Laboratory Practice Report

Laboratory 9: Version Control (CodeCommit) and continuous deployment (CI/CD)

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 Departamento de Electrónica, Sistemas e Informática (DESI)

Cloud Architecture *(Arquitectura en la Nube)*

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# Introduction

In today's rapidly evolving technological landscape, businesses are increasingly embracing cloud-based solutions to streamline their software development processes. This practice aims to demonstrate the utilization of public cloud services for version control and continuous deployment, essential components of modern DevOps practices.

Learning Objectives

* **Use a Version Control Client:** Learn how to manage and track changes to project files using version control software.
* **Configure Centralized Version Control Service:** Set up a centralized repository to store and collaborate on code efficiently.
* **Control Versions of a Document:** Implement versioning for project documentation to track changes and maintain a history of edits.
* **Implement a Continuous Deployment DevOps Environment:** Explore the automation of software delivery processes to achieve rapid and reliable deployments.

General Activities

1. **Set Up a Local Repository:** Begin by establishing a local repository on your development machine to initiate version control.
2. **Create a Repository on GitHub:** Utilize GitHub, a popular cloud-based version control platform, to host and manage your project repository remotely.
3. **Create a Repository in AWS CodeCommit:** Experience AWS's version control service, CodeCommit, to explore cloud-native repository management.
4. **Control Versions of a Document:** Practice versioning by managing changes to a sample document, demonstrating the importance of tracking edits.
5. **Set Up Continuous Delivery from GitHub to Elastic Beanstalk:** Implement a continuous deployment pipeline using AWS Elastic Beanstalk, automating the deployment of your application based on changes committed to GitHub.

Through hands-on exercises and practical demonstrations, we will gain valuable insights into leveraging cloud services for efficient version control and streamlined deployment workflows. By the end of this practice, I will be equipped with essential skills to navigate and leverage public cloud platforms effectively in real-world development scenarios.

# Theoretical Framework

# Architectural diagram

Diagram of the implemented architecture.

# Practice Development

# Problems and Solutions

# Experiments and Results

# Cost analysis

# Conclusions

In conclusion

# Bibliography