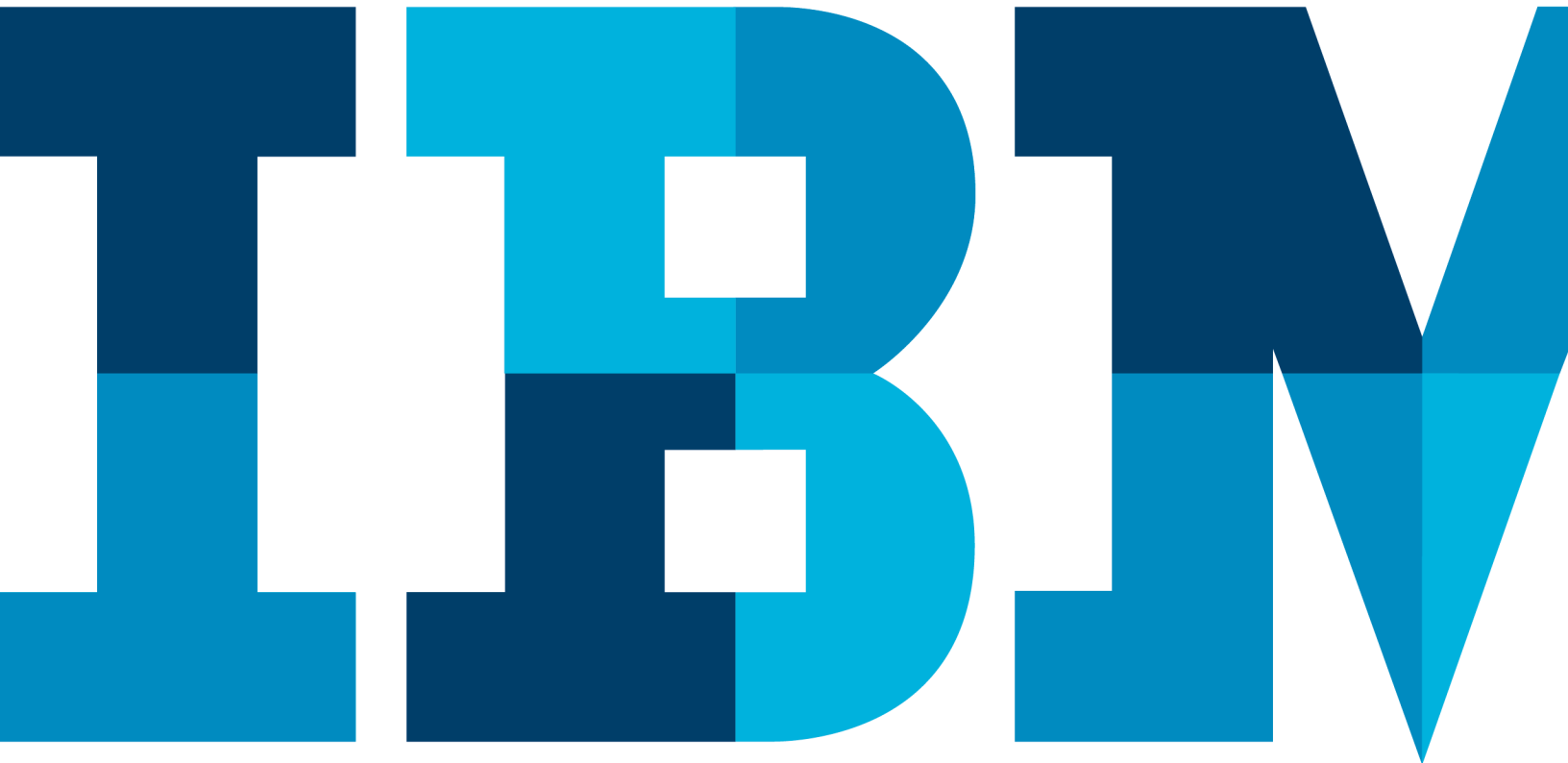


## Lab 1: Set up Hyperledger Composer Playground



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## Overview

This lab is divided into three parts:

- Set up the playground by importing the car auction code
- Transfer assets in a blockchain
- Explore the editor views and archive data

This lab takes place entirely in the web browser using Hyperledger *Composer Playground*. Playground simulates the entire blockchain network within the browser by providing a sandpit environment to define, test, and explore business networks defined by using Composer. It is possible to connect to a live blockchain Hyperledger Fabric instance or install the Composer Playground on a local machine for more developer friendly tools.

