THE
Hashgraph
ASSOCIATION

HEDERA Certification

23-MAR-2023

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Certification

Timing:

Heads up:	23-MAR-2023 09:45 CET
Test sent to you by email:	23-MAR-2023 10:00 CET
Test start:	23-MAR-2023 10:15 CET
Test end:	23-MAR-2023 13:15 CET
Submission deadline:	23-MAR-2023 13:30 CET

Location: Remote

SDK Language: Any

Open book (you can use any resources you need)

Ref: I1T3C1S1M4Z1

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Task: Setup

Create a script to generate 5 Hedera TestNet accounts (Account1, Account2, Account3, Account4 and Account5).

Use these accounts as indicated in the following tasks.
These accounts must not already exist before the start of the test.

Do not use your existing TestNet Portal account to complete tasks. Instead use the accounts you generate.

Be sure to note down the account Id and keys of the accounts – you will need these later. You will also need to communicate these account IDs during your response to the certification test.

Fund the accounts as you see appropriate to cover the costs of your tasks.

Provide the script output(s) in your response.

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Task: Token Service

Create a script that creates a non-fungible token with the Hedera Token Service belonging to **Account1**.

Set the initial supply to 0 and the maxSupply for 5. Create a custom royalty fee of 10% and a fallback fee of 200 Hbar paid to **Account2**.

Create a second script that mints all 5 NFTs with the Metadata “NFT x” and sends the second NFT to **Account3**.

Provide the script output(s) in your response.

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Task: Smart Contract Service

Download and deploy the solidity bytecode given below using the Hedera Smart Contract Service and Account1. Call function “function1” with parameters “4” and “3” and print the answer you receive. Hint: there are 2 input parameters, and you will receive a return value. Further information is in the ABI file. All parameters are of type “uint16”.

Create a second transaction using function “function2” and supply the result of “function1” as the input.

Extra credit: Decode and print the return value from the transactions using ABI decoding.

Provide the script output(s) in your response.

Bytecode/ABI JSON URL	https://drive.proton.me/urls/M0JHN4MRDM#JIvywUklTK7G

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Task: Scheduled Transaction

Create a script that creates a scheduled transaction to transfer 10 Hbar from **Account1** to **Account2**.

Serialise and export the transaction to a base 64 format and use this as the input to the next step.

Make a second script that reads in the serialised format and provides the required signature and submit it.

Provide the script output(s) in your response.

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Task: Multi Signature

Create a new wallet with an initial balance of 20 Hbar, and 3 keys (**Account1, Account2 and Account3**) in a key list, with a key threshold of 2 (2 Signers out of the three keys must sign).

Create transaction to transfer 10 Hbar to Account4 and sign it with **Account1** only, show that the transfer fails.

Now create a new transaction where **Account1** and **Account2** sign the transaction and show that the transfer succeeds.

Provide the script output(s) in your response.

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Task: Consensus Service

Create a script to create a consensus transaction on the Hedera Consensus Service using **Account1**. Write the **current time** in the message of the transaction and submit.

Provide the script output(s) in your response.

Please submit your results and code, either as a publicly available Git repository (preferred) or Zip file back to the email you received the validation tasks from.

We will let you know the results within one working day.

Thanks!