Amazon Managed Blockchain Workshop

https://github.com/aws-samples/non-profit-blockchain

Building and deploying an application for Hyperledger Fabric on Amazon Managed Blockchain

This workshop builds a Hyperledger Fabric blockchain network using Amazon Managed Blockchain. Once the Fabric network has been created, you will deploy a 3-tier application that uses the Fabric network to track donations to a non-profit organization and track how those donations are spent by the non-profit. Donations and spending are tracked on a Hyperledger Fabric blockchain network with both donors and non-profits (NGO's) being members of the network. The 3-tier application consists of the following components:

- Node.js / Angular user interface application, accessing services provided by a RESTful API
- RESTful API, running as a Node.js Express application, using the Hyperledger Fabric Client SDK to query and invoke chaincode
- Fabric Chaincode, written in Node.js, deployed to a Hyperledger Fabric network

This workshop will build a Hyperledger Fabric blockchain network using Amazon Managed Blockchain, deploy the chaincode, start the RESTful API server and finally run a UI application that uses the RESTful API to interact with the Fabric network. The workshop is divided into four parts:

1. Building a Hyperledger Fabric blockchain network using Amazon Managed Blockchain. Instructions can be found in the folder: ngo-fabric
2. Deploying the chaincode, or smart contract, that provides the donation and spend tracking functionality. Instructions can be found in the folder: ngo-chaincode
3. Starting the RESTful API server that exposes the chaincode functions to client applications. Instructions can be found in the folder: ngo-rest-api
4. Running the User Interface application. Instructions can be found in the folder: ngo-ui

Getting started

To build the network, deploy the chaincode, start the RESTful API server and run the application, follow the README instructions in parts 1-4, in this order:

- Part 1: Start the workshop by building the Hyperledger Fabric blockchain network using Amazon Managed Blockchain.
- Part 2: Deploy the non-profit chaincode.
- Part 3: Run the RESTful API server.
- Part 4: Run the application.
- Part 5: Add a new member to the network.
- Part 6: Read and write to the blockchain with Amazon API Gateway and AWS Lambda.

Cleanup

To clean up your resources delete the Hyperledger Fabric network managed by Amazon Managed Blockchain and the AWS CloudFormation template as follows:

- In the AWS CloudFormation console delete the stack with the stack name `<your network>-fabric-client-node`
- In the Amazon Managed Blockchain console delete the member for your network. This will delete the peer node, the member, and finally, the Fabric network (assuming you created only one member)
- In the AWS Cloud9 console delete your AWS Cloud9 instance

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