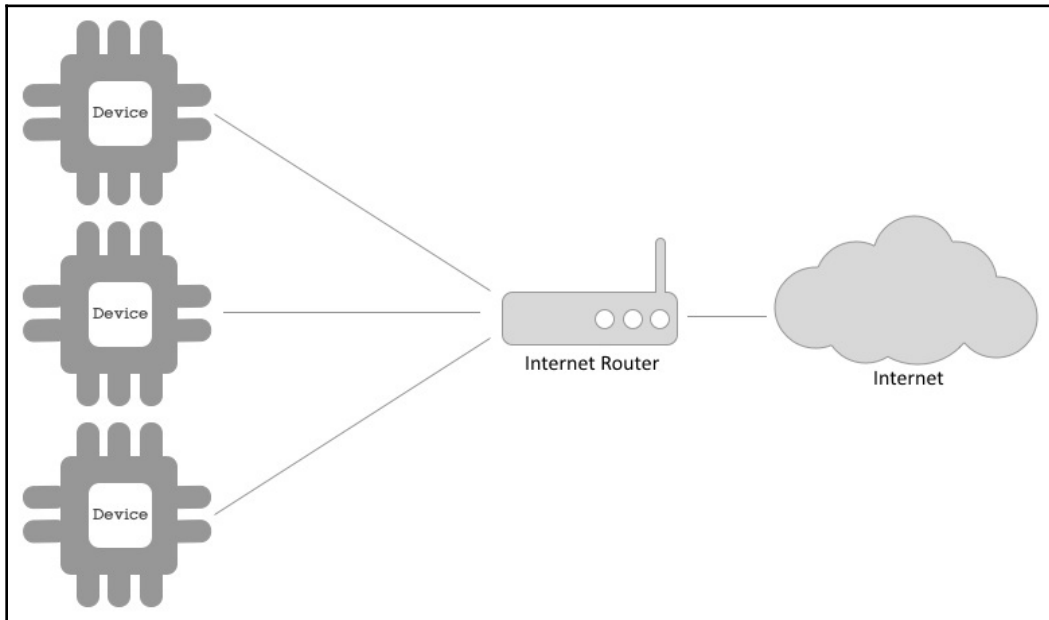
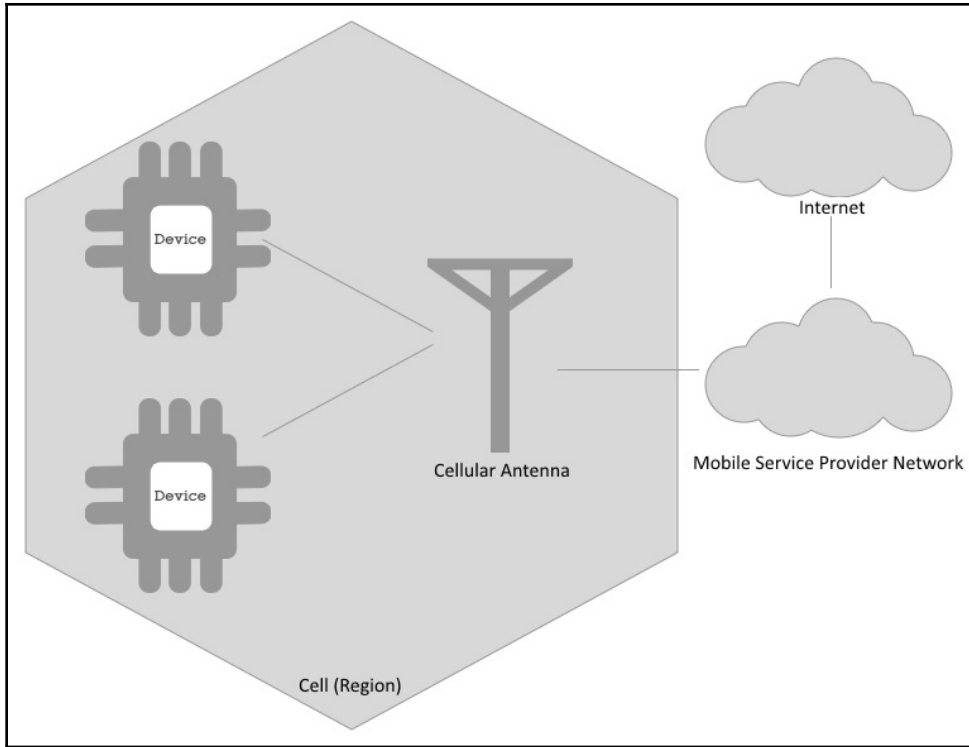