Hyperledger Composer Playground is one method to use Hyperledger Composer. Other methods are also available at <https://hyperledger.github.io/composer/installing/installing-index.html>.

## Hyperledger Composer

Hyperledger Composer (<https://hyperledger.github.io/composer>) is an open-source set of tools designed to make building blockchain applications easier.

It allows users to model the business networks, assets, and transactions that are required for blockchain applications, and to implement those transactions by using simple JavaScript functions. The blockchain applications run on instances of Linux Foundation Hyperledger Fabric ([www.hyperledger.org](http://www.hyperledger.org)).

The purpose of this lab is to introduce you to the concepts of a blockchain by showing you how a blockchain transfers assets between participants in a business network. We will use the implementation of a simple blind car auction as the scenario for the lab.

The car auction business network has a set of known participants (buyers and sellers), assets (cars and car listings), and transactions (placing bids and closing auctions). We will model these by using Hyperledger Composer and test the business logic that makes the auction work.

Crucially, a blockchain could be used to bring together the buyers and sellers of these assets without needing any trusted third party. However, an auctioneer could be used to provide visibility and governance of the network if required.

## Prerequisites

Skill requirements:

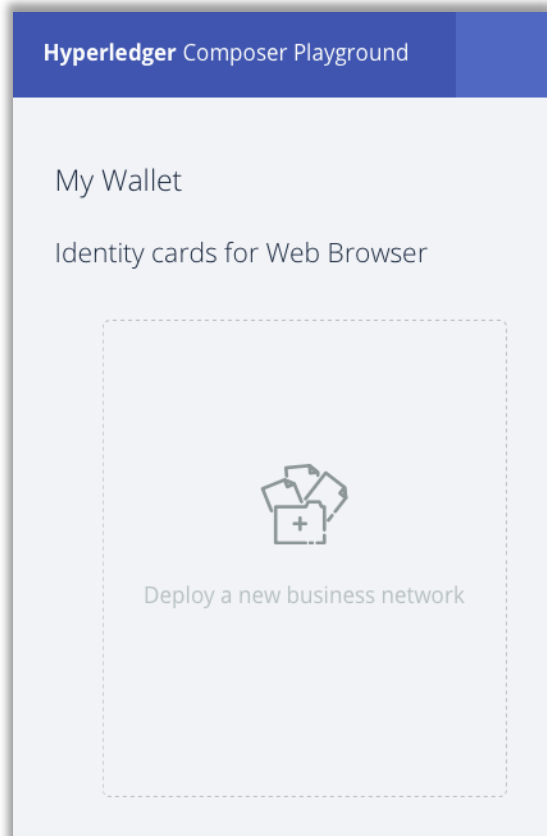
- There are no skill prerequisites to completing the first two parts.
- It is desirable but not essential to have some background knowledge of JavaScript for the last part called "Explore the editor views and export data."

Technical prerequisites:

- Internet connection
- Web browser

## Step 1. Import the car auction sample

1. Open a web browser and go to <http://composer-playground.mybluemix.net>. Dismiss the welcome screen to show the playground wallet screen which is used to connect and deploy new business networks:



2. Click the “Deploy a business network” box. Then scroll down and select the carauction-network:



3. Next give the business network a name and description:

## Deploy New Business Network

### 1. BASIC INFORMATION


Give your new Business Network a name:

carauction

Describe what your Business Network will be used for:

My car auction network

- \_\_4. Click the Deploy button to deploy the new car auction business network:



