

BLCN532 Lab 4

Letter of Credit

Introduction

In previous labs, you looked at the blockchain development environment, smart contracts, and middleware. In this lab, you'll use and explore a real application. You'll run the web browser-based application to create and manage the Letter of Credit business process.

Lab Deliverables:

To complete this lab, you must create a **Lab Report file** and submit the file in iLearn. The Lab Report file must be a Microsoft Word format (.docx), and have the filename with the following format:

BLCN532_SECTION_STUDENTID_LASTNAME_FIRSTNAME_Lab04.docx

- SECTION is the section number of your current course (2 digits)
- STUDENTID is your student ID number (with leading zeros)
- LASTNAME is your last name
- FIRSTNAME is your first name

To get started, create a Microsoft Word document (.docx) with the correct filename for this lab. You'll be asked to enter text and paste screenshots into the lab report file.

NOTE: All screenshots MUST be readable. A screenshot that I cannot read (i.e. cannot read the text you are capturing) will not count for any points.

SECTION 1: Extending your development environment and installing the Letter of Credit software

Step 1.1: Extending your development environment

First, you'll need to increase the available disk space for your development environment VM and install the Ubuntu desktop.

1. Follow the video instructions to expand your Hyperledger VM disk space to at least 20 GB.
2. Open Oracle VM Virtualbox Manager (in Windows)
3. Follow the video instructions to increase the Hyperledger VM's memory (suggested: 4GB)
 - a. **Settings -> System -> Motherboard Tab -> Base Memory**
4. Start the Hyperledger VM (**click Start**)
5. Login to the Hyperledger VM console window
 - a. Login: **vagrant**
 - b. Password: **vagrant**
6. **\$ sudo apt-get install ubuntu-desktop**
7. When step 6 finishes (it will take a while), shutdown the Hyperledger VM.

Step 1.2: Install the Letter of Credit sample application

First, you need to fork the sample applications repository on github.com.

1. In a browser (**in Windows**) go to: <https://github.com/hyperledger/composer-sample-applications>
2. Sign up or log in (use the same GIT ID you set up or used in Lab 01.)
3. Click **Fork**

Next, you'll launch and log into your development environment.

4. Open Oracle VM Virtualbox Manager (**in Windows**)
5. Start the Hyperledger VM (**click Start**)
6. Login to the Hyperledger VM desktop (**Click vagrant, enter 'vagrant' for the password.**)
7. **Click Search your computer -> type terminal, then click Terminal**
8. **\$ cd \$GOPATH/src/github.com/hyperledger**
9. **\$ git clone https://github.com/YOUR_GIT_ID/composer-sample-applications.git**
 - a. Make sure that you use YOUR GIT ID in the above command
10. **\$ cd composer-sample-applications/packages/letters-of-credit**

11. Create a screenshot of the results of steps 8-10, and paste that screenshot into your Lab Report File
12. `$./installer/install.sh`
13. Create a screenshot of the results of step 12, and paste that screenshot into your Lab Report File.

Step 1.3: Run the Letter of Credit application

Next, you'll run the application and follow the process of managing a Letter of Credit.

1. (Chapter 7 Step 1) Click the **Alice** tab.
2. Click **Apply for a Letter of Credit**
3. Click **Edit**
4. Enter the TYPE, QUANTITY, and PRICE PER UNIT data from Step 2 in Chapter 7.
 - a. Instead of "Computer" for the TYPE field, enter YOUR_FIRST_NAME's computer
 - b. (For example, mine would be "Michael's computer")
5. Click **Save**
6. Create a screenshot that shows the TYPE, QUANTITY, and PRICE PER UNIT data you just saved, and paste that screenshot into your Lab Report File.
7. Click **Start approval process**, then click **yes**
8. Click the **Matias** tab
9. Click the **Ref number of the Letter of Credit Application**
10. Click **I accept the application**, then click **yes**
11. Create a screenshot that shows the Letter of Credit Status, and paste that screenshot into your Lab Report File.
12. Click the **Ella** tab
13. Follow the instruction sin your text (Chapter 7) to accept the application
14. Click on the **Bob** tab
15. Follow the instruction sin your text (Chapter 7) to accept the application
16. Click the **button to Ship Product (select the invoice to upload)**
17. Create a screenshot that shows that the product has been shipped, and paste that screenshot into your Lab Report File.
18. Click the **Alice** tab
19. Click the **button to Receive Product**
20. Click the **Matias** tab
21. Click the **Ref number of the Letter of Credit Application**
22. Click **Ready for Payment**, then click **yes**
23. Click the **Ella** tab
24. Click the **Ref number of the Letter of Credit Application**
25. Click **Close this Letter of Credit**, then click **yes**
26. Click the **Bob** tab
27. Create a screenshot that shows that the payment has been made, and paste that screenshot into your Lab Report File.

Section 2: Wrapping up

Now that you have installed and run the Letter of Credit application, you need to properly shutdown your business network.

1. Close the web browser
2. **Select Settings in your VM, select Shutdown -> Shut Down**

You should have 6 screenshots in your Lab Report File. Save your file and submit it in iLearn as a file attachment for the Lab 3 assignment.

Congratulations! You have complete lab 4.