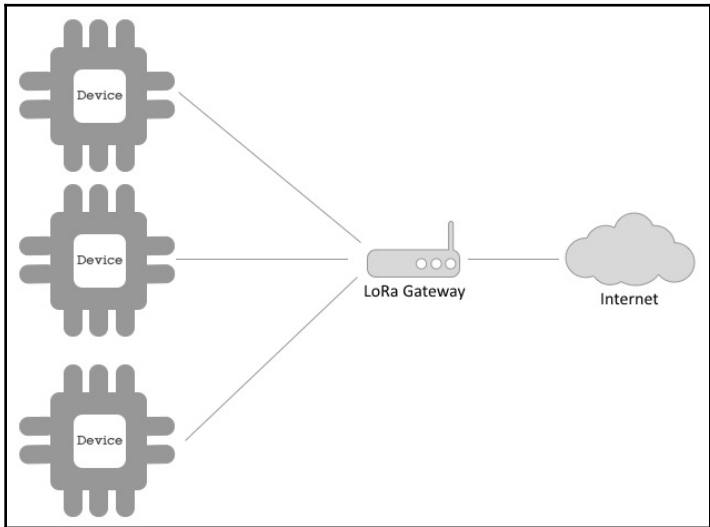
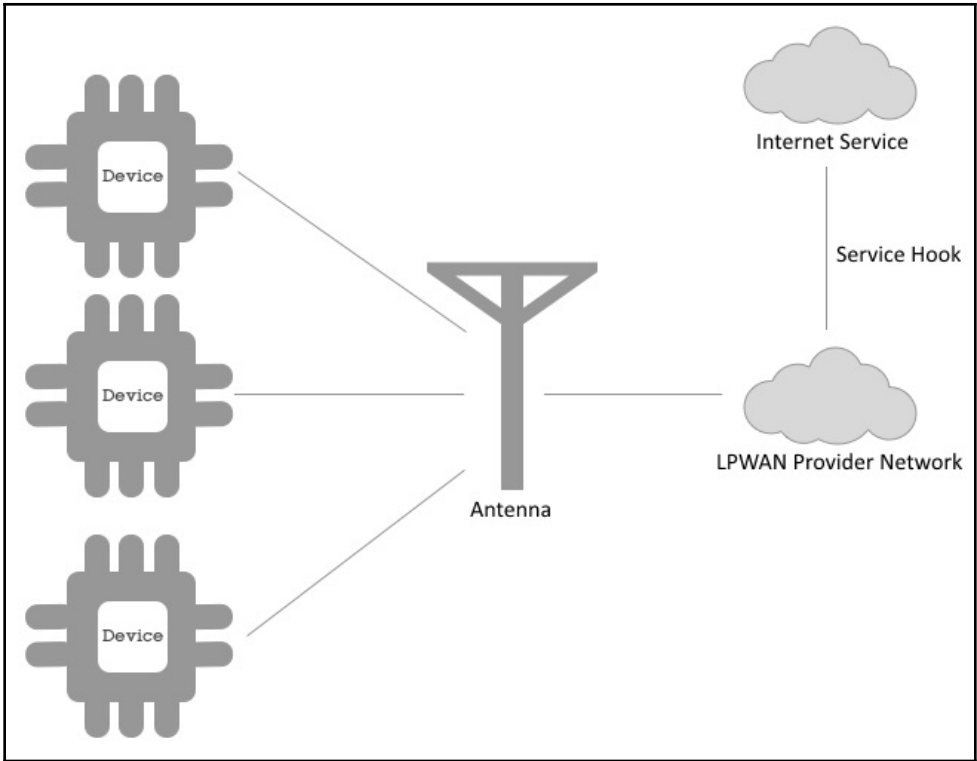