**carauction**  
My car auction network

CONNECTION PROFILE

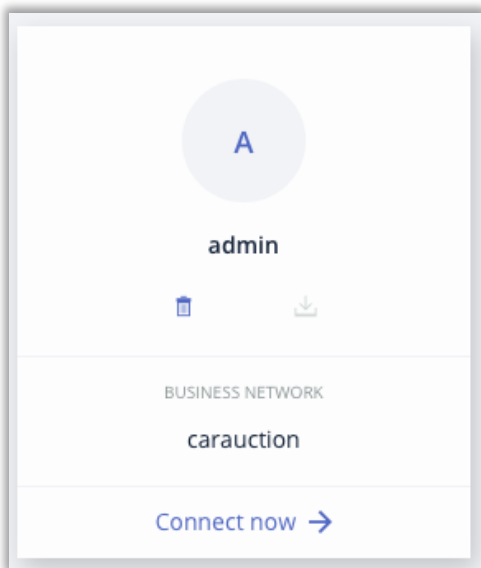
BASED ON  
**carauction-network**

Car Auction Business Network

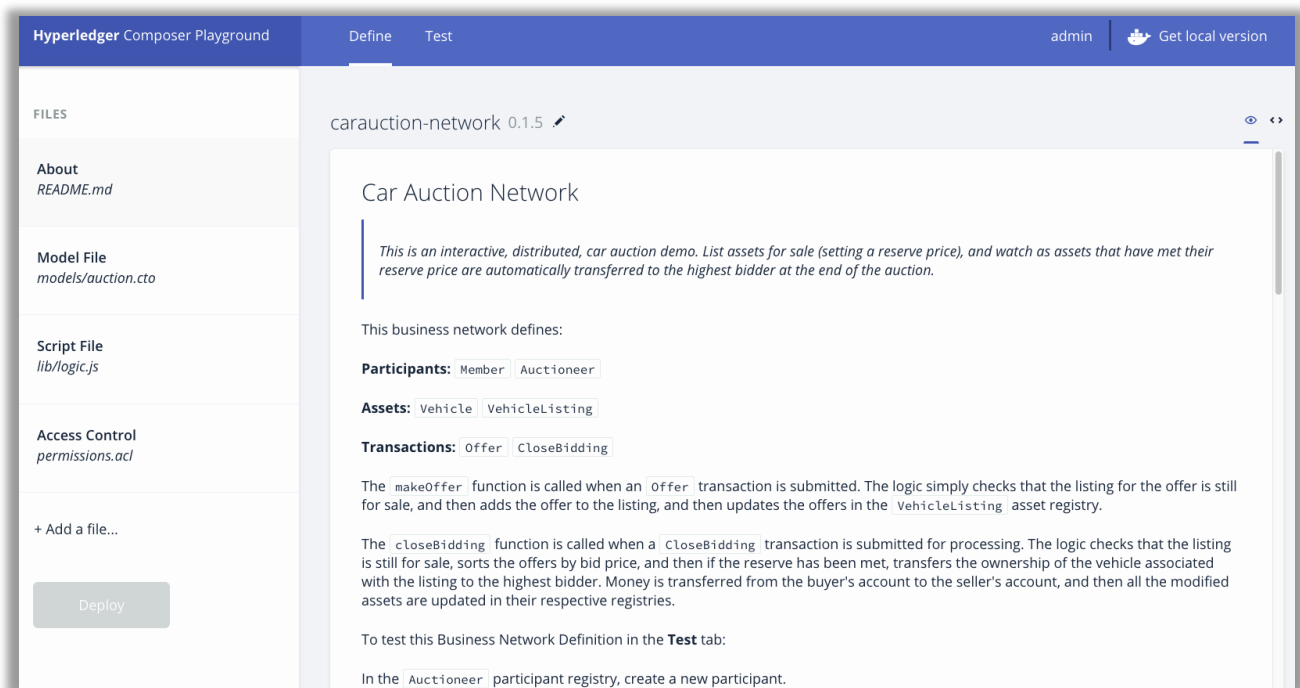
Contains: 4 Participant Types,  
10 Asset Types, and 17  
Transaction Types

Deploy

- \_\_5. Click "Connect now" in the new identity card for the carauction network:



- \_\_\_6. Take a minute to read through the description of the car auction sample, to help understand the participants, assets and transactions associated with this particular network.



