Assignment Document for AWS IAM Security Assessment

Title: AWS IAM Security Assessment

Duration: 1.5 hours

Location: On-site

Resources Provided: AWS Sandbox Environment, AWS Access Key and Secret Key

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Introduction

Welcome to your AWS IAM security assessment task. This assignment is designed to assess your technical skills in AWS Identity and Access Management (IAM), your Python programming skills and your understanding of cloud security principles.

Objective

Your task is to perform a security assessment of IAM configurations in a provided AWS sandbox environment, identifying potential security issues through a single, well-architected Python job.

Tasks

Task 1: Basic AWS CLI Query

- **Objective:** Verify provided AWS credentials and execute a basic IAM query.
- **Action:** Use the AWS CLI to list all IAM users in the sandbox environment.
- **Expected Output:** A JSON file displaying the list of IAM users.

Task 2: IAM Vulnerability Assessment Job

Comprehensive Job for Multiple Security Issues

- **Objective:** Develop a Python job to identify multiple IAM-related security issues, starting with two specific issues in Parts A and B.
- **Architecture Considerations:**
  - The job should be modular, allowing for easy addition of new security checks.
  - Implement a class or function-based structure where each security issue is a separate module or function.
  - Ensure the job is scalable and maintainable.

Part A: Identify IAM Users Without MFA

- **Details:** Incorporate a module/function in your job that uses boto3, variables typing is important.
- **Output:** Append findings to a JSON report with fields:
  - `Time Issue Found`
  - `Identity Name`
  - `Issue Name` (e.g., "MFA not enabled")

Part B: Candidate-Identified Security Issue

- **Details:** Add another module/function in the same job for an IAM-related security issue of your choice.
- **Output:** Continue to use the same JSON report format, adding findings from this part.

Evaluation Criteria

- Effective use of AWS CLI and boto3.
- Ability to identify and articulate key IAM security issues.
- Quality, structure and scalability of the Python service.

- Accuracy and relevance of the JSON report findings.

Submission

Please submit:

- Report or screenshot for Task 1.
- Python job for Task 2, covering both Part A and Part B.
- The generated JSON report.

We are excited to see your approach to this task and understand how you tackle AWS IAM security challenges. Good luck!