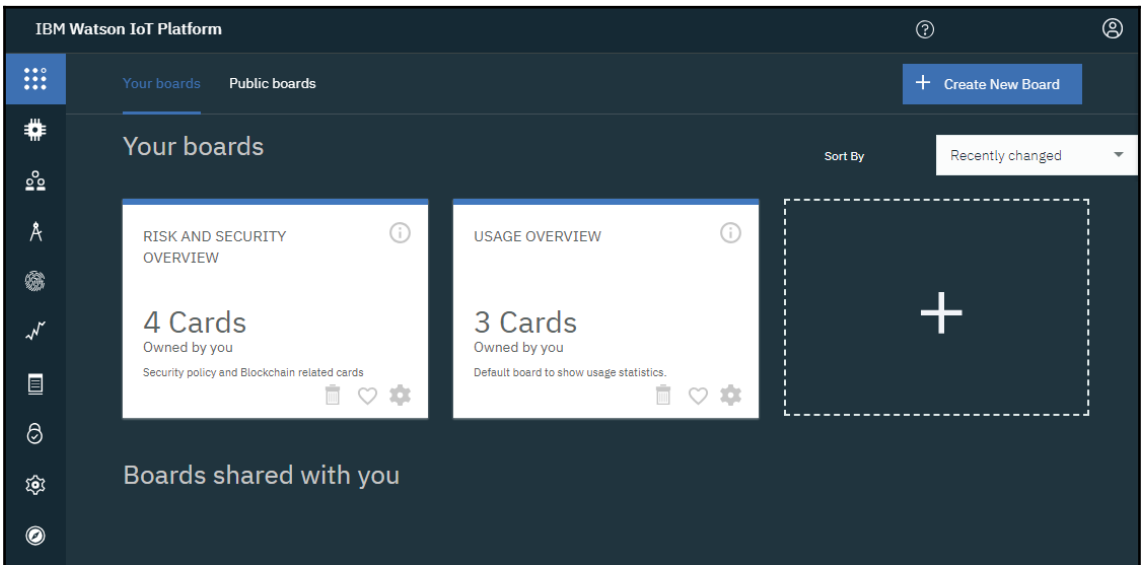
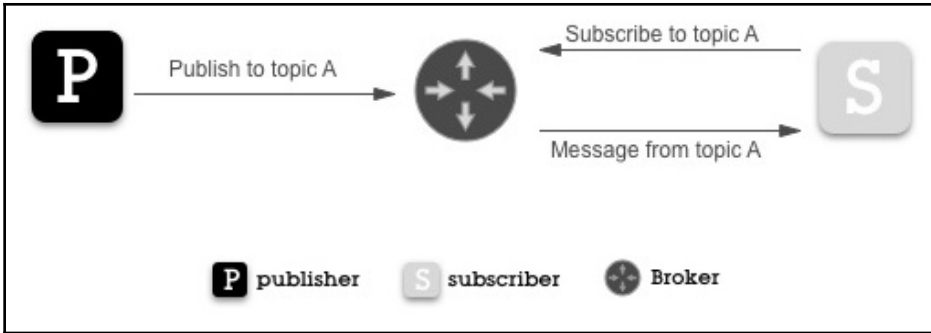


