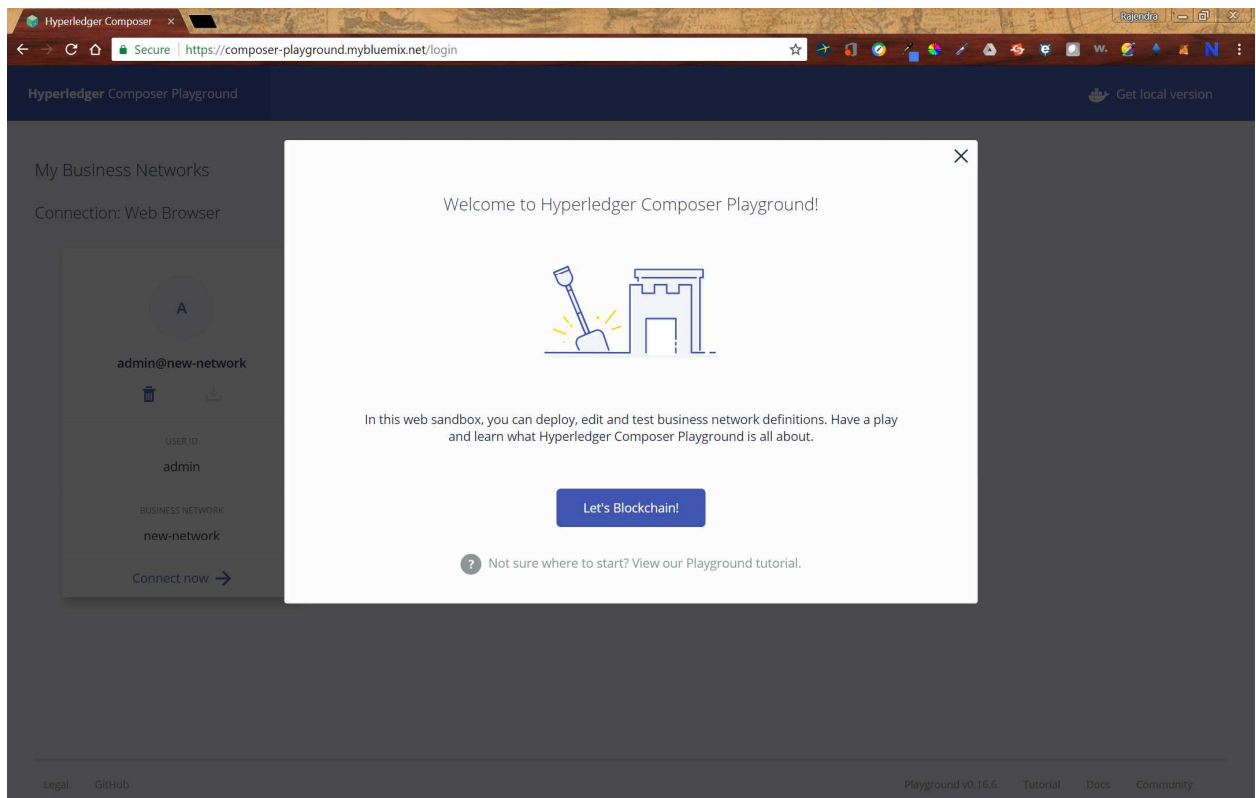
