Automate the Servers

MINI PROJECT – I

SYNOPSIS

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Acknowledgement

It gives us a great sense of pleasure to present the synopsis of the B.Tech mini project undertaken during B.Tech III Year. This project is going to be an acknowledgement to the inspiration, drive and technical assistance will be contributed to it by many individuals. We owe special debt of gratitude to Mr. Amir Khan, Technical Trainer , for providing us with an encouraging platform to develop this project, which thus helped us in shaping our abilities towards a constructive goal and for his constant support and guidance to our work.

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ABSTRACT

The study described in this research report focused on variables which were posited to capture students' experiences of the online tutoring service, e-Learning, and relationships with the students' perceptions of their academic capabilities and academic performance. A theoretical model incorporating variables from the Technology Acceptance Model, the Theory of Planned Behaviour, and Social Cognitive Theory was developed and tested. A total of 506 undergraduate students from a university located in Sydney, Australia, completed an online survey. Data were analysed using confirmatory factor analysis (CFA) and structural equation modelling (SEM). The results suggested that the perceived usefulness of E-Learning had a direct positive relationship with academic self-efficacy, and an indirect positive association with the students' academic grades through academic self-efficacy. There was a direct positive relationship between academic self-efficacy and students' academic grades. The implications of these results and directions for future research are discussed in this report.

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INTRODUCTION

Amazon CloudWatch monitors your Amazon Web Services (AWS) resources and the applications you run on AWS in real time. You can use CloudWatch to collect and track metrics, which are variables you can measure for your resources and applications.

The CloudWatch home page automatically displays metrics about every AWS service you use. You can additionally create custom dashboards to display metrics about your custom applications, and display custom collections of metrics that you choose.

You can create alarms that watch metrics and send notifications or automatically make changes to the resources you are monitoring when a threshold is breached. For example, you can monitor the CPU usage and disk reads and writes of your Amazon EC2 instances and then use that data to determine whether you should launch additional instances to handle increased load.
You can also use this data to stop under-used instances to save money.

With CloudWatch, you gain system-wide visibility into resource utilization, application performance, and operational health.

SOFTWARE AND HARDWARE REQUIREMENTS

- Amazon Web Services Log in Credentials
- Good Connectivity of Internet
- One Active Server
- Lamda Function's
- Created IAM Role's
- Cloud Watch

PROJECT DESCRIPTION

Automation, a capability of AWS Systems Manager, simplifies common maintenance, deployment, and remediation tasks for AWS services like Amazon Elastic Compute Cloud (Amazon EC2), Amazon Relational Database Service (Amazon RDS), Amazon Redshift, Amazon Simple Storage Service (Amazon S3), and many more. To get started with Automation, open the Systems Manager console. In the navigation pane, choose **Automation**.

Automation helps you to build automated solutions to deploy, configure, and manage AWS resources at scale. With Automation, you have granular control over the concurrency of your automations. This means you can specify how many resources to target concurrently, and how many errors can occur before an automation is stopped.

The project is divided into 3 modules – student, course expert and administrator. The roles of the modules are as follows:

- **Student :**

  The student selects from various courses available. The student **t**akes a test on a course. There might be courses, which has only test modules. Each question has multiple choices with only one correct answer. The test will be time bound. Student can see the test schedule. New Users will be able to register themselves in the system as students. All students will be able to modify their own profile. Student views previous test reports, receives feedback for a test taken Student can go to the discussion board and browse through questions and answers and discussing solutions of questions asked in test. Student can chat with course expert. Student can also send messages to the course expert.

- **Course Expert :**

  Creating test questions for the course**,** test questions will reside in the Draft area if either it is saved while creating/modifying or it has been rejected by admin. Modifying test questions, deleting the entire test, browse through the tests that students have submitted, just as a student would., view the results of those students that have taken test for his courses. Replying back to the messages from students.

- **Administrator:**

  Publish tests submitted by Course Experts. Before publishing test questions it is customary to get it reviewed by admin. After going through its content either it gets approved or gets rejected**.** Modify the profile of other users registered in the system. Change user status from inactive to active.

WORKING

A student has to register his profile for a course, by authentication and authorization and chat with others. A student can join discussion forums,

send mail to instructor(s) of the course and provide feedback about the test

given. A student can view test schedule, take test to assess his knowledge, view test report and edit his/her profile.

A course expert creates a test for the course, test questions will reside in the Draft area if either it is saved while creating/modifying or it has been rejected by admin. Modifying test questions, deleting the entire test, browse through the tests that students have submitted, just as a student would., view the results of those students that have taken test for his courses. Replying back to the messages from students.

Publish tests submitted by Course Experts. Before publishing test

questions it is customary to get it reviewed by admin. After going through its content either it gets approved or gets rejected. Modify the profile of other users registered in the system. Change user status from inactive to active

IMPLEMENTATION

CloudWatch is a powerful toolset built right into the AWS platform that allows you to easily monitor and automatically manage your AWS resources. In this course, Monitoring Servers and Services with AWS CloudWatch, you will learn how to use CloudWatch using both built-in metrics and custom metrics. First, you dive into how CloudWatch stores, retrieves, and organizes information. Next, you will learn about the integration of custom applications. Finally, you dive into combining built in and custom metrics. When you complete this course, you will know how to create useful dashboards for your team, as well as allow AWS to act on your behalf to make changes to your environment.

Java Server Pages (JSP) is a technology based on the Java language and enables the development of dynamic web sites. JSP was developed by Sun Microsystems to allow server side development. JSP files are HTML files with special Tags containing Java source code that provide the dynamic content.

Tomcat started off as a servlet specification implementation by James Duncan Davidson who worked as a software architect at Sun. He later helped in making the project open-source and in its donation by Sun to the Apache Software Foundation.

Oracle is a trade mark of Oracle Corporation and in common usage refers to the database engine (which actually looks for the data) and the range of frontend products. Oracle 8i is the largest selling SQL-based RDBMS and a most commercially useful product.

REFERENCES;

https://amzn.to/2ROIO2R

- **www.amazon/documentation.com**

Books:

- Professional Java Server Programming

Learning Amazon Web Services (AWS)

Amazon Web Services Bootcamp

Amazon Web Services in Action

Websites:

- www.java.sun.com
- www.google.com
- www.javawrench.com
- www.javaworld.com
- www.projectdeveloper.com

Faculty Guidelines:

Mr. Mandeep Singh (Technical Trainer in GLA University)

GitHub Repository link:

https://github.com/yash8917/Mini-Project-1