# Chapter 1: Understanding IoT and Developing Devices on the IBM Watson IoT Platform









Browse Action Device Types + Add Device


## Browse Devices

Type the Device ID to search for

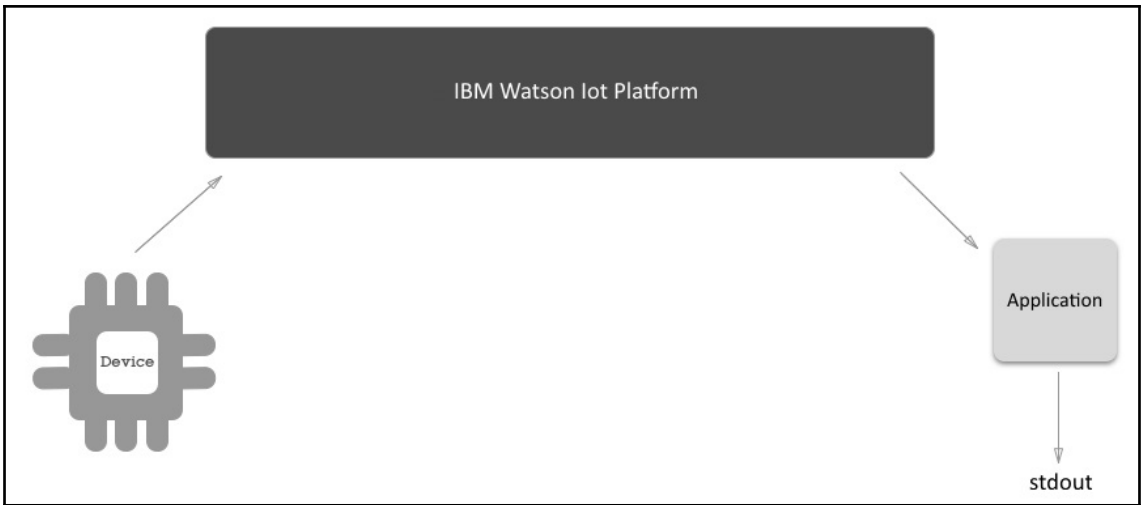
All Devices
  Diagnose

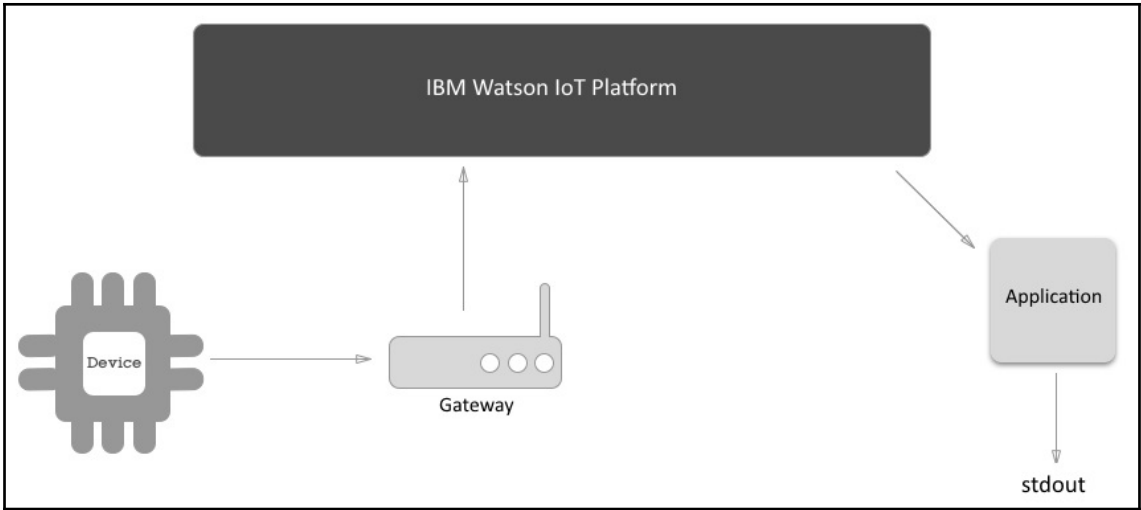
This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

<input type="checkbox"/>	Device ID	Device Type	Class ID	Date Added	Descriptive Location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0 results								




**You don't have any devices.**  
Create a device.





Dashboard

RESOURCE GROUP: All Resources ▾    CLOUD FOUNDRY ORG: All Organizations ▾    CLOUD FOUNDRY SPACE: X IoT ▾    LOCATION: X US South ▾    CATEGORY: All Categories ▾    Filter by resource name...    [Create resource](#)



## Dashboard

Your dashboard is empty. Either you haven't created any resources yet or you've filtered everything out. Check out some of our popular offerings we've highlighted below, or go to the [catalog](#) to create a new application or service.

[Explore our Offerings](#)

IBM Cloud Catalog Docs Support Manage Search for resource...