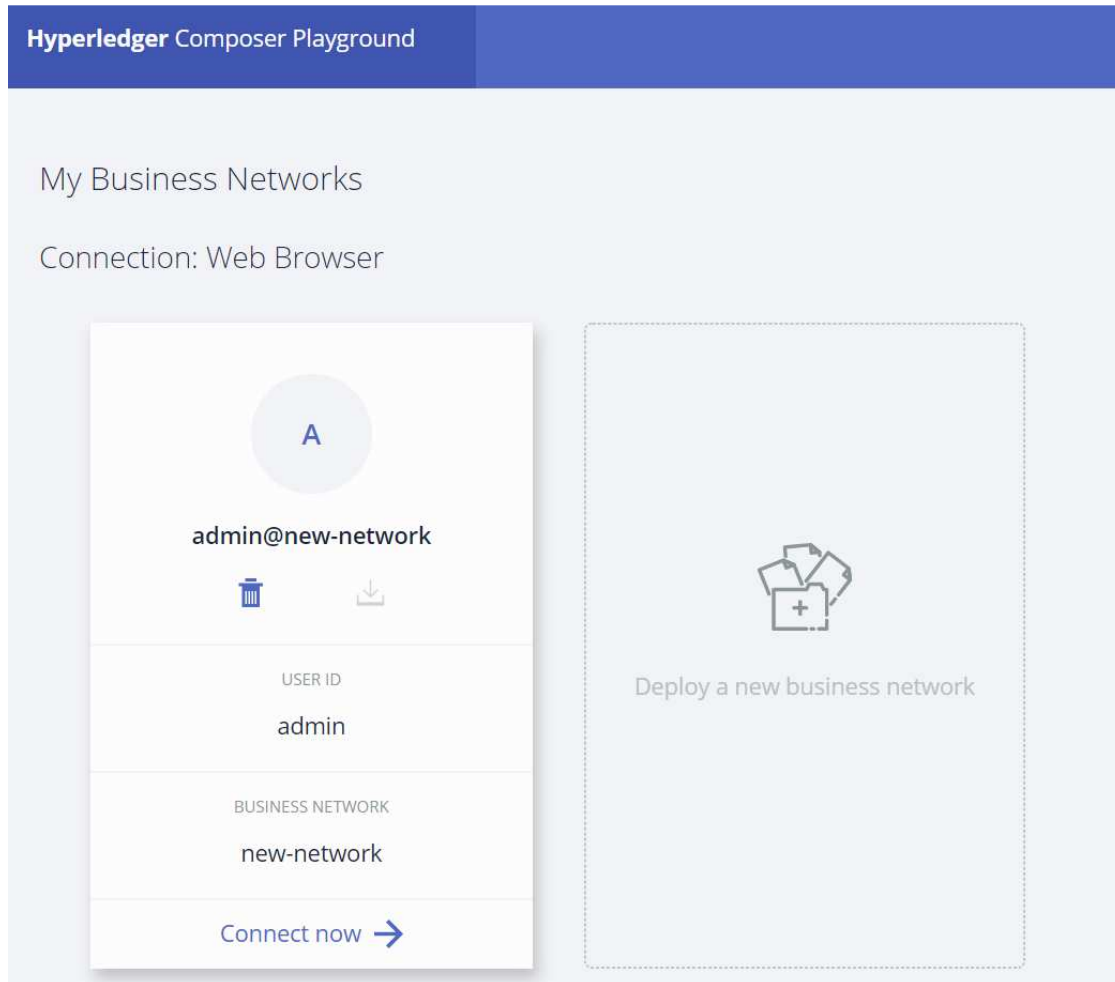


