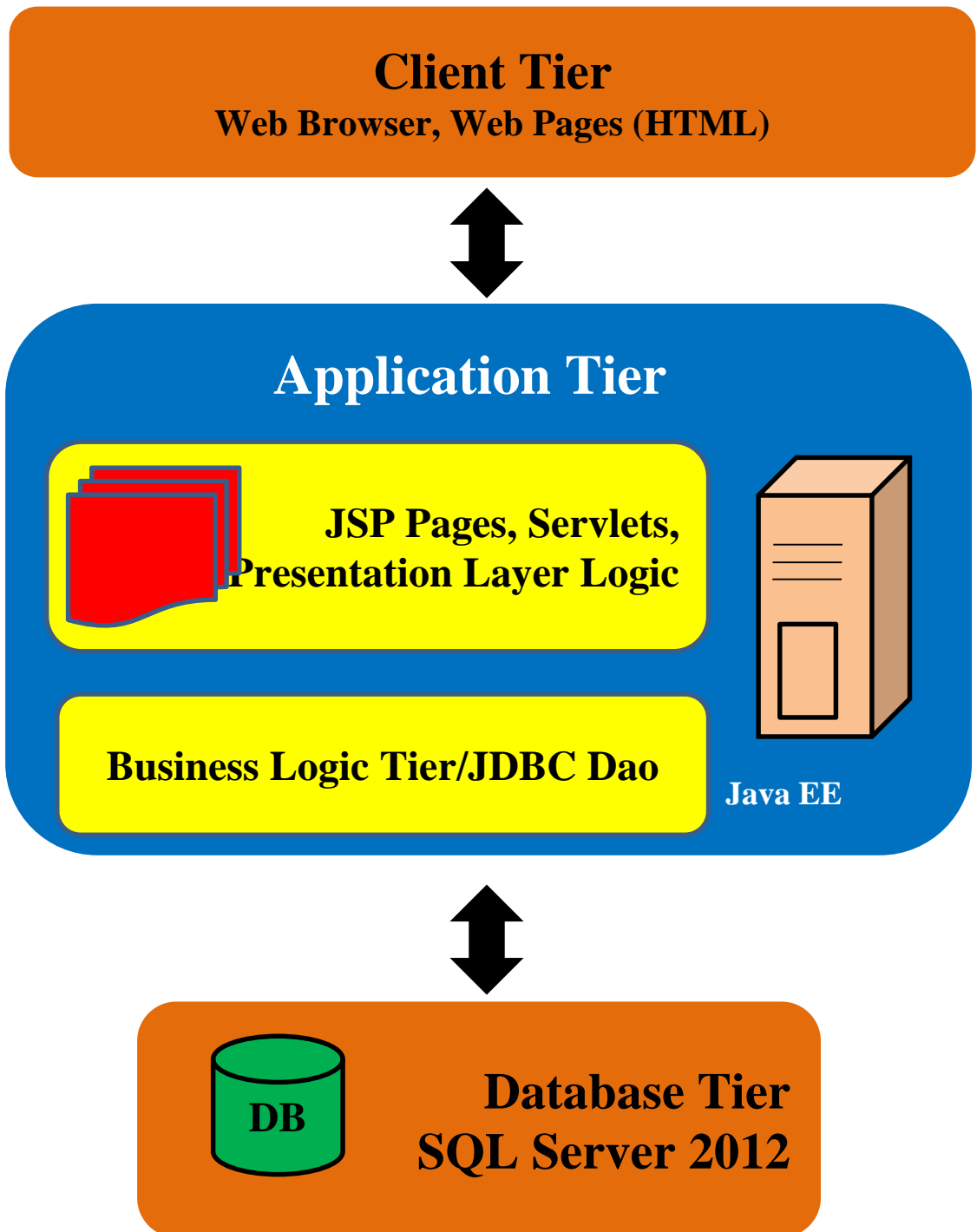
2 Technical Description

The purpose of Employee HR Portal is to provide:

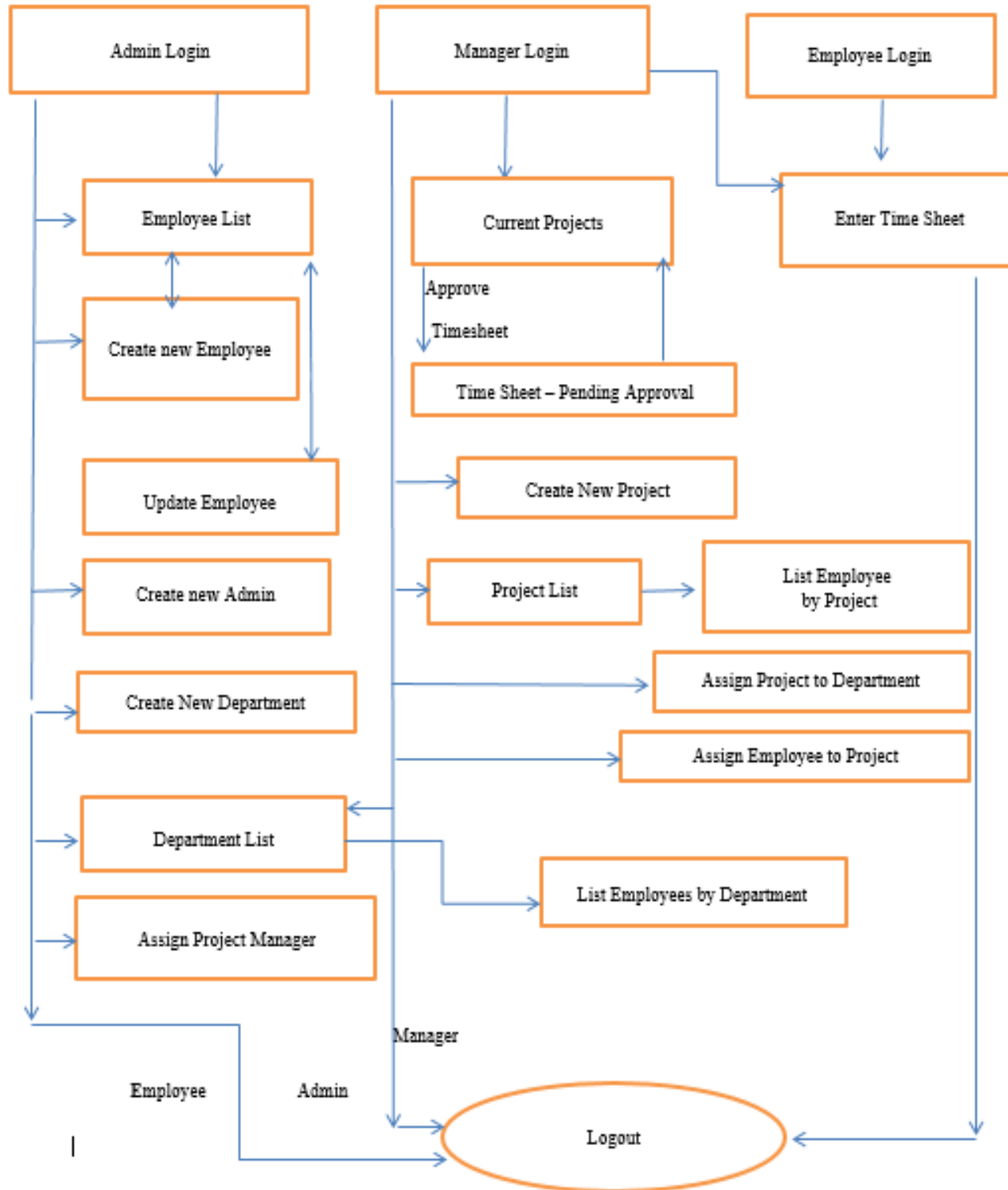
- Maintenance of profile details of the employees and retrievals as and when required.
- Overall & detailed view of the organization hierarchy, which is essential in effective decision making.
- Judging the number of hours an employee is working for a project.
- Analyzing the number of resources required for a project.
- Accessing the employee skill set to assign for a project.
- Entering the timesheet and approving the timesheet.
- Very useful for auditing.
- Judging the potentiality of employees.
- Future planning issues based on current information.

Scope: An Employee HR Portal is essential in order to track employee time, project time and also employee performance reviews. This portal can be hosted on any java based web server or application server and will be accessible via web-browsers. Employee HR Connect Portal will be a useful tool to identify supply and demand of human resources. There are three main modules to maintain records of employee, department and project. Employee HR Connect Portal will also have capability to generate various kinds of reports for employee time tracking and project time tracking.

2.1 Project/Application Architecture



2.2 Project/Application Information flows



2.3 Capabilities

Software Requirements:

➤ **Front End:**

- **Operating System:** Windows7 (64-bit) and above, Ubuntu 14.0.9
- **Web-Browsers:** IE9, IE10, Mozilla Firefox and Google Chrome.

➤ **Back End:**

JDK 1.7, Apache-Tomcat 7.0.55, Microsoft SQL Server 2012.

➤ **Technologies Used:**

HTML5, CSS, JSP2.2, JSTL1.2, Servlet 3.0, JavaScript.

Hardware Requirements:

- 4GB RAM,
- 500GB hard disk space,
- 2.20 GHz Intel® Core™ 2 Duos CPU,
- Personal computer with higher processor.

3 Project Requirements

3.1 Identification of Requirements

➤ **<EHCP-P11-1.0 Admin-“R001>**

Admin can create a new employee with the necessary details.

Implementation: Mandatory

➤ **<EHCP-P11-1.0 Admin-“R002>**

Admin can list of employees and can update employee.