### 1.1.1. Add Three Participants

In the next section we will now work with the deployed car auction blockchain network.

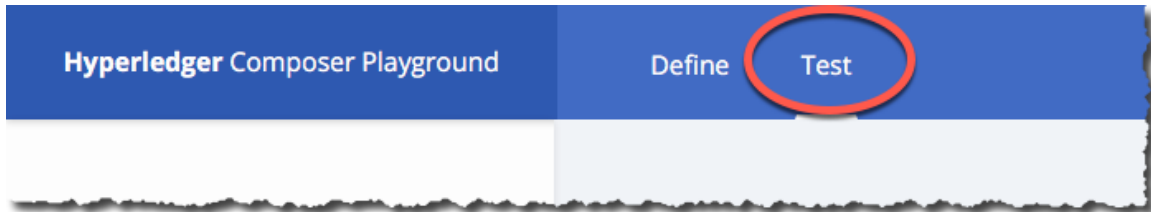
We will first instantiate three *Member* participants of the car auction business network:

- Alice Smith (alice@email.com), who will make a bid on a car,
- Bob Jones (bob@email.com), who will also make a bid on a car, and

- Charlie Brown (charlie@email.com), who currently owns a car.

We will not instantiate an Auctioneer in this demo; this could be used in order to provide oversight of the network, although is not necessary.

- \_\_7. Click the **Test** tab and then click on the *Member* participant registry:

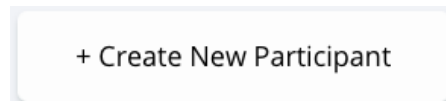


The registry is empty as no members have currently been defined.

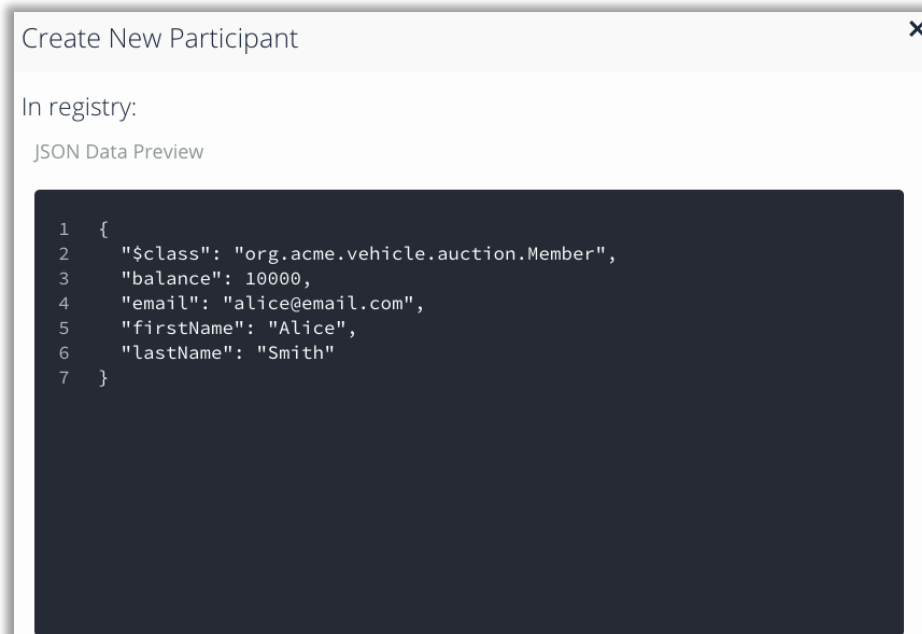
- \_\_8. Click on **Member** to view there are no current members in the environment



- \_\_9. Click **Create New Participant** to add a new Member.