## Catalog

Search the catalog... Filter

**All Categories**

- Compute
- Containers
- Networking
- Storage
- AI
- Analytics
- Databases
- Developer Tools
- Integration
- Internet of Things**
- Security and Identity

### Internet of Things

**Internet of Things Platform**  
Lite • IBM

This service is the hub of all things IBM IoT, it is where you can set up and manage your connected devices so that your apps can access their live and historical data.

**Weather Company Data**  
IBM

Use the Weather Company Data for IBM Bluemix service to incorporate weather data into your Bluemix applications.

**AT&T Flow Designer**  
Third Party

Design, Build and Deploy IoT Solutions in Minutes

**AT&T IoT Data Plans**  
Third Party

Launch your IoT product fast with IoT data plans


IBM Cloud Catalog Docs Support Manage

Manage Plan Connections

Internet of Things /

## Internet of Things Platform-mf

Location: US South Org: mraquino\_org Space: IoT



### Let's get started with Watson IoT Platform

Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.

Launch Docs

IBM Watson IoT Platform QUICKSTART SERVICE STATUS DOCUMENTATION BLOG

Browse IBM Cloud Apps


### Generate API Key

Information Permissions

Description

Hands-On IoT Solutions with Blockchain - Chapter 1 App

API Key Expires Off  On

Choose date 

IBM Watson IoT Platform QUICKSTART SERVICE STATUS


Browse Action Device Types

### Add Device

Identity Device Information Groups Security Summary

#### Identity

Select a device type for the device that you are adding and give the device a unique ID.