Implementation: Mandatory

➤ **<EHCP-P11-1.0 Admin-“R003>**

Admin can also create a new admin user.

Implementation: Mandatory

➤ **<EHCP-P11-1.0 Admin-“R004>**

Admin can create a new department.

Implementation: Mandatory

➤ **<EHCP-P11-1.0 Admin-“R005>**

Admin can view list of departments and list of employees by department.

Implementation: Mandatory

➤ **<EHCP-P11-1.0 Admin-“R006>**

Admin can assign project manager to a project.

Implementation: Mandatory

- **<EHCP-P11-1.0 Employee “R007”>**
Employee can submit weekly timesheets and view hours that have been approved and those which are pending for approval.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R008”>**
Manager can approve or reject the timesheets submitted by the employees.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R009”>**
Manager can submit weekly timesheets.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R010”>**
Manager can create a new project.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R011”>**
Manager can view list of departments and list of employees by department.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R012”>**
Manager can assign a project to department.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R013”>**
Manager can assign employee to project.
Implementation: Mandatory
- **<EHCP-P11-1.0 Manager “R014”>**
Manager can view list of projects and list of employees by project.
Implementation: Mandatory

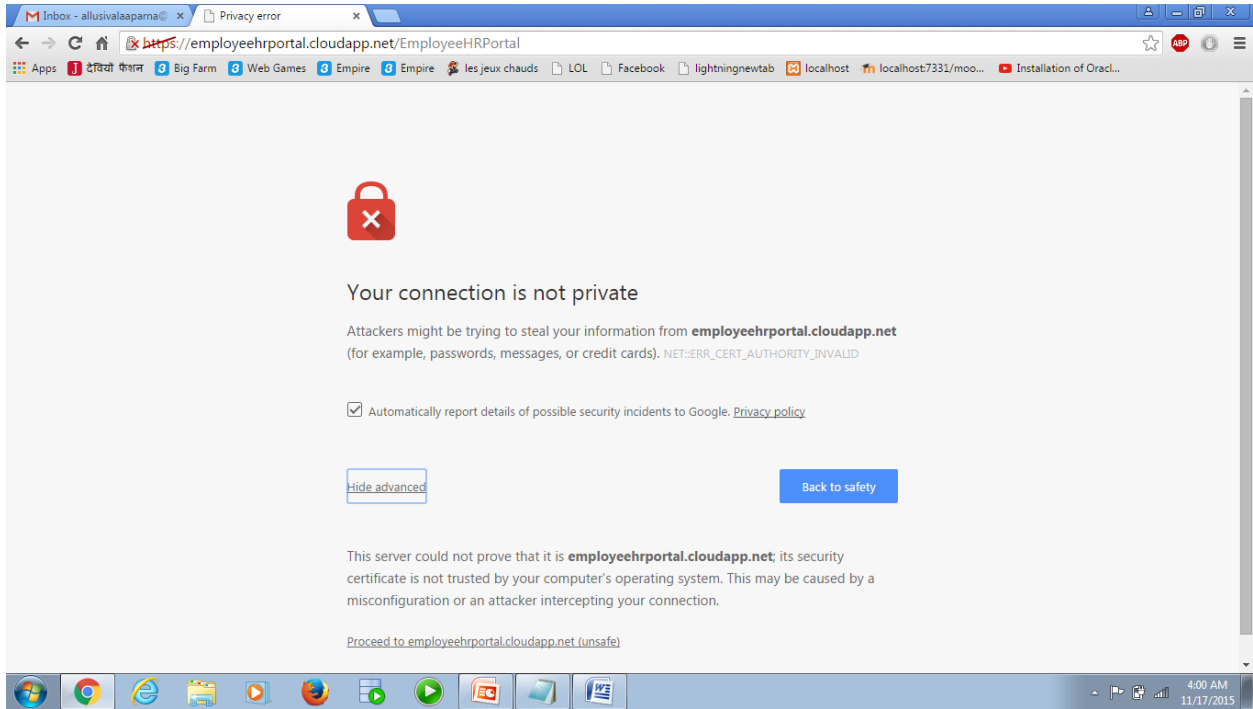
3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

A default admin user has to be created before starting the use of this application. Admin creates the new employee when the admin gets an email regarding the details of the employee.

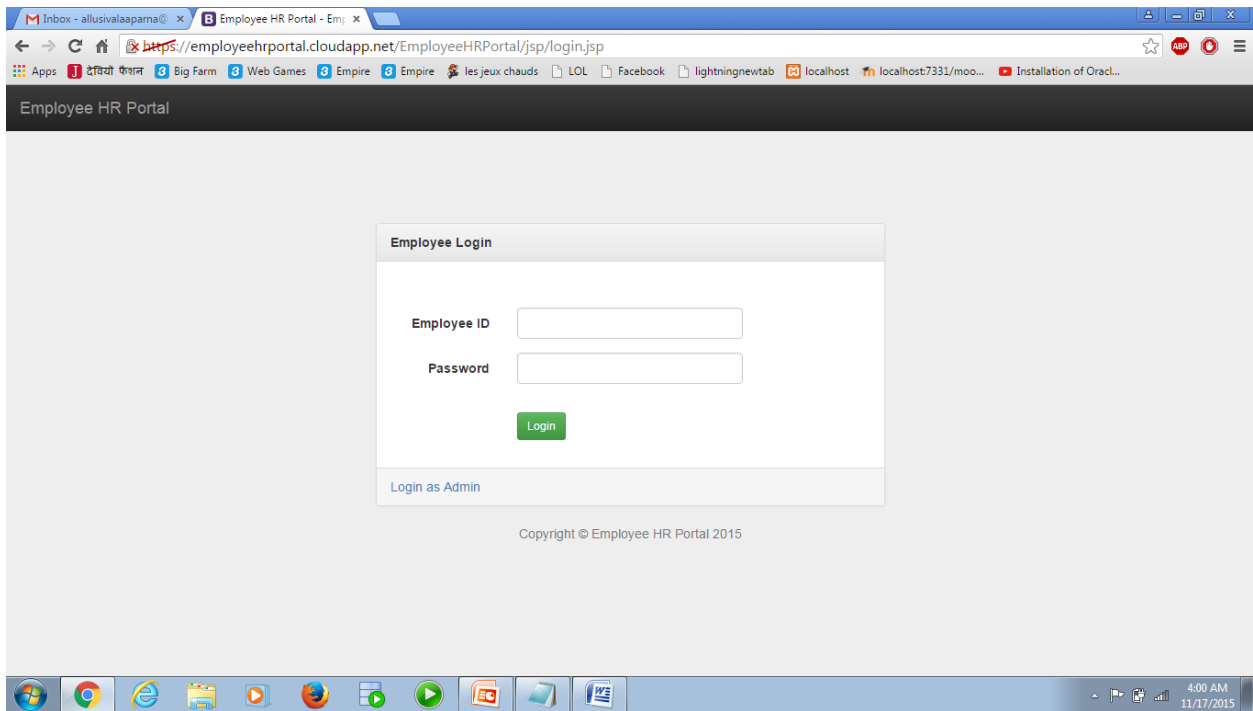
3.3 Security and Fraud Prevention

Website can be accessed over <https://employeehrportal.cloudapp.net/EmployeeHRPortal>.

All functionality can be accessed only after login. There are 3 different roles admin, manager and employee. This way we can ensure employee will not be able approve their own timesheet.



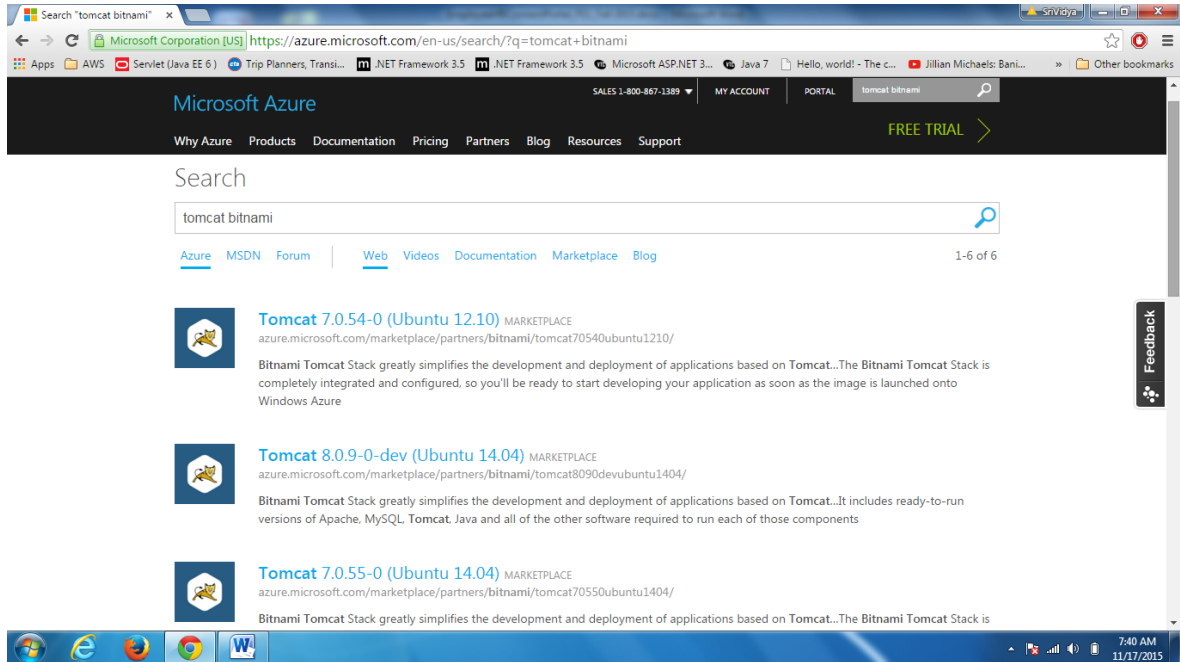
* We still need to install Verisign security certificates.



