CCGC5002 Lab 10

This lab will introduce you to Kaleido.io which is a Blockchain as a service Cloud.

1. Create a Starter account with Kaleido.io. Do not upgrade. Go through the Kaleido Walkthrough video. There is ample documentation available from the home page.
2. Create a network with name FirstNetwork. Set home region Ohio or the closest.
3. Create environment with name MyEnv. Select Standard Blockchain Service + FireFly supernode. Select Ethereum as protocol. You may select HLF too. You may leave the default protocol and consensus algorithm.
4. Membership (under FirstNetwork-Governance): Confirm identity of the default membership. This will allow you to self sign. Kaleido allows you to download certificate. Create another membership with name external and confirm its identity with default setting. You may invite other organizations.
5. Inside MyEnv dashboard, create a supernode with name SN1 under Humber (organization), node name N1, runtime RN1, small sized. Add another node N2. If two nodes are created with same name, then go to a Node setting and change node name to N2. You can see the Blockchain Dashboard config appears. Your Blockchain network contains two nodes, N1, N2. Nodes can be from different organizations. Can you identify the hash information from any of the nodes? Take screenshot.
6. Go to Apps under Managed Resources under MyEnv, Create smart contract with import type Token Factory, select FirflyErc20withData as template. The Gateway Api for deploying contract info will be displayed. You may select a signing account (node). Deploy the contract and View APi and execute (you need to expand the Post button, click ‘Try it Out’ and then click execute). It may be a default POST method with two Json string objects. Take screenshot of the curl response and the Request url. Save these credentials in a text file.
7. Go to Security under Managed Resources, Create a Network control Bridge with name B1. Kaleido offers the ability to configure nodes with a private ingress and connect through your AWS Virtual Private Cloud (VPC) via a PrivateLink endpoint.
8. Go to App Creds. If any credential is displayed, click on it. Kaleido does not store the credential password. Copy it somewhere safe for later use. You need the Id, password, Basic auth and authorization header copied. You can create New app credentials for the above info if not displayed.
9. Open Postman (provided you installed before), replicate the Post request with the info from step 6 and 8 above. Perform the following steps and take screenshot of successful post response from Postman.

You need to set the request url from step 6 to send the POST request in postman.

Copy the body from the smart contract and paste in Postman body.

In the postman params, enter two keys: kld-from and kld-sync. Set the value for kld-sync to true, then copy paste the kld-from value from the portion Reqest url (starts with 0x).

In the postman authorization type, select Basic Auth and key in the username, password that you saved in step 8.

In the postman header, set key for Content-type and x-kaleido-sync. Set the value as application/json and true respectively.

1. Kaliedo offers B2B communications and Digital Assets such as Token creation on the fly. Check the necessary tabs for these options.
2. Important: Once completed this lab, go to Settings and delete MyEnv. Go to setting and delete FirstNetwork.

PS: this lab is about creating a blockchain network and deploying a smart contract and testing the deployment using external app such as Postman. An interesting course project could be to write an app in vCloud to capture SDN data/flow/infrastructure discovery etc. from mininet and write as smart contract into Kaleido’s blockchain cloud.