Device Type Device Simulator  + Add Type

Device ID Device Simulator01



---

**Browse**   Action   Device Types

---

**Add Device**   Identity   Device Information   Groups   Security   **Summary**

---

**Summary**

Verify that the following information is correct then select Done

**Device Type**  
DeviceSimulator

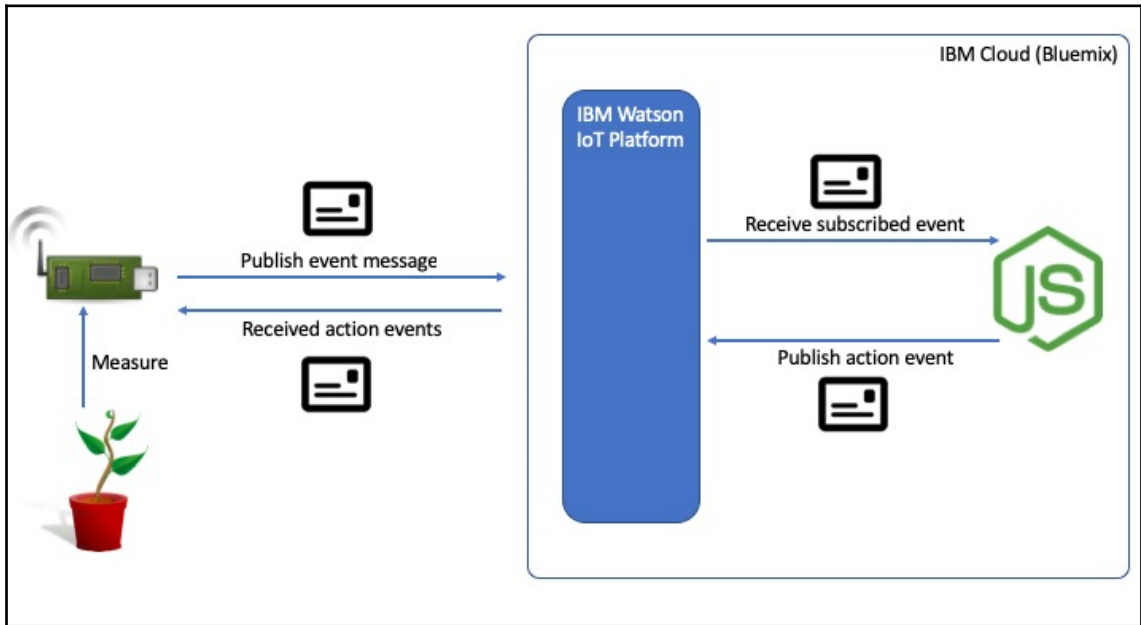
**Device ID**  
DeviceSimulator01

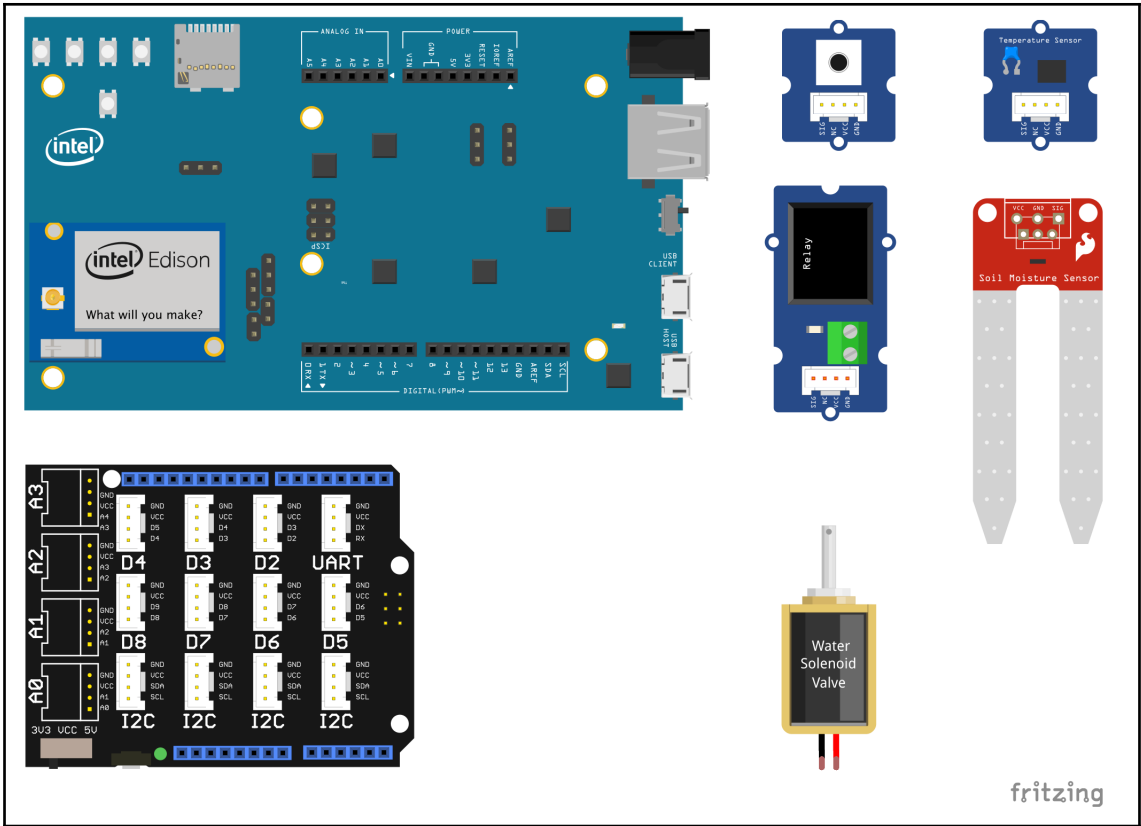
[View Metadata](#)