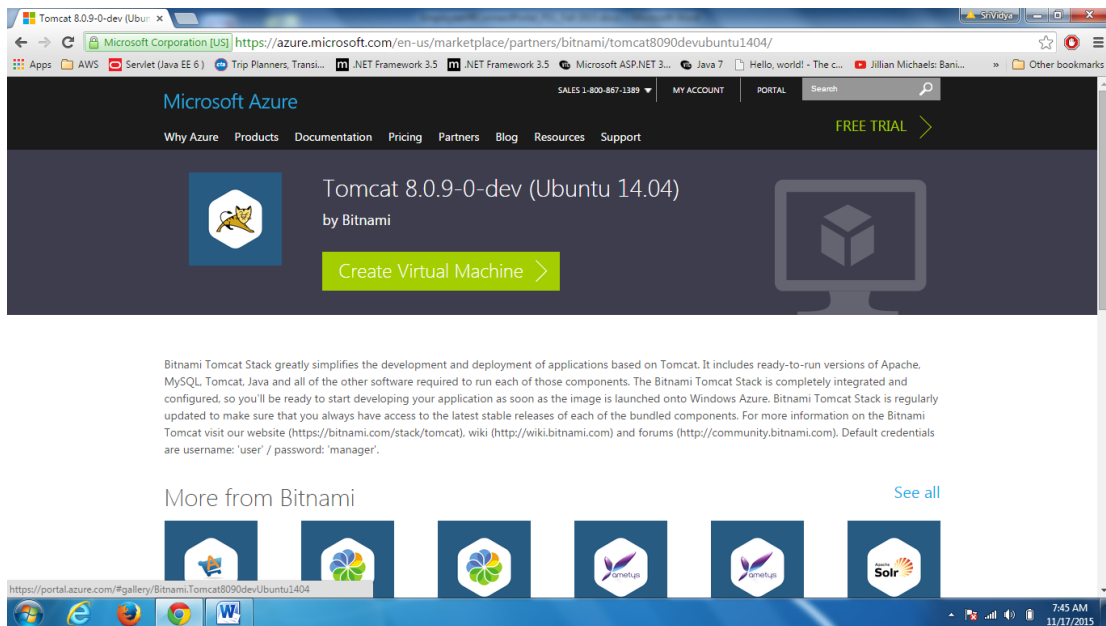
3.4 Release and Transition Plan

Setting up Ubuntu 14 and bitnami tomcat 8.0.

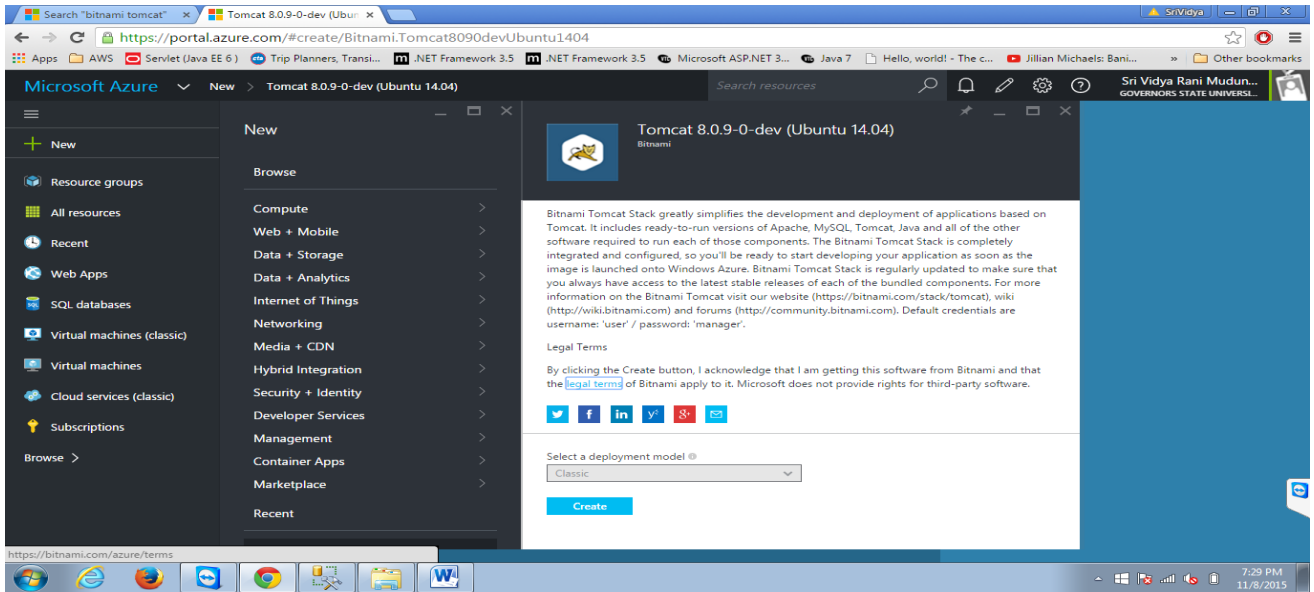
- i. Sign into Microsoft Azure and go to portal. Go to Home.
- ii. In the search box type ‘tomcat bitnami’ and search. You will find the list as below.



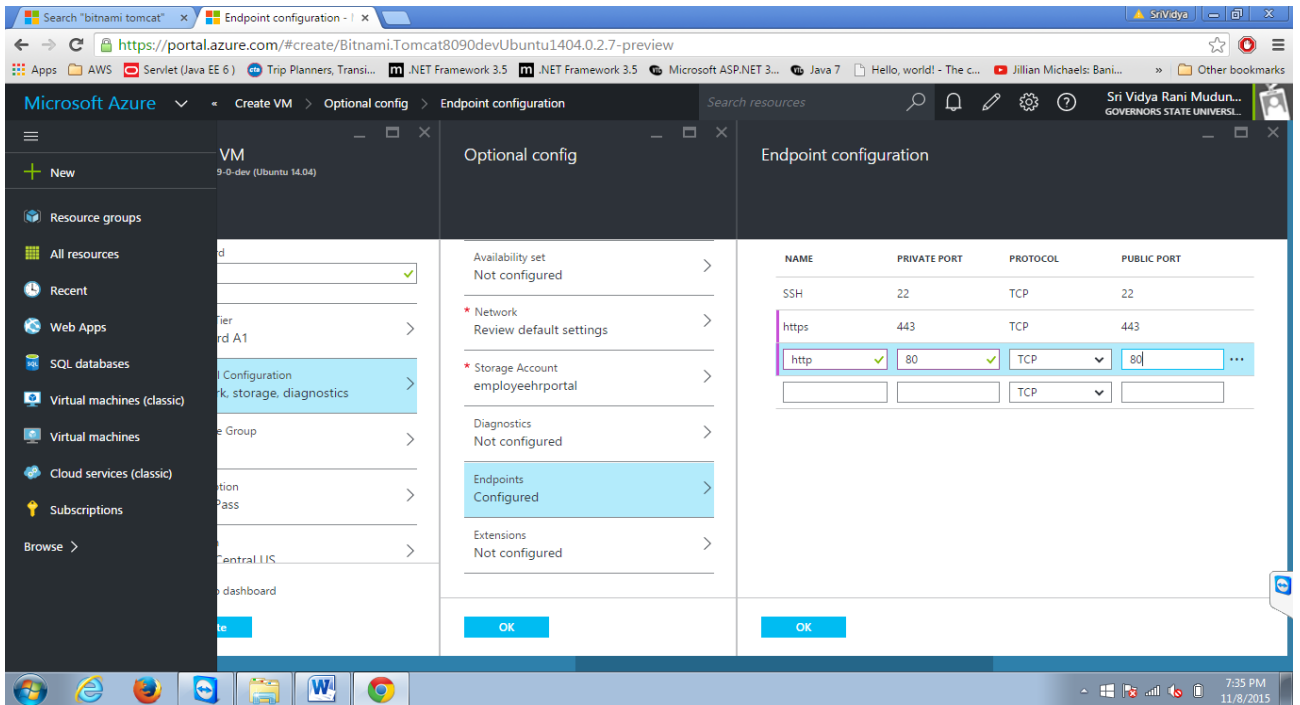
- iii. Select any version of tomcat. I selected Tomcat 8.0.9-0-dev (Ubuntu 14.04).