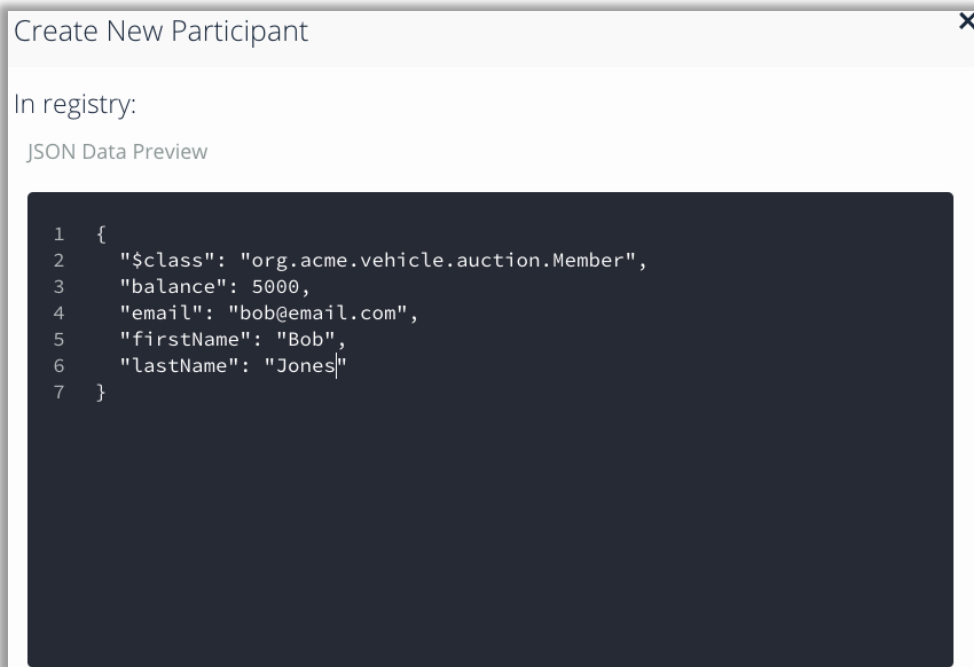
- \_\_10. Type the correct values into the JSON data structure to add Alice to the business network. Let's give her a starting balance of 10000.



\_\_11. Click **Create New** to add Alice to the registry.

A blue rectangular button with the text "Create New" in white, centered within the button.

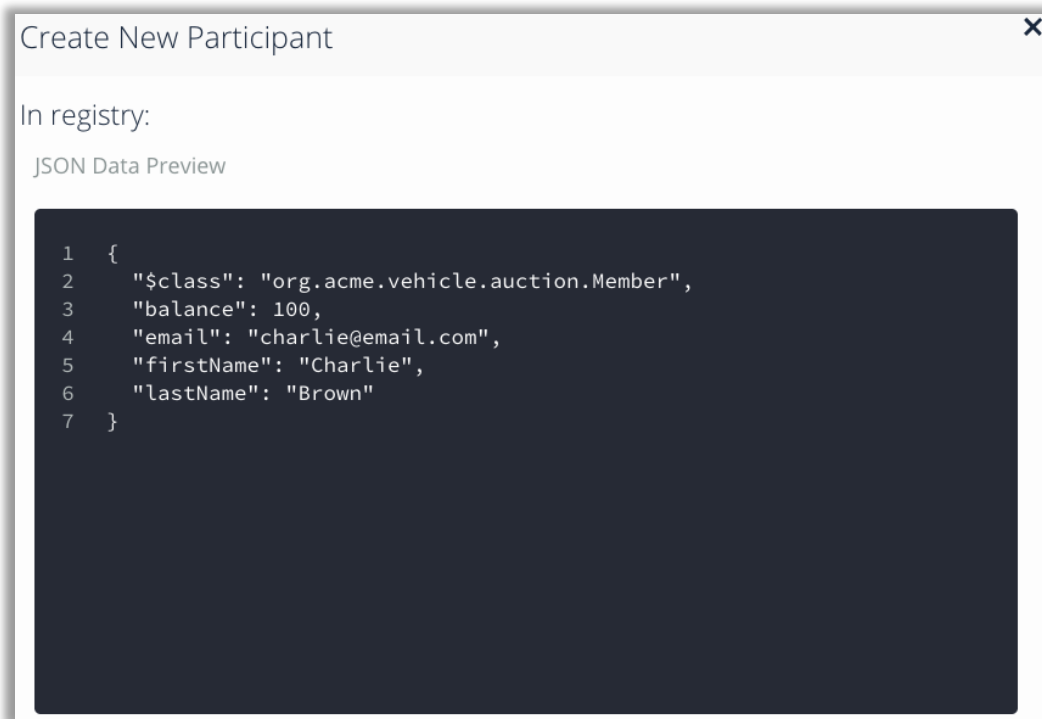
\_\_12. Do the same for Bob. Let's give him a starting balance of 5000.

