IBM Blockchain
Proof of Technology
Blockchain Unchained

Lab Three - Exercises

IBM

Contents

Overview

The aim of this lab is to introduce you to chaincode development by showing you how to create and deploy your first chaincode to a new blockchain service in Bluemix.

Introduction

Prerequisites:
- o A bluemix account IBM ID
- o Access to www.Bluemix.net
- o A Bluemix account
- o Preferably have completed Labs one and two (Blockchain Explained and Blockchain Explored).
- o Firefox or Chrome browsers.

Optional requirements, if you want to edit and compile Chaincode yourself
- o GitHub account and tools (from https://github.com/)
- o GO Lang compiler installed (from https://golang.org/dl/)

Section 1.   Creating a Blockchain Service on Bluemix

1. Create a New Blockchain Service

__1.   Open a web browser and go to www.bluemix.net.

	It is recommended to use Firefox or Chrome.
	Some people have previously reported problems working with Bluemix in Internet Explorer and Safari.

__2.   Click 'Sign Up' or 'Log In' to create a new Bluemix account or log into your existing account.

__3.   Select `CATALOG` from the top bar

__4.   Scroll down to the Network section and select **Blockchain**
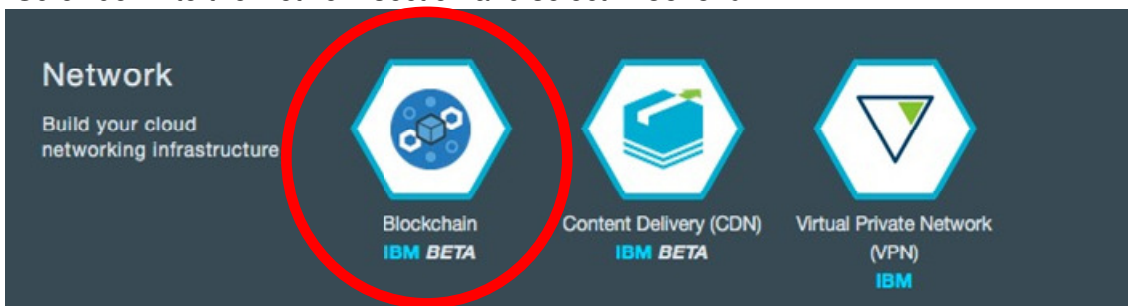
 Review the service description and information about the service.

__5.   Select `CREATE` to create a new blockchain service leaving all the settings at their defaults. Note: this assumes your ID has an "Org" and a "space" associated with it.

This service welcome screen will give you details about IBM Blockchain Network Service Test Environment. Review this page for more information. For a full description of the blockchain service please go to:
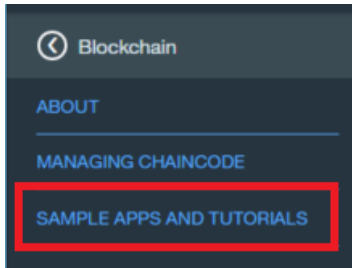https://console.ng.bluemix.net/docs/services/blockchain/ibmblockchain_overview.html

