INSTITUTO DE TECNOLOGIA E LIDERANÇA – INTELI

Automation and Cost Management Project Based on TAGs in AWS

Public Report – Módulo 2

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1. **Introduction**

This project, conducted in partnership with Thomson Reuters, aims to develop a robust methodology for implementing a cost tagging system in AWS to optimize financial control and enhance operational efficiency. Building on the initial planning and research from Module 1, this second module focuses on the development, practical validation, and formalization of a comprehensive and actionable tagging standard. This phase marks the transition from theoretical exploration to the creation of a tangible governance framework, including the definition of mandatory tags, standardized values, and the development of a Quick Start Guide to facilitate user adoption.

2 . Development and Refinement of the Tagging Strategy

The core of Module 2 was dedicated to defining a precise and effective tagging strategy. This process began with foundational research into industry best practices, leveraging authoritative sources such as the AWS Well-Architected Framework. The initial strategy focused on defining a set of mandatory tags deemed essential for achieving the project's primary objectives of cost visibility and operational accountability.

A key part of the process was the practical validation of the proposed standard. This involved manually instantiating Amazon EC2 instances within the AWS lab environment and applying the defined tags using the AWS Command Line Interface (CLI). This hands-on approach allowed for a tangible test of the proposed tag keys and values in a real-world scenario.

3. Collaboration and Iteration with the Business Partner

The validation process was highly collaborative. The initial tagging implementation was presented to the business partner, Thomson Reuters, whose feedback was instrumental in refining the standard. The partner provided a positive reception and offered valuable suggestions, which led to significant improvements:

- **Clarity on cost-center**: It was identified that the mapping of the cost-center tag requires further internal discussion with the partner to ensure it aligns perfectly with their financial structure. This has been noted as an ongoing action item.
- **Granularity for Environments**: The partner suggested creating a higher-level distinction between production and non-production

environments to simplify cost aggregation. This led directly to the introduction of a new mandatory tag, environment-type.

This iterative feedback loop ensured the resulting standard is not only technically sound but also directly aligned with the business's practical needs for financial and operational reporting.

4. **Formalization of the Tagging Standard**

Based on research, practical validation, and partner feedback, a formal Tagging Standard was established. The standard designates six mandatory tags that must be applied to all applicable AWS resources to ensure a consistent baseline of metadata for governance.

Tag Key	Purpose	Format Guidance	Example
project-id	Uniquely identifies the project to which the resource contributes.	Alphanumeric string	PRJ78910
application-id	Identifies the specific application, service, or workload.	Alphanumeric string	billing-api
cost-center	Specifies the financial business unit responsible for the costs incurred.	Alphanumeric string (from Finance)	FINOP6789
environment	Defines the specific stage in the deployment lifecycle.	Lowercase string from a predefined list	development, production
environment-type	Provides a higher-level classification of the resource's environment.	production or non-production	non-production
owner-email	Identifies the primary individual or team responsible for the resource.	A valid email address	username@companydomain.com

To support the adoption of this standard, a Tagging Quick Start Guide was developed. This guide serves as a concise, user-friendly resource for the DevOps team,

especially new members, to facilitate consistent tag application and promote compliance.

5. Challenges and Next Steps

Several challenges were identified during this module. The limitations of the AWS Academy Lab environment prevent the implementation of advanced automation using services like AWS Lambda and AWS Config for tag governance and lifecycle management. Furthermore, the work to finalize the definitive list of cost-center values with the partner is ongoing.

With the tagging standard now formalized, the next steps for the project are clear:

- Develop an API for collecting resource and tag management data.
- Create dashboards and reports for data visualization, enabling stakeholders to easily analyze costs and resource distribution based on the applied tags.

6. Professional Development and Practical Application of Knowledge

This module provided a significant opportunity for professional growth. The practical exercise of defining and applying tags within the project allowed me to directly translate academic learning into a professional context. This experience sharpened my strategic vision regarding instance tagging within my own work environment. By actively engaging in the creation of a tagging standard, I was able to identify several points of improvement in our corporate practices, particularly concerning cost efficiency and more effective budgeting strategies. This bridge between the project's objectives and real-world application has been invaluable, providing me with a deeper, more strategic perspective on cloud financial management.