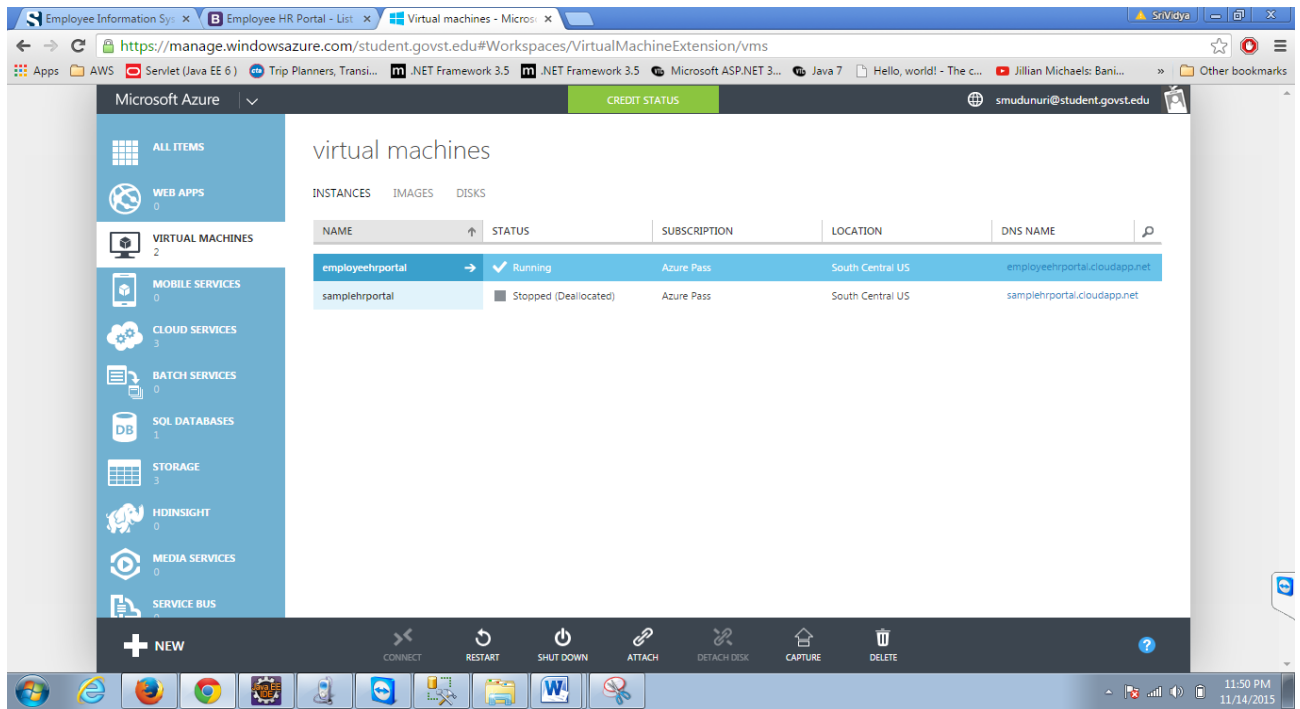
iv. Click on create virtual machine



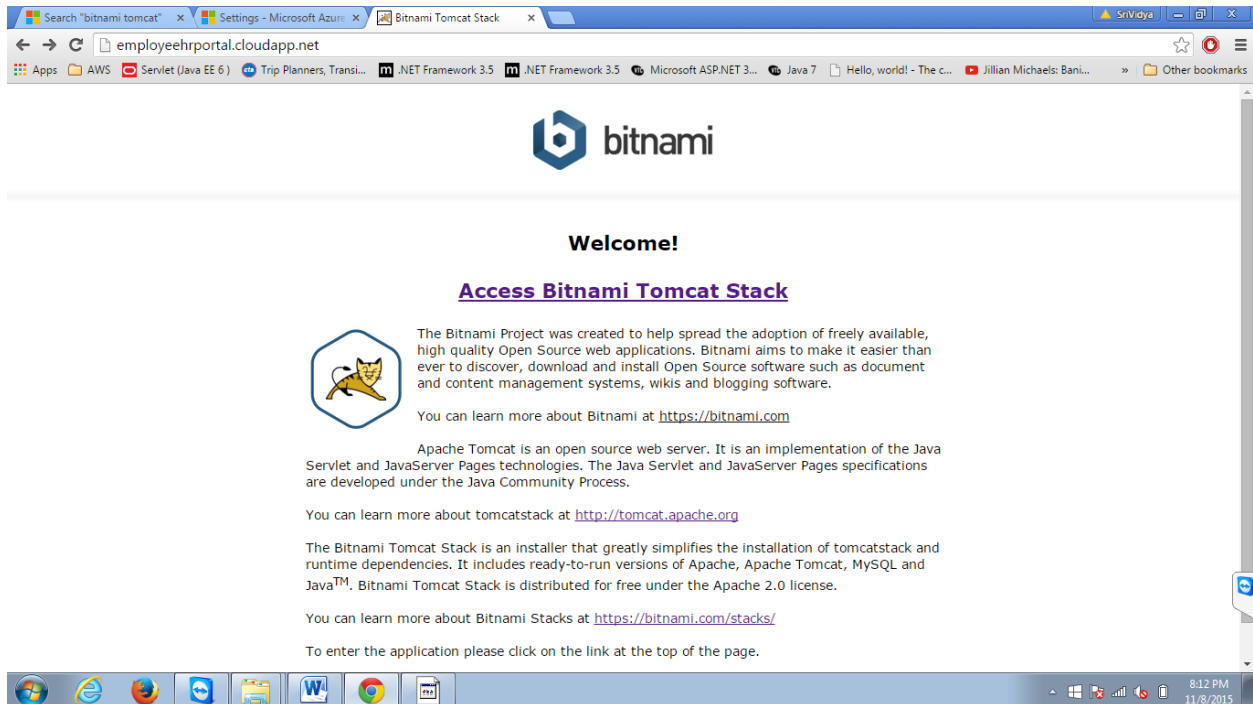
v. To create virtual machine set the Pricing tier as A1; Optional Config, select EndPoints Configuration and set the default port numbers of SSH as 22, https as 443 and http as 80.



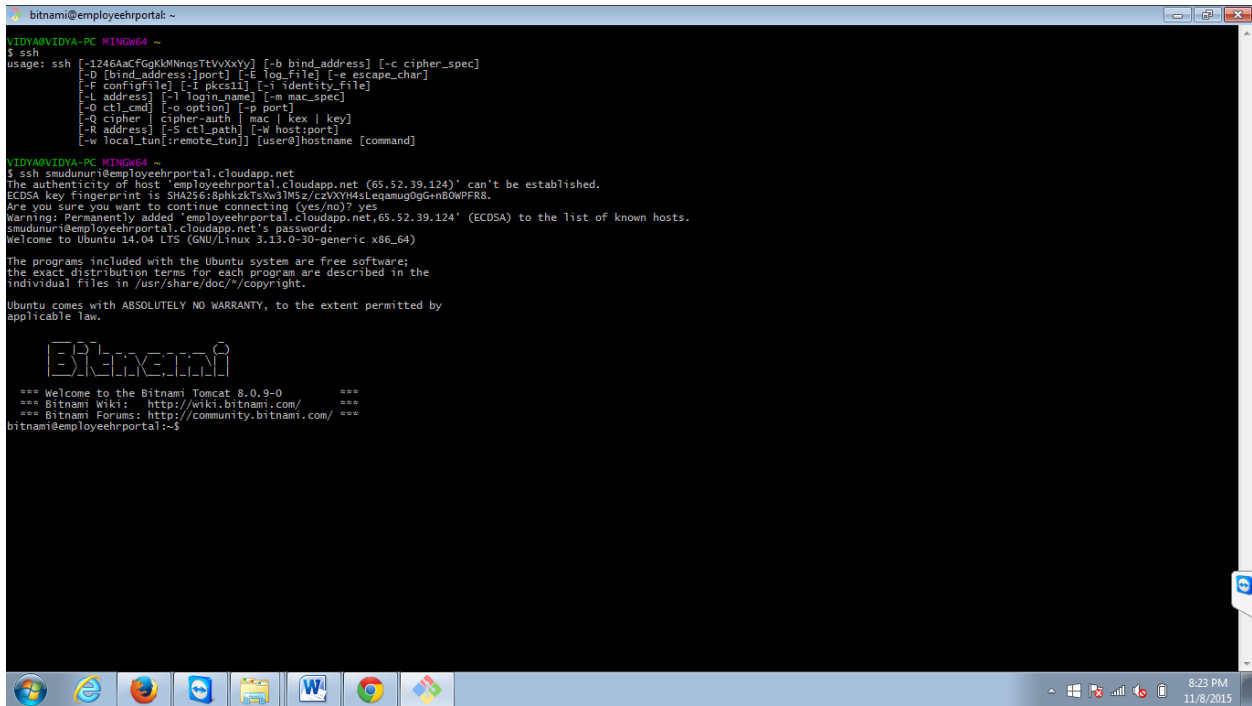
vi. Virtual machine is created.