Hyperledger Assignment: Decentralized Car Auction

1. Go to the site <https://composer-playground.mybluemix.net/> to start Hyperledger Composer playground. Click on Let's Blockchain! Button.



2. Click **Deploy a new business network** to create a car auction blockchain network.



3. We need to provide the basic information for the network.

Business Network Name: **car-auction-network**

Description: Simply is the best Car Auction Network to avoid the commission to the agents

And

Select **empty-business-network** template from [2. MODEL NETWORK STARTER TEMPLATE](#)

After you done providing necessary information, please click **Deploy** button on the right side of the screen

My Wallet

Not sure where to start? View our Playground tutorial.

Deploy New Business Network

1. BASIC INFORMATION

Give your new Business Network a name:

car-auction-network

Describe what your Business Network will be used for:

Simply is the best Car Auction Network to avoid the commission to the agents


Give the network admin card that will be created a name

eg. admin@car-auction-network


2. MODEL NETWORK STARTER TEMPLATE

Choose a Business Network Definition to start with:


Choose a sample to play with, start a new project, or import your previous work



basic-sample-network




empty-business-network



Drop here to upload or [browse](#)

Samples on npm



car-auction-network

Simply is the best Car Auction Network to avoid the commission to the agents

CONNECTION PROFILE

BASED ON

empty-business-network

Start from scratch with a blank business network

Contains: 0 Participant Types, 0 Asset Types, and 0 Transaction Types


Deploy

4. Here is now our Business Network card called car-auction-network. Please click **Connect now** -> link



Hyperledger Composer Playground

My Business Networks

Connection: Web Browser



admin@car-auction-network




USER ID

admin



BUSINESS NETWORK

car-auction-network

Connect now →



admin@new-network




USER ID

admin

BUSINESS NETWORK

new-network

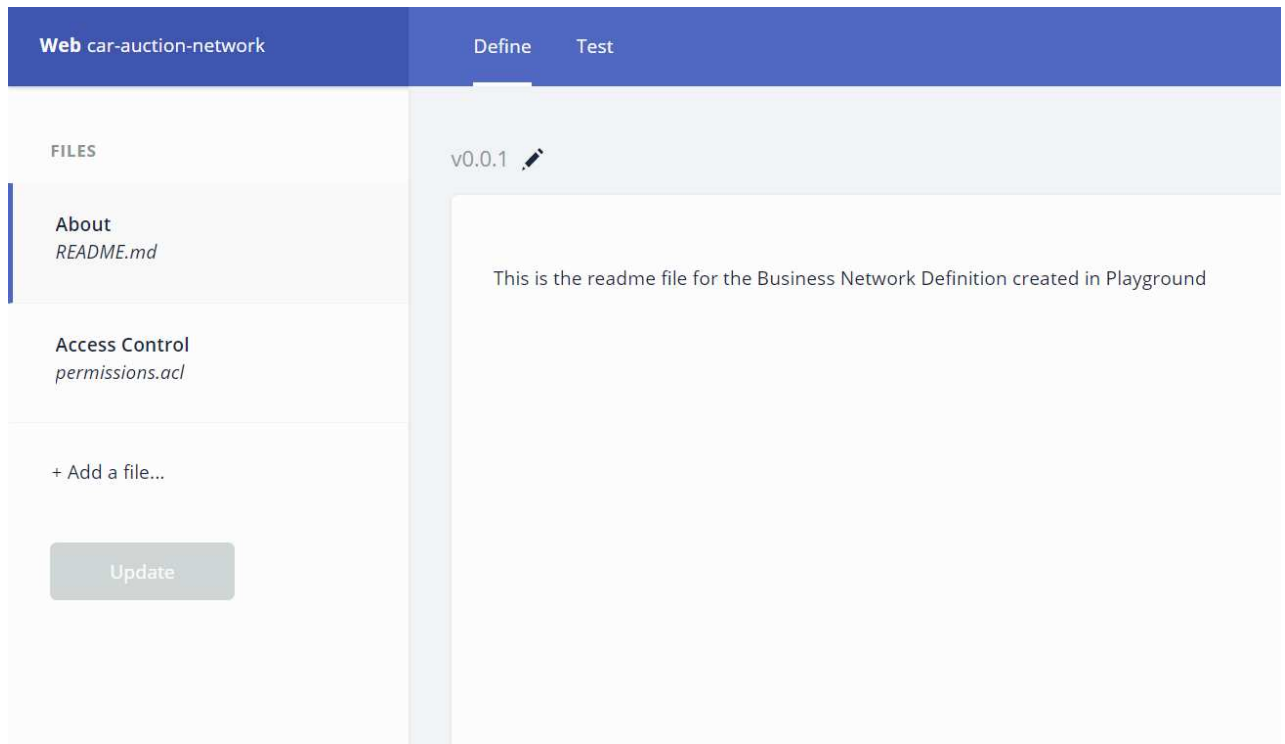
Connect now →



Deploy a new business network

3 | Page

- Here we came to the screen to add all those required files. Click + **Add a file** on left side of the screen.



- Check **Model File (.cto)** to add the model file and click **Add** button

×

Add a file

Upload a file from your computer...

↓

 Drop here to upload or [browse](#)

☒

Model File (.cto)
Define Assets, Participants and Transactions using Hyperledger Composer modelling language.

☐

Script File (.js)
Define the logic of transaction executions using JavaScript.

☐

Query File (.qry)
Define the queries in here (Note: you can only have 1 of these per .bna).

☐

Access Control File (permissions.acl)
Define your access controls here (Note: you can only have 1 of these per .bna).

