Final Deliverable Report

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# Introduction

In the present era of digital transformation, the migration to cloud environments has increased, emphasising the importance of cybersecurity measures within these platforms. As organisations rely more on cloud services for vital operations, protecting these environments from potential threats and vulnerabilities has become critical. This report covers a ground-breaking initiative aiming at creating a Cloud Security Assessment Tool to examine and analyse security setups and vulnerabilities across many cloud platforms.

The primary goal of this project is to develop a strong tool architecture capable of efficiently assessing the security configurations specific to various cloud service providers. The tool is intended to meet many essential needs in cloud security management:

* Tool Architecture Development: Creating a framework capable of thoroughly evaluating security configurations across many cloud service providers.  
    
  Security Checks and Compliance: Performing a series of checks to identify common misconfigurations and ensure compliance with specified security standards. The tool uses RESTful principles to ensure that interactions with cloud services are stateless and self-descriptive, increasing the efficiency and reliability of assessments.  
    
  User Interface and remedy: Creating an intuitive interface that not only reports security concerns but also makes practical recommendations for remedy. This functionality is intended to help users recognise and mitigate security concerns efficiently.

By achieving these objectives, the Cloud Security Assessment Tool hopes to be a significant resource for organisations looking to improve their level of safety in cloud settings. This study will go over the development process, features, and possible influence of the tool in strengthening cloud security infrastructures.