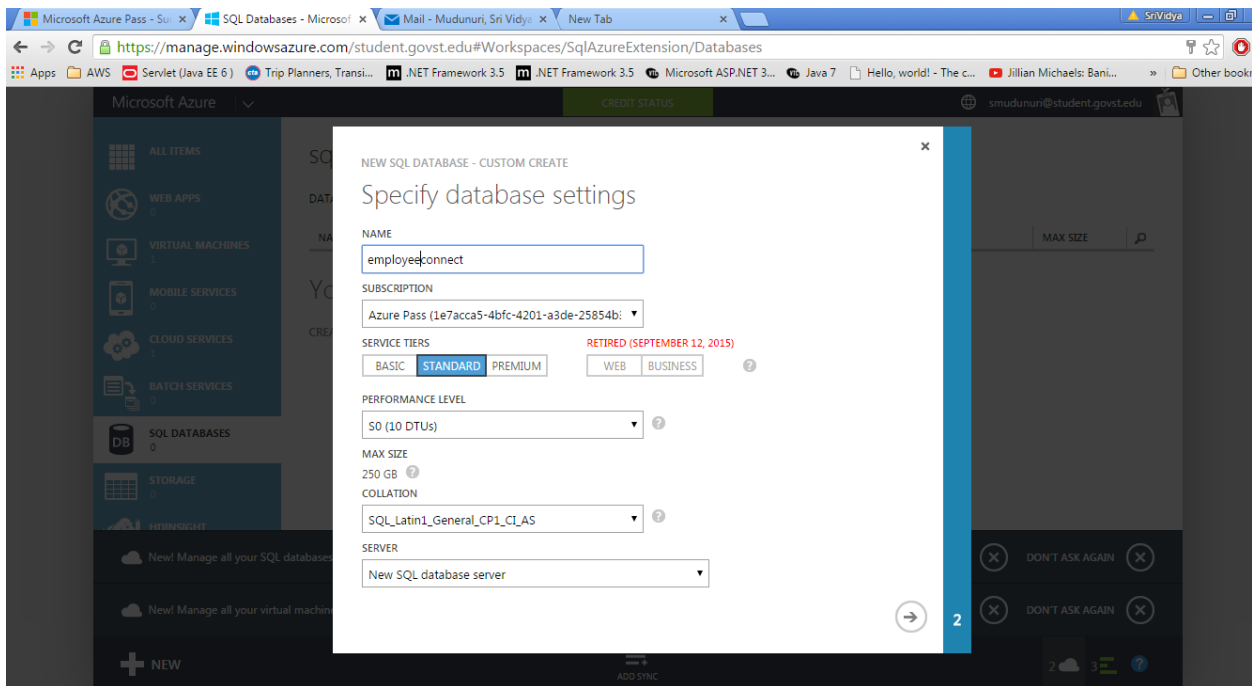
vii. Click on the link corresponding to the virtual machine, you will be redirected to access bitnami tomcat stack where you can deploy your application.

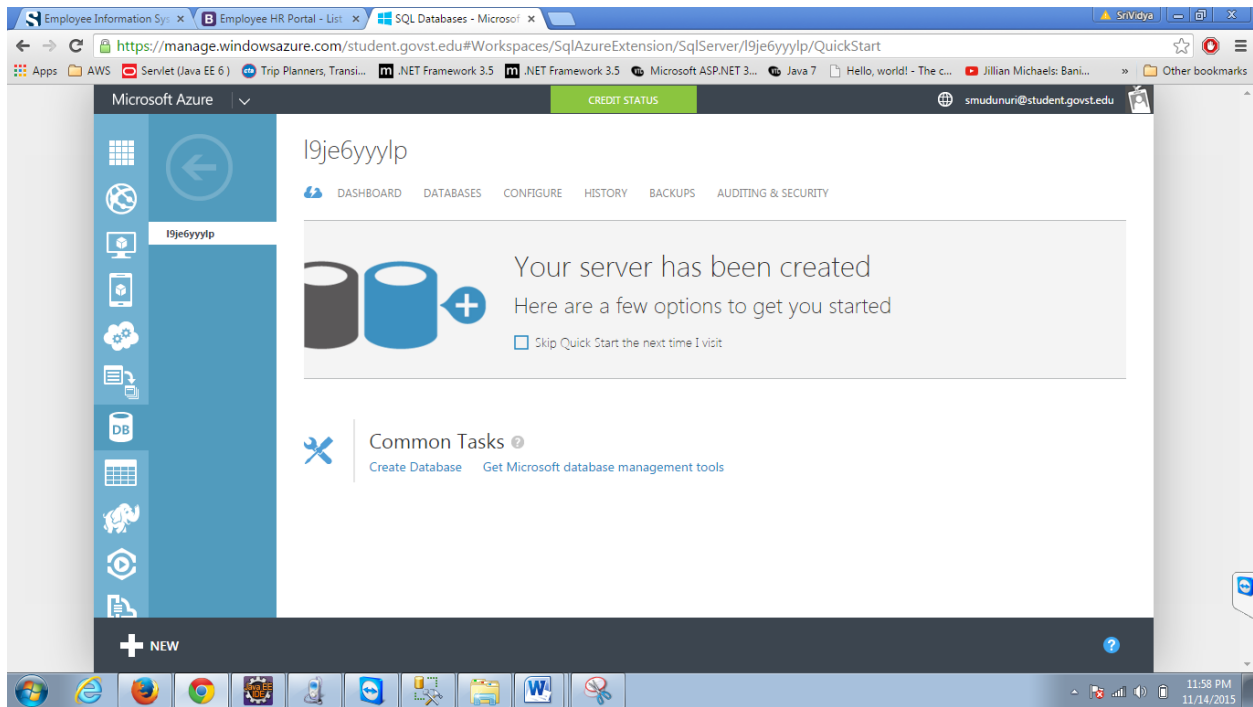


Connect to apache from git bash.

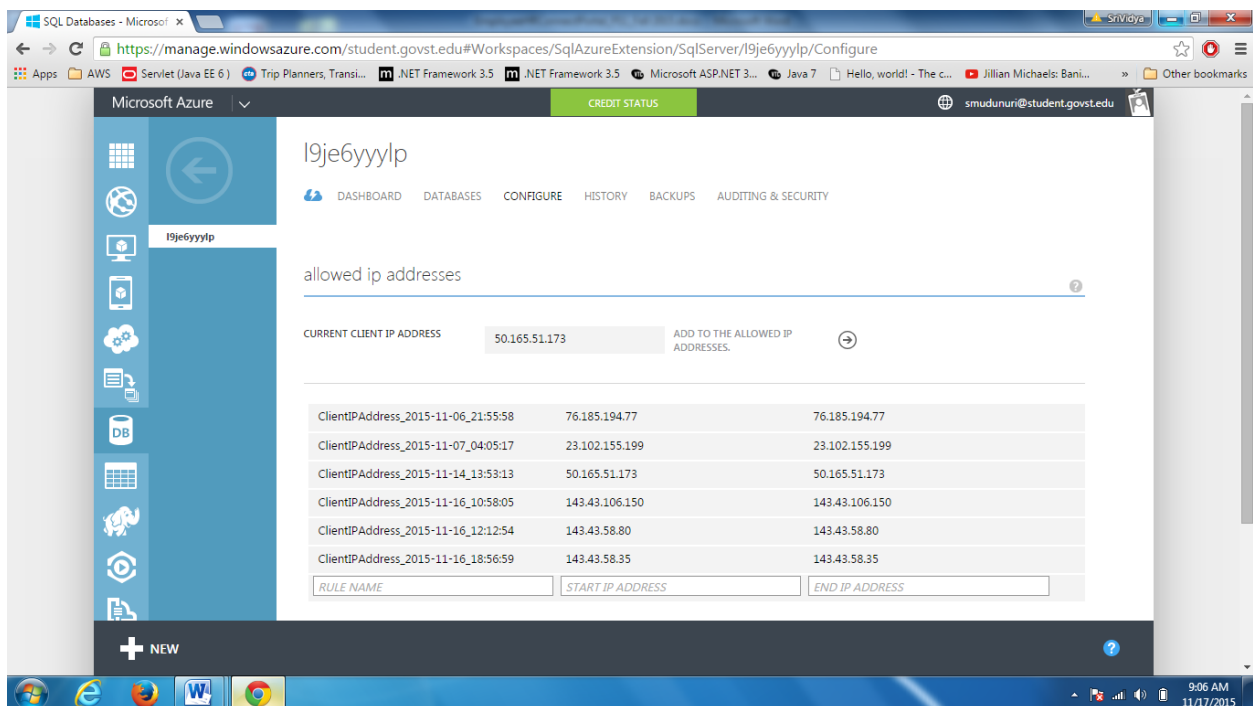


Creating sql database.

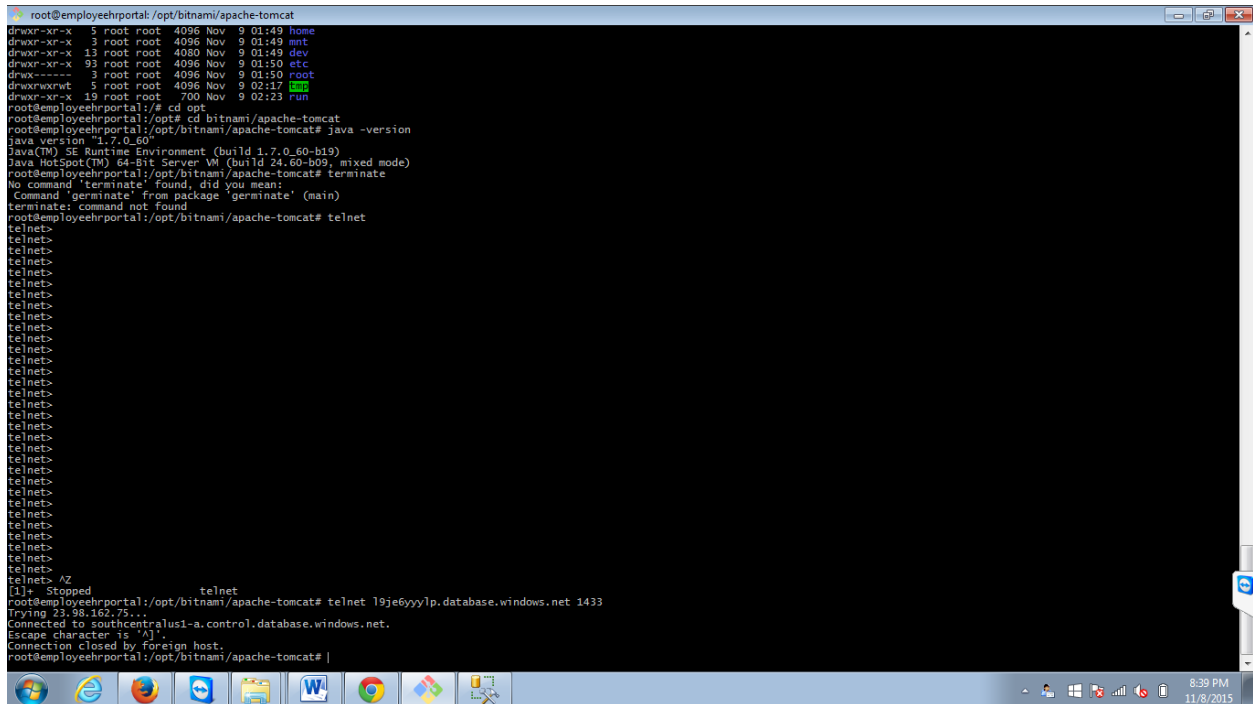




After creating database. We need access to it from our ip address.
 So we need to add our ip address to 'allowed ip addresses'.
 To add allowed ip addresses we click on configure.