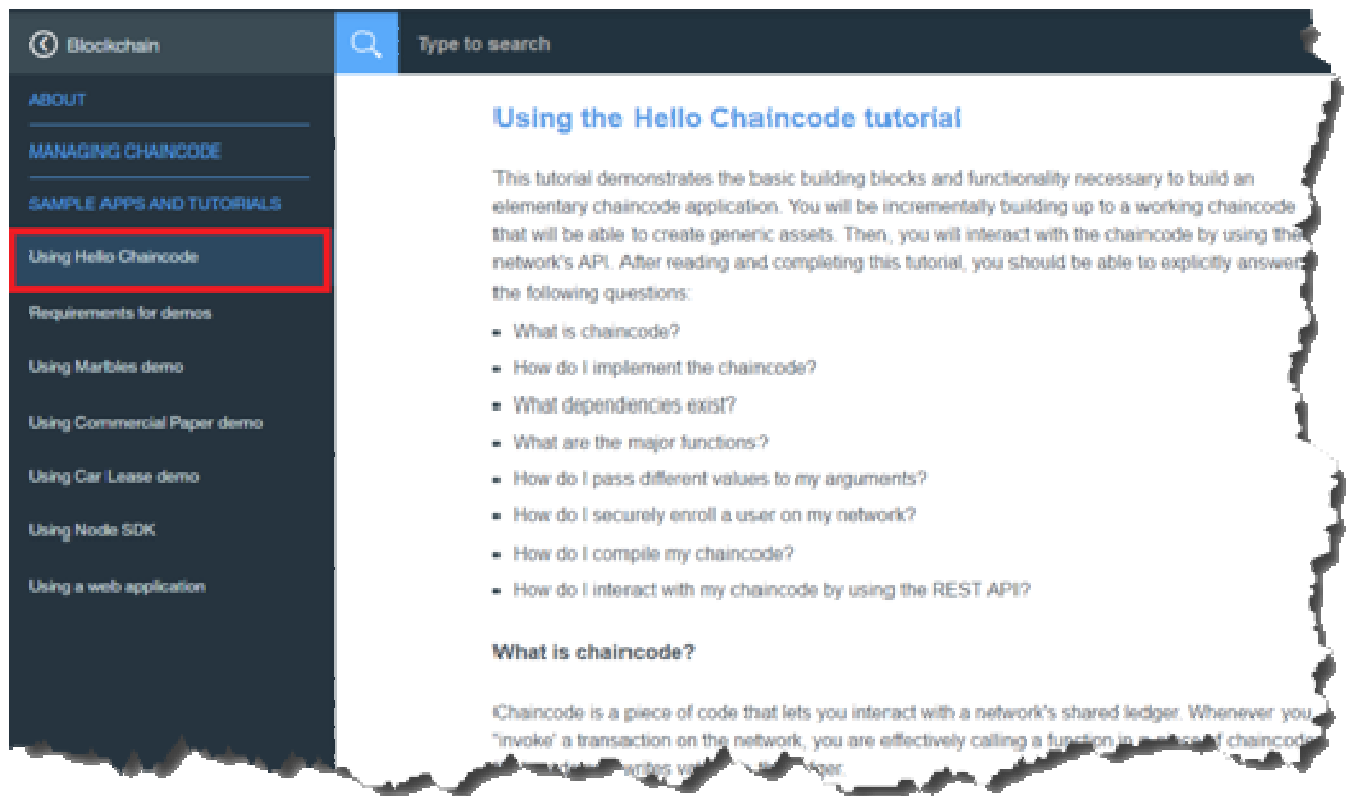__6.   From the "Network Service Test Environment" welcome screen click on the "DOCS" button
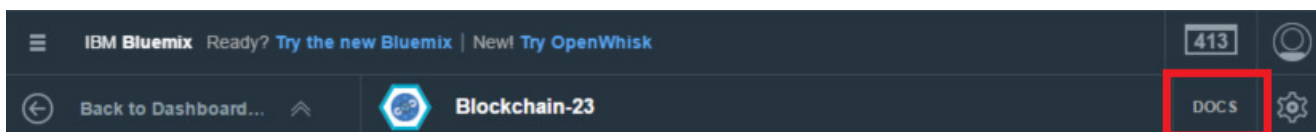
2. Sample Apps - Editing your first Chaincode

__1.   Click on "SAMPLE APPS AND TUTORIALS" in the left hand margin.

__2.   Click on "Using Hello Chaincode" in the left hand margin.

__3.   You are now going to follow the steps on the "Using the Hello Chaincode tutorial". There are two ways through this section:

1. If you are a developer who needs to write Chaincode, you should follow the steps fully including setting up "Go" and using "Git" to change and deploy Chaincode. In summary the steps you will be following are:
   a. Setting up the Environment
   b. Setting up GitHub and forking the example "Hello Chaincode" repository.
   c. Clone the "Hello Chaincode" fork to your local system. Make sure you clone the forked version rather than the original.

	If you accidently clone the original repository use : `"git remote set-url origin https://github.com/<yourGitID>/learn-chaincode"` to point to your fork rather than original

   d. Editing the chaincode_start.go file to add in new capability for Invoking and Querying the Chaincode
   e. Committing your local changes with "git commit -a"
   f. Uploading you changes back to your forked repository with "git push"
   g. Interacting with your changes using the Swagger API to Deploy, Invoke and Query the new Chaincode you made

2. If you just want to see how Chaincode works, you do not need to follow the steps on setting up "Go" and using "Git" to make changes. Instead, you can just read the earlier sections and simply deploy the "Finished" version of the Chaincode directly when you get to the "Deploying the Chaincode" section and work with that.

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