Cancel

Add

7. Model file code. Write following code in the model file and then click on **Update** button on left side if there is no error

```
/** * Car Auction Network in the blockchain to avoid third party
fees and commissions
*   @Developer: Rajendra Majarjan
*   auctionVIN: Vehicle Identification Number
*   vehicleListing: Vehicle description like Make, Model, Year,
etc and any offer price
*
*/
namespace org.acme.caracutionnetwork
asset Commodity identified by auctionVIN {
    o String auctionVIN
    o String vehicleListing
    --> AuctionParticipants owner
}
participant AuctionParticipants identified by auctionId {
    o String auctionId
    o String firstName
    o String lastName
    o Double offerPrice
}
transaction Auction {
    --> Commodity commodity
    --> AuctionParticipants newOwner
    --> AuctionParticipants auctioneer
}
```

FILES

About

README.md

Model File

models/org.acme.model.cto

Script File


lib/script.js

Access Control

permissions.acl

+ Add a file...

Update

Model File *models/org.acme.model.cto* 

```
1  /** * Car Auction Network in the blockchain to avoid third party fees and commissions
2  *   @Developer: Rajendra Majarjan
3  *   auctionVIN: Vehicle Identification Number
4  *   vehicleListing: Vehicle description like Make, Model, Year, etc and any offer price
5  *
6  */
7  namespace org.acme.carauctionnetwork
8  asset Commodity identified by auctionVIN {
9    o String auctionVIN
10   o String vehicleListing
11   --> AuctionParticipants owner
12  }
13  participant AuctionParticipants identified by auctionId {
14    o String auctionId
15    o String firstName
16    o String lastName
17    o Double offerPrice
18  }
19  transaction Auction {
20    --> Commodity commodity
21    --> AuctionParticipants newOwner
22    --> AuctionParticipants auctioneer
23  }
```

8. Add Script File. Click + **Add a file..** and select the option **Script File (.js)**. Then click on Add button.

Add a file

Upload a file from your computer...

Drop here to upload or [browse](#)

☐ **Model File (.cto)**
Define Assets, Participants and Transactions using Hyperledger Composer modelling language.

☒ **Script File (.js)**
Define the logic of transaction executions using JavaScript.

☐ **Query File (.qry)**
Define the queries in here (Note: you can only have 1 of these per .bna).

☐ **Access Control File (permissions.acl)**
Define your access controls here (Note: you can only have 1 of these per .bna).

Cancel Add

9. Write following code into the Script File. After you done, click on **Update** button.

```
/** * Track the Auctions of a commodity from one owner to another
 * @param {org.acme.carauctionnetwork.Auction} Auction - the
auctions to be processed
 * @transaction */
```



```
function auctionCommodity(auction) {
  auction.commodity.owner = auction.newOwner;
  return getAssetRegistry('org.acme.carauctionnetwork.Commodity')
    .then(function (assetRegistry) {
      return assetRegistry.update(auction.commodity);
    });
}
```

The screenshot displays the Hyperledger Composer Playground interface. At the top, a navigation bar shows 'Web car-auction-network', 'Define' (active), 'Test', and a user profile 'admin'. The left sidebar contains a 'FILES' section with links to 'About README.md', 'Model File models/org.acme.model.cto', 'Script File lib/script.js' (highlighted), and 'Access Control permissions.acl'. Below the files is an '+ Add a file...' button and an 'Update' button. At the bottom of the sidebar are 'Import/Replace' and 'Export' options. The main workspace is titled 'Script File lib/script.js' and contains a code editor with the following JavaScript code:

```
1  /** * Track the Auctions of a commodity from one owner to another
2  * @param {org.acme.carauctionnetwork.Auction} Auction - the auctions to be
   processed
3  * @transaction */ |
4  function auctionCommodity(auction) {
5    auction.commodity.owner = auction.newOwner;
6    return getAssetRegistry('org.acme.carauctionnetwork.Commodity')
7      .then(function (assetRegistry) {
8        return assetRegistry.update(auction.commodity);
9      });
10 }
```

Below the code editor, a green checkmark icon and the text 'Everything looks good!' indicate that the code is valid. A message below states 'Any problems detected in your code would be reported here'. At the bottom of the interface, a footer bar contains links for 'Legal', 'GitHub', 'Playground v0.16.6', 'Tutorial', 'Docs', and 'Community'.

10. Add Script File. Click + **Add a file..** and select the option **Access Control File (permissions.acl)**. Then click on Add button.

×

Add a file

Upload a file from your computer...