Testing connection to sql server
19je6yyy1p.database.windows.net



To connect to database server



4 Project Design Description

➤ Project Module:

- a) User can create a new project.
- b) User can assign project to department.
- c) User can assign employee to project.
- d) User can view list of projects and by selecting a project user will be able to view the list of employees assigned for that project.
- e) User can view current projects assigned to him and can approve employee timesheets submitted to manager.

➤ Department Module :

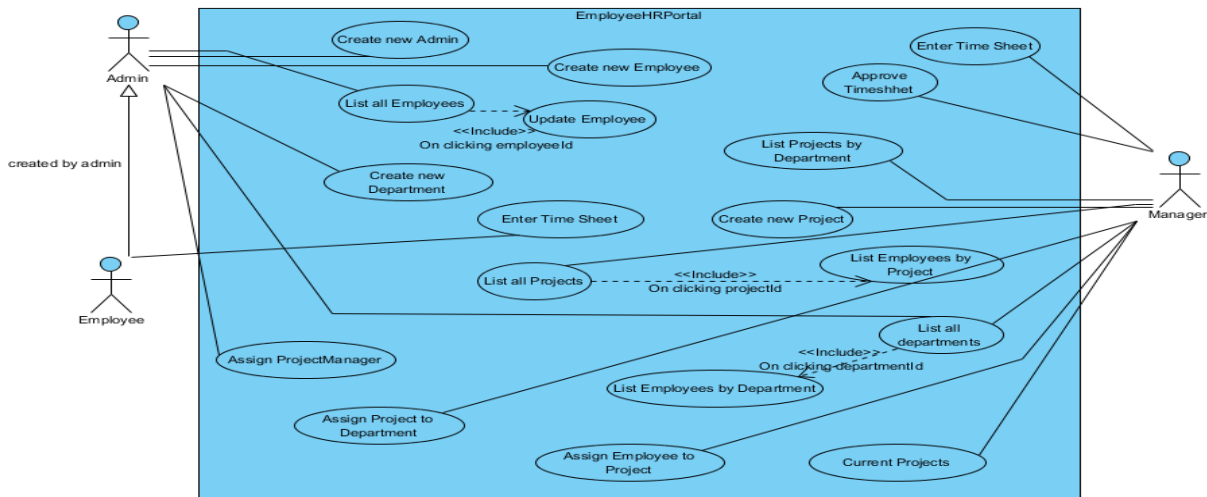
- a) User can create a new department.
- b) User can view list of departments and by selecting a particular department user can view the employees assigned to that department.

➤ Timesheet Module :

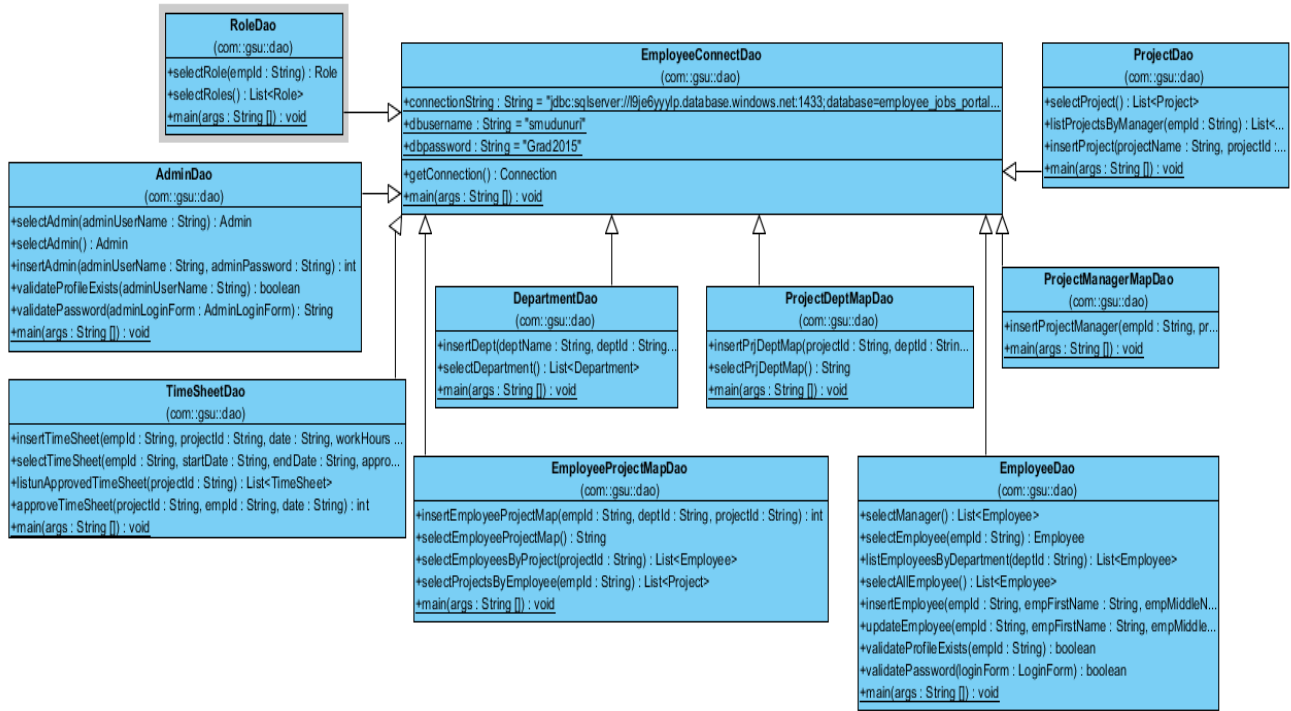
- a) User can submit the timesheet and can view whether they are approved or not.
- b) User can approve the timesheets.

5 Project Internal/external Interface Impacts and Specification

USE CASE DIAGRAM:

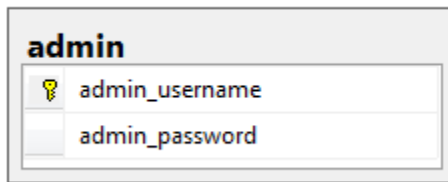


CLASS DIAGRAM:



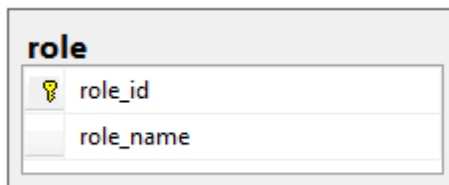
Introduction to ER-Diagrams

➤ **admin**



- Username and password for Admin are stored in this table.

➤ **role**



- Roles related to an user are stored in this table. Ex: Employee, Manager.

➤ **department**

department	
	dept_name
🔑	dept_id

- Department details are stored in this table.

➤ **employee**

employee	
🔑	emp_id
	emp_firstname
	emp_middlename
	emp_lastname
	emp_emailid
	emp_phonenumber
	emp_desg
	emp_experience
	dept_id
	password
	role_id

- Employee details are stored in this table, dept_id, role_id are foreign keys.

➤ **project**

project	
	project_name
🔑	project_id
	project_status
	description
	total_cost

- Project details are stored in this table.

➤ **Project department map**

project_dept_map	
🔑	project_id
🔑	dept_id
	hours_allocated

- Projects and departments are mapped in this table.

➤ **timesheet**

timesheet	
	emp_id
	project_id
	timesheet_date
	work_hours
	approved

- When timesheet is submitted, values are populated in this table.

