Laboratory Practice Report

Laboratory 9: Version control (git) and continuous deployment (CI/CD)

April 2nd, 2025

Departamento de Electrónica,

Sistemas e Informática (DESI)

Cloud Architecture

Prof. Rodolfo Luthe Ríos

Erika Susana Durán González

ID 149653

MSC Data Science

Contents

[Introduction 3](#_Toc193904473)

[Key Words 3](#_Toc193904474)

[Theoretical Framework 3](#_Toc193904475)

[Architectural Diagram 5](#_Toc193904476)

[Practice Development 5](#_Toc193904477)

[Deploy a web app automatically 5](#_Toc193904478)

[Problems and Solutions 15](#_Toc193904479)

[Cost Analysis 15](#_Toc193904480)

[Conclusions 15](#_Toc193904481)

[Bibliography 16](#_Toc193904482)

## Introduction

The goals of these practice are:

* Use a version control client

• Configure centralized version control service

* Control versions of a document
* Implement a continuous deployment DevOps environment

## Key Words

Quality assurance, version control.

## Theoretical Framework

## Architectural Diagram

## Practice Development

## Problems and Solutions

## Cost Analysis

|  |  |  |
| --- | --- | --- |
| **Concept** | **Monthly USD** | **Annually USD** |
| 2 GB per hour / 1 GB processed bytes per hour per LCU for EC2 instances and IP addresses as targets = 2 processed bytes LCUs for EC2 instances and IP addresses as targets |  |  |
| 1 load balancers x 2 LCUs x 0.008 LCU price per hour x 730 hours per month = 11.68 USD |  |  |
| **Application Load Balancer** | **$ 11.68** | **$ 140.16** |
| **2 Amazon EC2 upfront cost (Upfront)** | **$ 446.76** | **$ 446.76** |
|  |  |  |
| **TOTAL USD** | **$ 458.44** | **$ 586.92** |

## Conclusions

# Bibliography

|  |  |
| --- | --- |
| [1] | AWS, "Why AWS Elastic Beanstalk?," [Online]. Available: https://aws.amazon.com/elasticbeanstalk/details/?nc1=h\_ls. |
| [2] | D. R. Rajesh Daswani, AWS Certified Developer Associate Certification and Beyond, Packt, 2024. |
| [3] | B. P. Vipul Tankariya, AWS Certified Developer - Associate Guide, Packt, 2019. |