Job Description

Skill 53 – Cloud Computing

1   Introduction

This document describes the ICT Regional Championships 2023 in the category "Cloud Computing", also known as skill 53. This competition is the successor of the previous skill 39 and is mainly focused on the usage of public cloud services.

Unlike the previously released General Description, this document provides some additional information regarding the specific tasks that you are going to face. Please note that one additional service has been added, which has been highlighted further down below in yellow.

We are looking forward towards an interesting and fair competition and wish you already today good luck with showing off your skills!

2   Competition Details

The competition will be divided into several smaller tasks, for which you will have a total of **three hours** to complete as many tasks as possible. There are 3 different task categories available: **AWS Basics, Cloud Networking** and **Linux**. Whenever possible, the tasks are designed to be independent of each other, which will also allow you to solve them in a different order.

All these tasks are being performed on the AWS cloud platform and are dealing with their basic infrastructure service offerings. Specifically, you can expect challenges / tasks related to this list of services:

- Amazon Application Auto Scaling
- Amazon CloudFront
- Amazon Elastic Compute Cloud (EC2)
- Amazon Elastic File System (EFS) ← additional service
- Amazon Elastic Load Balancing (ELB)
- Amazon Relational Database Service (RDS)
- Amazon Simple Storage Service (S3)
- Amazon Virtual Private Cloud (VPC)
- AWS Identity and Access Management (IAM)

The individual tasks are not meant to check very specific knowledge regarding these services. Instead, they rather focus on basic usage of these AWS services and combine the new cloud computing era with usual on-premises skills related to the management of Linux systems and basic networking.

Each task will grant you the possibility to optionally request hints when you are stuck solving a challenge. While these hints will result in a deduction of points depending on how detailed they are, they give you a good chance to solve tasks in areas you have not faced previously. The competition platform will let you know in advance how many points each hint is going to cost, so it is up to you if and how many of them you use.

An important part of this competition is that internet access for research is allowed, but you must NOT use any kind of outside help. This means that while you must develop a solution by yourself, you do not have to memorize domain-specific knowledge and can instead focus on the bigger picture.

3   Bring your own device

As a competitor, you must bring your own device to the competition, unless your regional school/location tells you otherwise. Due to the usage of public cloud services, specifically AWS, the requirements are very simple and easy to fulfill.

Basically, you only need to have a working email address, a web browser of your choice and optionally an SSH client like OpenSSH or PuTTY. No other software is required, and you also do not need to run any virtual machines on your system, as everything is hosted in the cloud.

On the competition day, you will receive an URL together with an invite code where you can register an account on our competition platform. You will find all the required information and credentials there along with the specific tasks and your current score. When logging in for the first time, you will be asked to fill in some details about yourself like your full name, school, and employer. Please make sure that the provided data is correct, as it will be used for the ranking.

Aside from that, there are no restrictions imposed regarding the kind of tools you may use. By default, you will be automatically logged into a temporary AWS account where you can solve the various tasks within your browser. Additionally, you will also have the possibility to get a session for using the AWS CLI, although this is neither required nor recommended unless you already have some solid knowledge with AWS.

4   Rules

Please be aware of the following competition rules to guarantee a fair experience for every participant:

- The competition takes a total of 180 minutes, and the time will automatically start once you signed up on the platform and started the challenge. It is up to yourself to decide how to divide your time.

- Your score is being continuously graded and you do not have to submit any results at the end of the competition. At any time, you will be able to view your current score and gather insights about which parts of your infrastructure are already working and which ones still need more work.

- Due to the competition allowing for BYOD (bring your own device), this exam is meant to be treated as open book, meaning that all resources for obtaining knowledge, including the internet, are allowed.

- You are NOT allowed to communicate with other people, including fellow candidates. Any kind of outside help will result in your immediate disqualification from the competition.

- You may not disclose any competition material or information to any other person, neither before, during nor after the competition.

5   Training

In case you would like to work on your public cloud skills before joining the competition, we recommend you look at AWS Academy. This is an educational service provided by AWS, which allows taking various online courses and provides a free sandbox with up to 100$ credits where you can experiment around and familiarize yourself with the AWS Management Console.

Your school might have already provided you with such an account, in which case you can use that account to train for the competition. In case your school is not part of the AWS Academy program, you may fill out the following form and we will provide you with an account as soon as possible:

AWS Academy Request: https://forms.gle/Rbpsf5gA95DmUjWY9

There are no specific training exercises available, however basic knowledge of the beforementioned services in section 1 along with some sysadmin knowhow will give you a decent chance to achieve a good score!