➤ **employee project map**

emp_project_map	
🔑	emp_id
🔑	project_id
🔑	dept_id

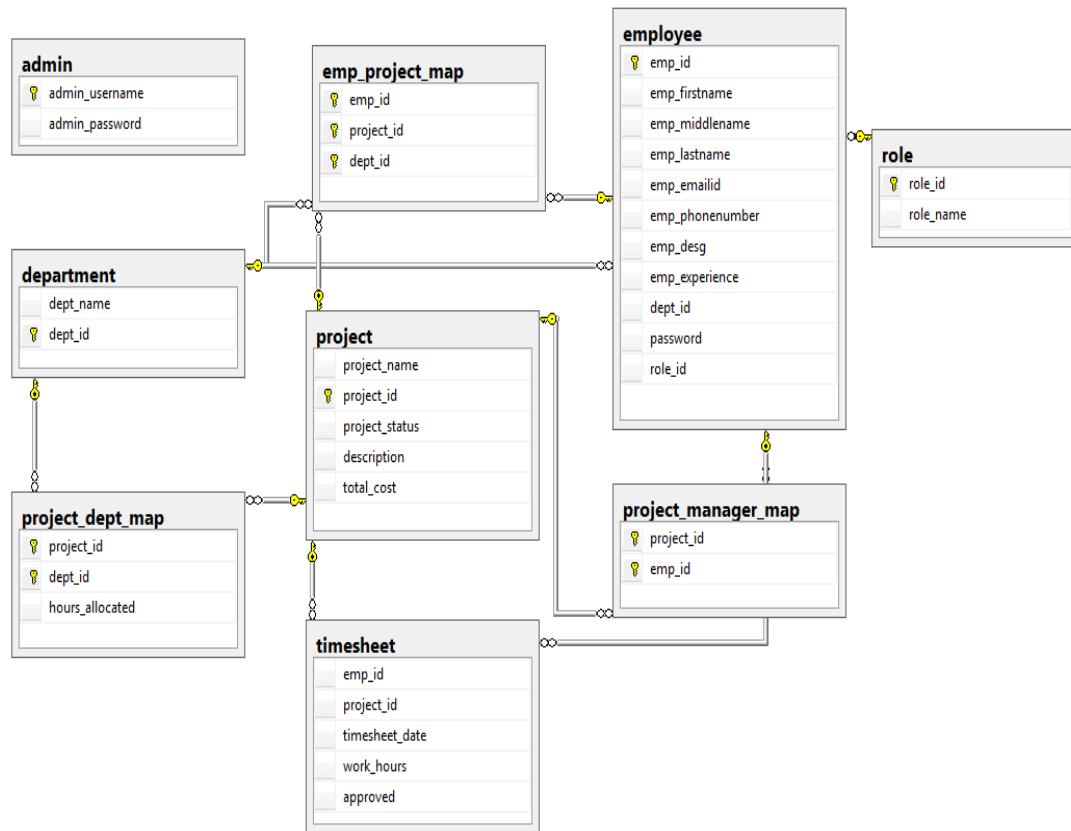
- Projects and employees are mapped in this table.

➤ **Project manager map**

project_manager_map	
🔑	project_id
🔑	emp_id

- Projects and managers are mapped in this table.

Entity-Relationship Diagram



6. Testing

6.1 Unit testing

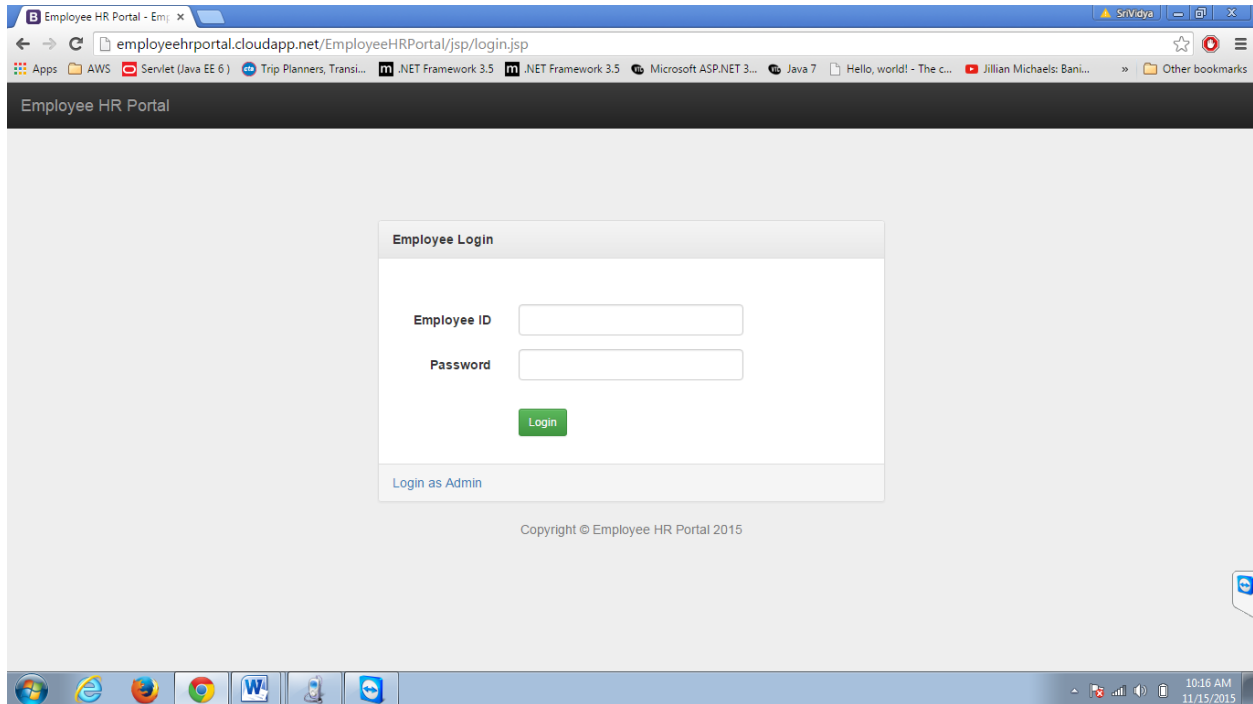
In order to assure that the tool achieves its objectives, the proponents conducted the testing per functionalities. The test scripts assure that the tool that will be implemented is parallel to its desired outcome. **Unit testing** is a software testing method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use. Intuitively, one can view a unit as the smallest testable part of an application. In procedural programming, a unit could be an entire module, but it is more commonly an individual function or procedure.

6.2 Functionality testing

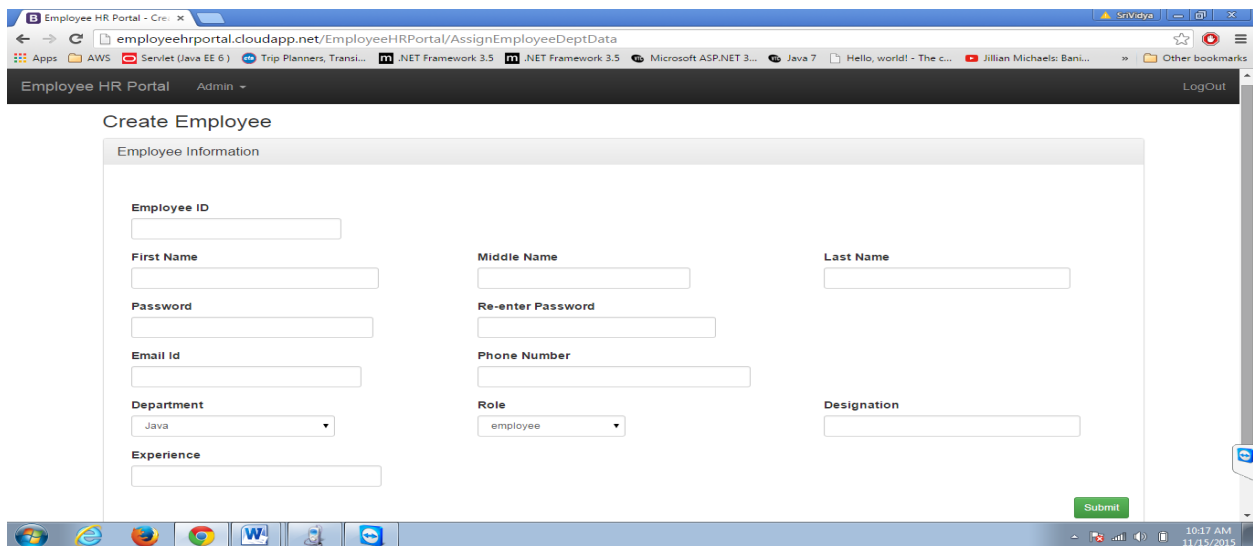
Functionality testing is performed to verify that a software application performs and functions correctly according to design specifications. During functionality testing we check the core application functions, text input, menu functions and installation and setup on localized machines, etc.

6.3 Testing – Screens

Login



Create New Employee



List of Employees

Employee Id	Employee First Name	Employee Middle Name	Employee Last Name	Email Id	Phone Number	Department	Employee Designation	Employee Experience	Role
Aallusivala	Aparna	Aparna	Allusivalaa	Aallusivala@gmail.com	5714368579	Oracle Apps	Developer	5	employee
Dmudunuri	Divakar	D	Mudunuri	divakar@gmail.com	433480098	Java	Team Lead	10	manager
Dsandadi	Deepika	R	Sandadi	dsandadi@gmail.com	2547894561	Informatica	Tester	7	employee
Mbandaru	Mounica	M	Bandaru	mounica@gmail.com	789631234	TIBCO	developer	4	employee
Smandadi	Sindhura	R	Mandadi	smandadi@govst.edu	5214567895	Informatica	Project Manager	10	manager
Smudunuri	Sri Vidya	Rani	Mudunuri	smudunuri@govst.edu	2356455612	Oracle Apps	Project Manager	9	manager
Tvodapally	Tejaswini	T	Vodapally	tejaswini@gmail.com	684329890	SQL	DBA	3	employee

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Create New Admin

Admin Information

Admin User Name

Password

Re-enter Password

Submit

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Create New Department

Employee HR Portal - Create New Department

employeehrportal.cloudapp.net/EmployeeHRPortal/jsp/department.jsp

Employee HR Portal Admin Logout

Create New Department

Department Information

Department ID

Department Name

Submit

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10:19 AM 11/15/2015

List of Departments

Employee HR Portal - List of Departments

employeehrportal.cloudapp.net/EmployeeHRPortal/DepartmentListServlet

Employee HR Portal Admin Logout

List of Departments

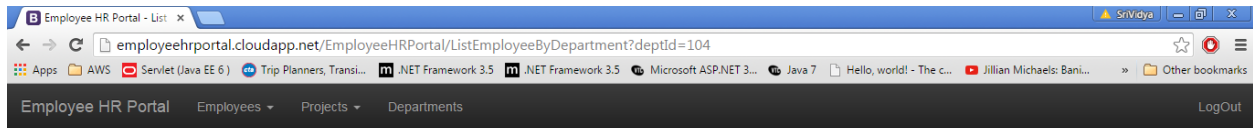
Departments Information

Department Id	Department Name
101	Java
102	SQL
103	Websphere
104	Oracle Apps
105	SAP
106	Informatica
107	Networking
108	Peoplesoft
109	TIBCO
110	MQ
111	ABAP

