Chapter 5: Administration User Experience

Learning Bluemix & Blockchain

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The Plan: 30 minute Chapters with an hour or two of practice

Chapter 1:	What is Blockchain? Concept and Architecture overview
Chapter 2:	What's the story we're going to build
Chapter 2.1:	Architecture for the Story
Chapter 3:	Set up local HyperLedger V1 development environment
Chapter 4:	Build and test the network
Chapter 5:	Administration User Experience
Chapter 6:	Buyer Support and User Experience
Chapter 7:	Seller Support and User Experience
Chapter 8:	Shipper Support and User Experience
Chapter 9:	Provider Support and User Experience
Chapter 10:	Finance Company Support and User Experience
Chapter 11:	Combining for Demonstration
Chapter 12:	Events and Automating for Demonstration

The Network Operator User Experience

Manages and monitors the Blockchain network. Each business in the network has a Blockchain Network operator.

- Manage Network Connection Profiles
  - Create a network connection Profile
  - Delete a network connection profile
  - Get all network connection profiles
  - Get a specific network connection profile
- Manage Business Networks
  - Deploy a business network
  - List the deployed business networks
  - Touch a network, check compatibility
  - Undeploy: take a business network off line
  - Update an existing business network
- Manage Participants
  - Create, List and Delete Participants
  - List the available assets (Orders)

Role: Manages and monitors the Blockchain network. Each business in the network has a Blockchain Network operator.

Note, since hyperledger composer now only supports hyperledger fabric V1 and higher, no support will be included in this tutorial for versions of hyperledger fabric lower than V1.0

Network Profile Management

API	Parameters
create Profile	profile object
delete profile	profile name
get all connection profiles	(none)
get a specific network connection profile	profile name

Business Network Management

API	Parameters
deploy a network	network archive file, options
install new a network	network archive file, options
start an installed network	network name, options
list the deployed business networks	(none)
touch a network, check compatibility	business network name
take a business network off line	business network name
update an existing business network	business network name, archive file

Resource Management

API	Parameters
list members of a registry	Buyer
List Assets in the registry	(none)
Add Member	Co Name, id, Type
Remove Member	Buyer
getMemberSecret	Buyer

Set up and accessing documentation

- We’re early in the life of hyperledger-composer, which we will use throughout this tutorial. Several script files have been built to simplify your work with Composer and the local docker images:
  - **buildAndDeploy** … a single exec which will execute the necessary commands to read the network files and create a composer network archive file, start up the dev environment and then deploy your blockchain network
  - **create_composer_docs.sh** … use this after you have executed the npm install for any chapter and it will populate the Composer_Docs folder with documentation for the version of composer you have just installed.
  - **shutdown.sh** … use this to gracefully shut down the docker images used in your dev environment
- Accessing the hyperledger-composer NodeJS SDK documentation
  - go to the Composer_Docs folder in your repository and open the index.html file in your favorite browser. Click on the name of the module for detailed information on how to use the classes and APIs for each module. Be prepared to experiment.

Structure: where stuff is located in any chapter

- Chapter xx … contains scripts to simplify set up, index.js and package.json
  - controller … contains files used to manage nodejs server operations
  - Documentation … contains this file
    - answers … contains source code for each part of the tutorial which you will update
  - HTML … contains the files used to manage the browser side of the tutorial
  - network … contains all files used to manage the business network
  - startup … contains files used to create the initial environment

Steps in this chapter

- Create the user experience (3 html files)
- Create the code to support the user experience
- Create the code to access the business network
- Extras

Let’s go look at code

Extras

- All of the routines except for profile list and profile delete use hard-coded entries in the z2b-admin.js file
  - Implement an approach which allows you to pass the name of the network to be undeployed
  - Implement an approach which allows you to pass in the name of the network archive file to be used for the update and deploy options. Hint, take a look at how a similar problem was solved in Chapter 09 in the ZeroToCognitive tutorial
  - Implement an approach which allows you to specify the name of the network to ping

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Chapter 6: Buyer Support and User Experience

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