A dialog box titled "Create New Participant" with a close button (X) in the top right corner. It contains a section "In registry:" followed by a "JSON Data Preview" section. The preview shows a JSON object for a new participant named Bob Jones with a balance of 5000.

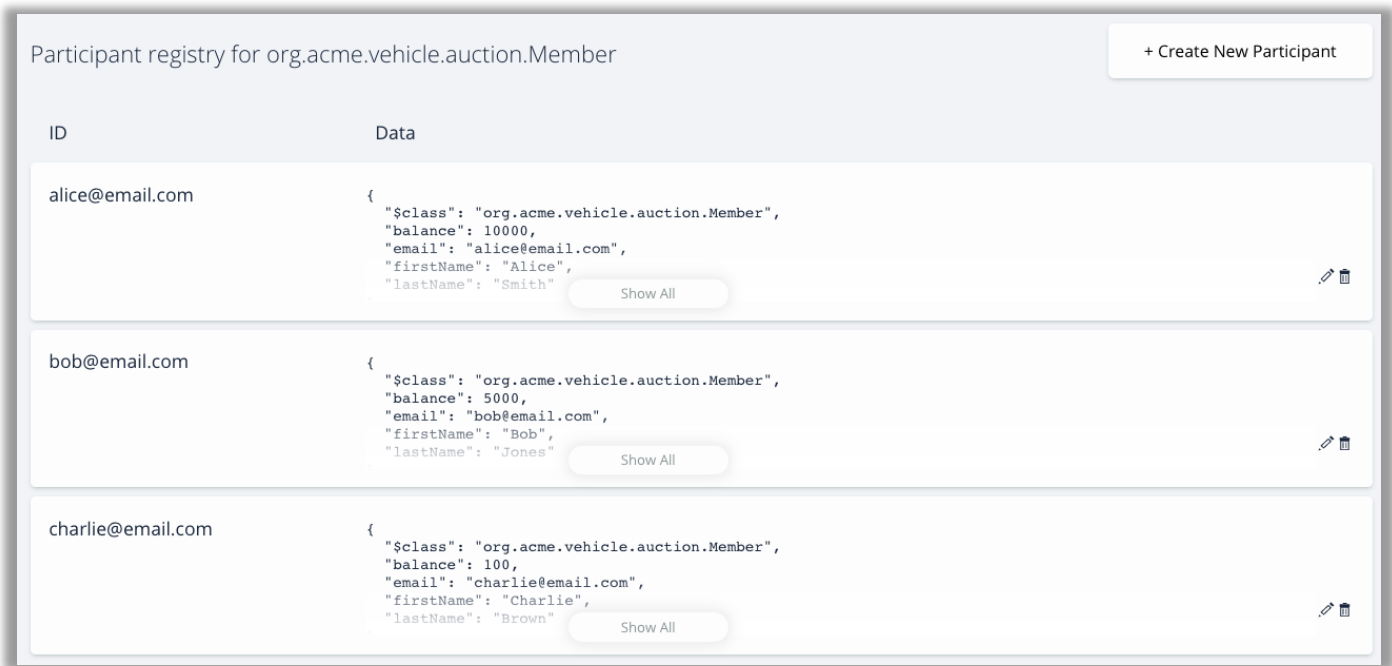
```
1  {  
2    "$class": "org.acme.vehicle.auction.Member",  
3    "balance": 5000,  
4    "email": "bob@email.com",  
5    "firstName": "Bob",  
6    "lastName": "Jones"  
7  }
```



- \_\_\_13. Finally do the same for Charlie. He hasn't got so much money (he's selling his car, after all) so let's give him a starting balance of 100.



- \_\_\_14. Verify that all participants in the business network have been correctly defined. Use the appropriate Edit button (✎) to make any changes.



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