↓

 Drop here to upload or [browse](#)

☐

Model File (.cto)
Define Assets, Participants and Transactions using Hyperledger Composer modelling language.

☐

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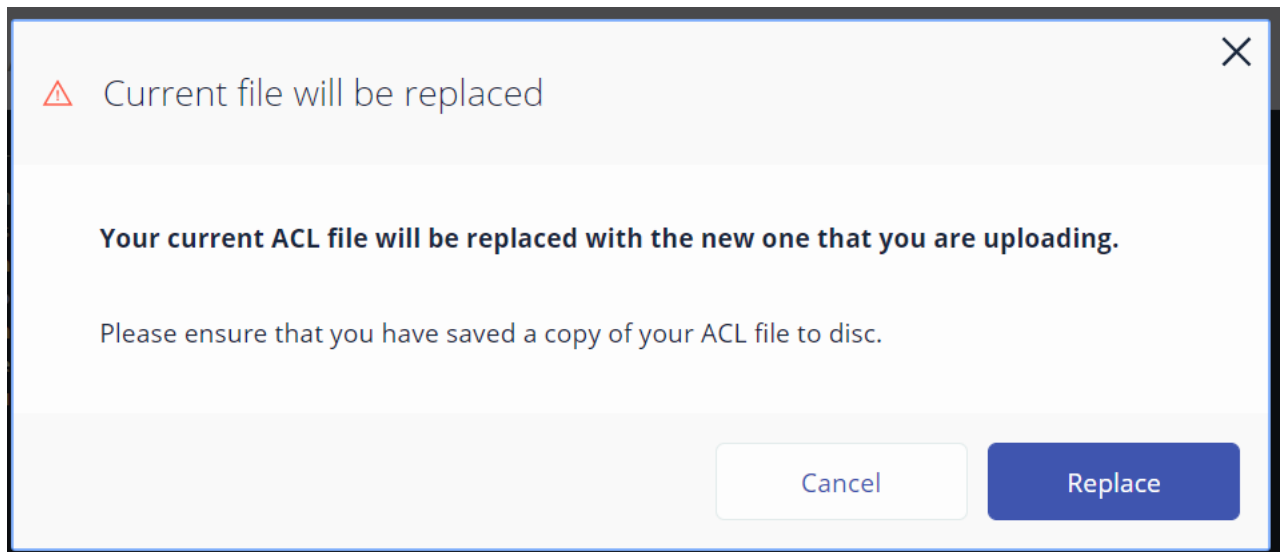
☒

Access Control File (permissions.acl)
Define your access controls here (Note: you can only have 1 of these per .bna).

Cancel

Add

11. Click on Replace button if it gives alert of replacing current file.



12. Access Control File Code

```
/** * Access control rules for carauktionnetwork */
rule Default {
  description: "Allow all participants access to all resources"
  participant: "ANY" operation: ALL resource:
"org.acme.carauktionnetwork.*"
  action: ALLOW }

rule SystemACL {
  description: "System ACL to permit all access"
  participant: "org.hyperledger.composer.system.Participant"
  operation: ALL resource: "org.hyperledger.composer.system.**"
  action: ALLOW
}
```

FILES

About
README.md

Model File
models/org.acme.model.cto

Script File
lib/script.js

Access Control
permissions.acl

+ Add a file...

Update

ACL File permissions.acl

```
1  /** * Access control rules for carauctionnetwork */
2  rule Default {
3    description: "Allow all participants access to all resources"
4    participant: "ANY" operation: ALL resource: "org.acme.carauctionnetwork.*"
5    action: ALLOW }
6
7  rule SystemACL {
8    description: "System ACL to permit all access"
9    participant: "org.hyperledger.composer.system.Participant"
10   operation: ALL resource: "org.hyperledger.composer.system.**"
11   action: ALLOW
12  }
```

13. Click Test Tab for testing this business network. Click **+ Create New Participant** button.

Web car-auction-network

Define Test

admin

PARTICIPANTS

AuctionParticipants

AuctionParticipants

ASSETS

Commodity

Commodity


TRANSACTIONS

All Transactions

Submit Transaction

Participant registry for
org.acme.caracutionnetwork.AuctionParticipants

+ Create New Participant

ID	Data
	
<p>This registry is empty!</p> <p>To create resources in this registry click create new at the top of this page</p>	