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10:19 AM 11/15/2015

List Employee by Department



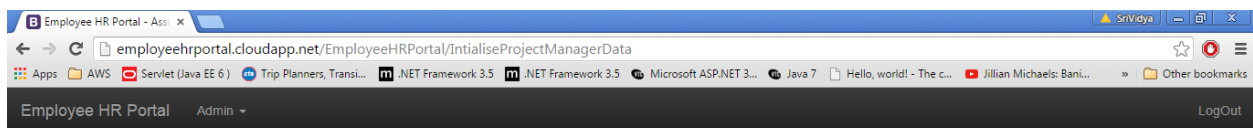
List Employee By Department

Department Employee Information							
Employee Id	Employee First Name	Employee Middle Name	Employee Last Name	Email Id	Phone Number	Designation	Experience
Aalusivala	Aparna	Aparna	Allusivalaa	Aalusivala@gmail.com	5714368579	Developer	5
Smudunuri	Sri Vidya	Rani	Mudunuri	smudunuri@govst.edu	2356455612	Project Manager	9

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Assign Project Manager



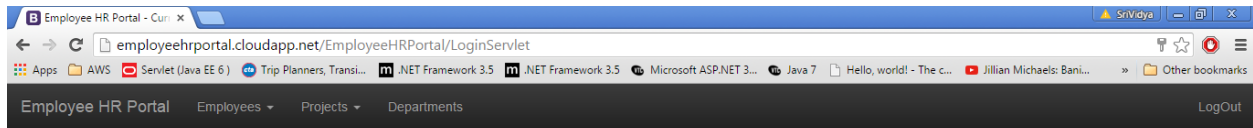
Assign ProjectManager

ProjectManager Information	
Manager	<input type="text" value="Divakar"/>
Project	<input type="text" value="Boelter"/>
<input type="button" value="Submit"/>	

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Current Projects



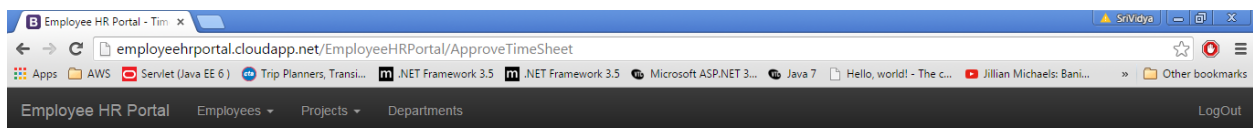
Current Projects

Projects Information						
Project Id	Project Name	Project Status	Manager	Description	Total Cost	Approve TimeSheet
2001	Boelter	development in progress	Smandadi	Retail related	250000	Approve Time Sheet
2003	Fast Rite	development in progress	Smandadi	Exports related	20000	Approve Time Sheet
2004	Pregis	development in progress	Smandadi	Packing Materials related	40000	Approve Time Sheet

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Time Sheet – Pending Approval



TimeSheet - Pending Approval

TimeSheet - Pending Approval					
	Project Id	Employee Full Name	Employee Id	Date	Total Work Hours
<input type="checkbox"/>	2001	Aparna Aparna Allusivalaa	Aallusivala	2015-11-10	15
<input type="checkbox"/>	2001	Deepika R Sandadi	Dsandadi	2015-11-10	8
<input type="checkbox"/>	2001	Deepika R Sandadi	Dsandadi	2015-11-11	8
<input type="checkbox"/>	2001	Aparna Aparna Allusivalaa	Aallusivala	2015-11-12	15
<input type="checkbox"/>	2001	Aparna Aparna Allusivalaa	Aallusivala	2015-11-13	15
<input type="checkbox"/>	2001	Aparna Aparna Allusivalaa	Aallusivala	2015-11-14	7
<input type="checkbox"/>	2001	Deepika R Sandadi	Dsandadi	2015-11-14	8

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Create New Project

The screenshot shows a web browser window with the URL `employeehrportal.cloudapp.net/EmployeeHRPortal/jsp/project.jsp`. The page title is "Employee HR Portal" and the navigation menu includes "Employees", "Projects", and "Departments". The main content area is titled "Create Project" and contains a form labeled "Project Information". The form has the following fields: "Project ID" (text input), "Project Name" (text input), "Project Status" (text input), "Description" (text input), and "Total Cost" (text input). A green "Submit" button is located at the bottom right of the form. Below the form, the text "Copyright © Employee HR Portal 2015" is displayed. The Windows taskbar at the bottom shows the time as 10:21 AM on 11/15/2015.

Assign Project to Department

The screenshot shows a web browser window with the URL `employeehrportal.cloudapp.net/EmployeeHRPortal/InitialiseProjectDeptData`. The page title is "Employee HR Portal" and the navigation menu includes "Employees", "Projects", and "Departments". The main content area is titled "Assign Project to Department" and contains a form labeled "Project Department Information". The form has the following fields: "Project" (dropdown menu with "Boelter" selected), "Department" (dropdown menu with "Java" selected), and "Hours Allocated" (text input). A green "Submit" button is located at the bottom right of the form. Below the form, the text "Copyright © Employee HR Portal 2015" is displayed. The Windows taskbar at the bottom shows the time as 10:22 AM on 11/15/2015.

Assign Employee to Project

The screenshot shows a web browser window with the URL `employeehrportal.cloudapp.net/EmployeeHRPortal/InitialiseEmpProjectData`. The page title is "Assign Employee to Project". Below the title is a form titled "Employee Project Information" with three dropdown menus: "Employee" (selected: Aparna), "Department" (selected: Java), and "Project" (selected: Boelter). A green "Submit" button is located at the bottom right of the form. The footer of the page reads "Copyright © Employee HR Portal 2015". The Windows taskbar at the bottom shows the time as 10:23 AM on 11/15/2015.

List of Projects

The screenshot shows a web browser window with the URL `employeehrportal.cloudapp.net/EmployeeHRPortal/ProjectListServlet`. The page title is "List of Projects". Below the title is a table titled "Projects Information" with the following data:

Project Id	Project Name	Project Status	Description	Total Cost
2001	Boelter	development in progress	Retail related	250000
2002	Drivewise	development in progress	Insurance related	30000
2003	Fast Rite	development in progress	Exports related	20000
2004	Pregis	development in progress	Packing Materials related	40000
2005	Khols	development in progress	Distributers related	50000
2006	Bonton	development in progress	Clothing	35000
2007	Benz	development in progress	Auto related	60000
2008	Allstate	development in progress	Insurance related	50000

The footer of the page reads "Copyright © Employee HR Portal 2015". The Windows taskbar at the bottom shows the time as 10:23 AM on 11/15/2015.

List Employees by Project

Employee HR Portal - List

employeehrportal.cloudapp.net/EmployeeHRPortal/ListEmployeeByProject?projectId=2001

Employee HR Portal Employees Projects Departments LogOut

List Employee By Project

Project Employee Information

Employee Id	Employee First Name	Employee Middle Name	Employee Last Name
Aalusivala	Aparna	Aparna	Allusivalaa
Dsandadi	Deepika	R	Sandadi

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10:33 AM 11/15/2015

Enter Timesheet

Employee Connect - Inse

employeehrportal.cloudapp.net/EmployeeHRPortal/LoginServlet

Employee HR Portal Employees LogOut

Time Sheet

Week Starting 11/15/2015

Previous Week Next Week

Project Name	Sun 11/15	Mon 11/16	Tue 11/17	Wed 11/18	Thr 11/19	Fri 11/20	Sat 11/21	Total
	0	0	0	0	0	0	0	0

Submit

10:31 AM 11/15/2015

Employee HR Portal Employees LogOut

Assigned Projects

- +Boelter
- +Fast Rite

Time Sheet

Week Starting 11/08/2015

Project Name	Sun 11/08	Mon 11/09	Tue 11/10	Wed 11/11	Thr 11/12	Fri 11/13	Sat 11/14	Total
Boelter			8	8			8	24
Fast Rite		2						2
Fast Rite			2	1	2	1		6
Boelter		8			8	8		24
	0	10	10	9	10	9	8	56

7. Link to access EmployeeHRPortal

<http://employeehrportal.cloudapp.net/EmployeeHRPortal>

8. Conclusion

Employee HR Portal is deployed successfully in Microsoft azure and will be available to everyone through web browsers. We chose Ubuntu virtual machine as it uses minimum space, supports more two or more workspaces, better security as it comes with Linux Security Modules installed by default. Employee HR Portal is helpful for midsize IT consulting companies with less than 200 employees. Employee HR Portal will be helpful for employees to update timesheet of one complete week within one single sheet and view hours that have been approved and those which are pending to be approved. Manager will be able to evaluate employee timesheet and approve their work hours. Admin has rights to create new employees and assign them to various departments and create new admin users. Manager can judge the number of hours an employee is working for a project. Manager can analyze the number of resources required for a project. Manager can access the employee skill set to assign for a project.

9. References

- <https://docs.oracle.com/javase/8/docs/api/index.html>
- <https://www.microsoft.com/en-US/Download/details.aspx?id=11774>
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