



Kazakh British Technical University

Almaty, Kazakhstan

SECOND SEMESTER

A.Y. 2019 – 2020

Blockchain technologies

TSIS Lab #3 (deadline 13 April 0:00. Sunday. If late to deadline then, 2nd deadline - 17 April (-25 %), if later than 17 April (-35 %)

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Please:

1) Complete the table.

	Answer
What was goal of the lab (hyperledger smart contract)	To learn more about Hyperledger Fabric. See some operations and functionalities of the Hyperledger Fabric by doing the command provided in instruction page on our local machine.
What did you do at the lab – results	<p>As I have Windows 10 Home, I could not install the Docker on my laptop. Then I downloaded the Virtual Machine and .iso file for Ubuntu. After fixing the problems with installation of Ubuntu on VM, finally, I had working Ubuntu. By following the instructions I downloaded Docker, Go. I had already node.js and python on it. Then I cloned fabric-samples from its github. I run "curl -sSL https://bit.ly/2ysb0FE bash -s" to get bash scripts in order to reach platform-specific binaries.</p> <p>In this lab work we worked with test network to learn the Fabric. In "test-network" directory I run next command:</p> <p>"./network.sh down". Because everytime when we will work in it, we must clean it firstly. Only after that we may run</p> <p>"./network.sh up" that creates new networks with 2 peer nodes. By "docker ps -a" we can see active Docker containers; We have peer nodes, then we</p>

	<p>create 2 channels for transactions:</p> <pre>"/network.sh createChannel -c channel1", "/network.sh createChannel -c channel2".</pre> <p>On next step we use "deployCC" command installs the fabcar chaincode on org1 and org2. and then deploy it on the channel.</p> <p>Then we add the binaries we have to CLI Path by using specific commands. If we run "peer chaincode query -C mychannel -n fabcar -c '{"Args":["queryAllCars"]}'" after exporting Environment variables for Org1, we got list of cars.</p> <p>P.S. All screenshots are provided below.</p>
How it can be applied	<p>By using Hyperledger Fabric, the organizations can make sped transactions up, because it has fewer peer nodes on network. Furthermore, it deals with consensus well so that enables performance with high confidentiality and secure. As far as we know Amazon, PayPal, Visa, FNS use Hyperledger Fabric.</p>

2) Attach screenshot from the lab – 1st page of launched hyperledger code. Screenshot must contain your name and data as well.