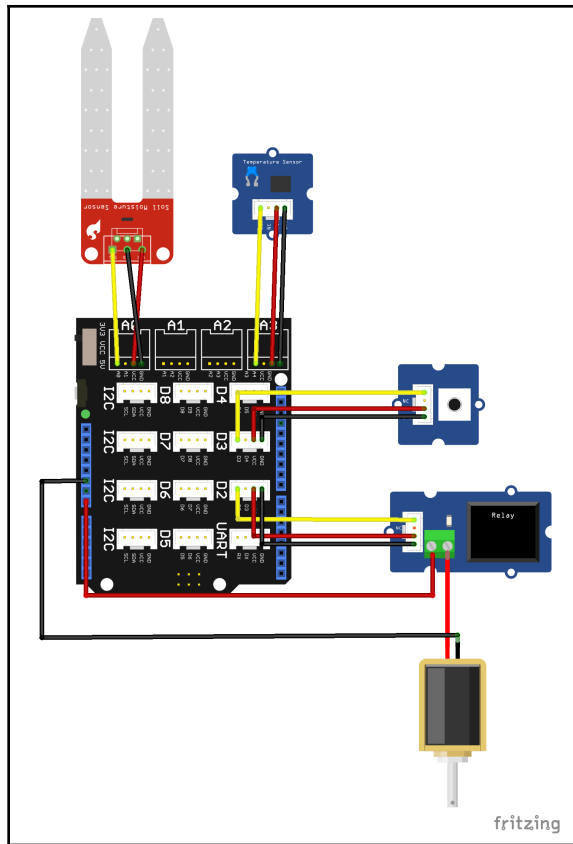
**Security Token**  
To be generated

---

## Chapter 2: Creating Your First IoT Solution







```
[root@edison-iot:~/iot# npm start ]
> iot@1.0.0 start /home/root/iot
> node .

Current moisture 256
Current moisture 307
Current moisture 302
Current moisture 303
Current moisture 299
Current moisture 298
Current moisture 304
Current moisture 301
Current moisture 306
Current moisture 301
Current moisture 305
Current moisture 305
Current moisture 301
Current moisture 302
Current moisture 304
Current moisture 305
Current moisture 300
█
```

```
[root@edison-iot:~/iot# npm start
> iot@1.0.0 start /home/root/iot
> node .

Current Temperature 11.675092536719035
Current Temperature 10.923006601697807
Current Temperature 11.006864299358028
Current Temperature 11.090646733903895
Current Temperature 11.425042046824103
Current Temperature 10.923006601697807
Current Temperature 11.090646733903895
Current Temperature 11.25798946566158
Current Temperature 11.425042046824103
█
```

IBM Watson IoT Platform QUICKSTART SERVICE STATUS

**Your boards** Public boards

## Your boards

**USAGE OVERVIEW** ⓘ

**3 Cards**

Owned by you

🗑️ ❤️ ⚙️

**RISK AND SECURITY OVERVIEW** ⓘ

**4 Cards**

Owned by you

🗑️ ❤️ ⚙️

+

## Boards shared with you

Information

Members

## Board settings ⓧ

Provide a name and description for your new board.

---

Board name

Plant Readings

---

Description

---

- Make this board my landing page.
- Favorite (this also adds this board to your navbar)

---

Information

Members

## Board settings ✕

Provide a name and description for your new board.

---

Board name

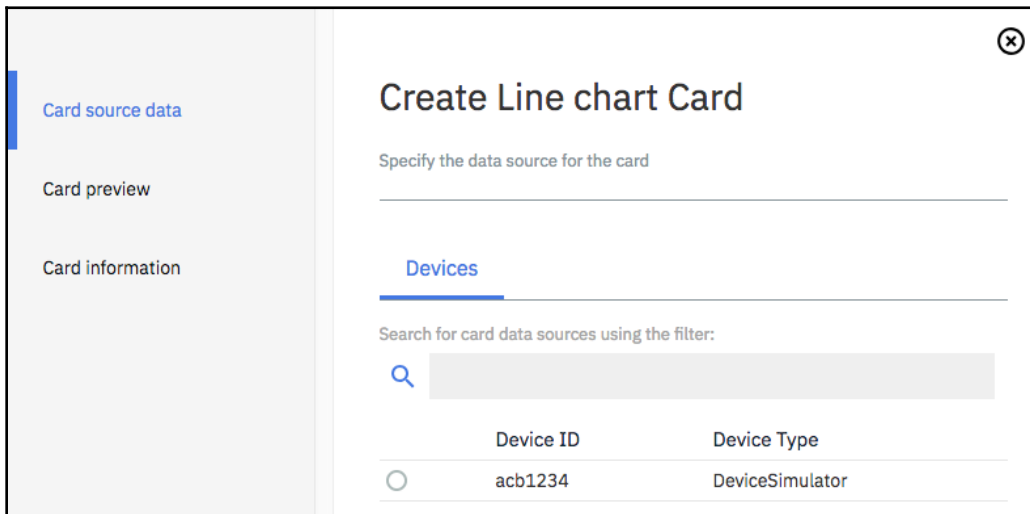
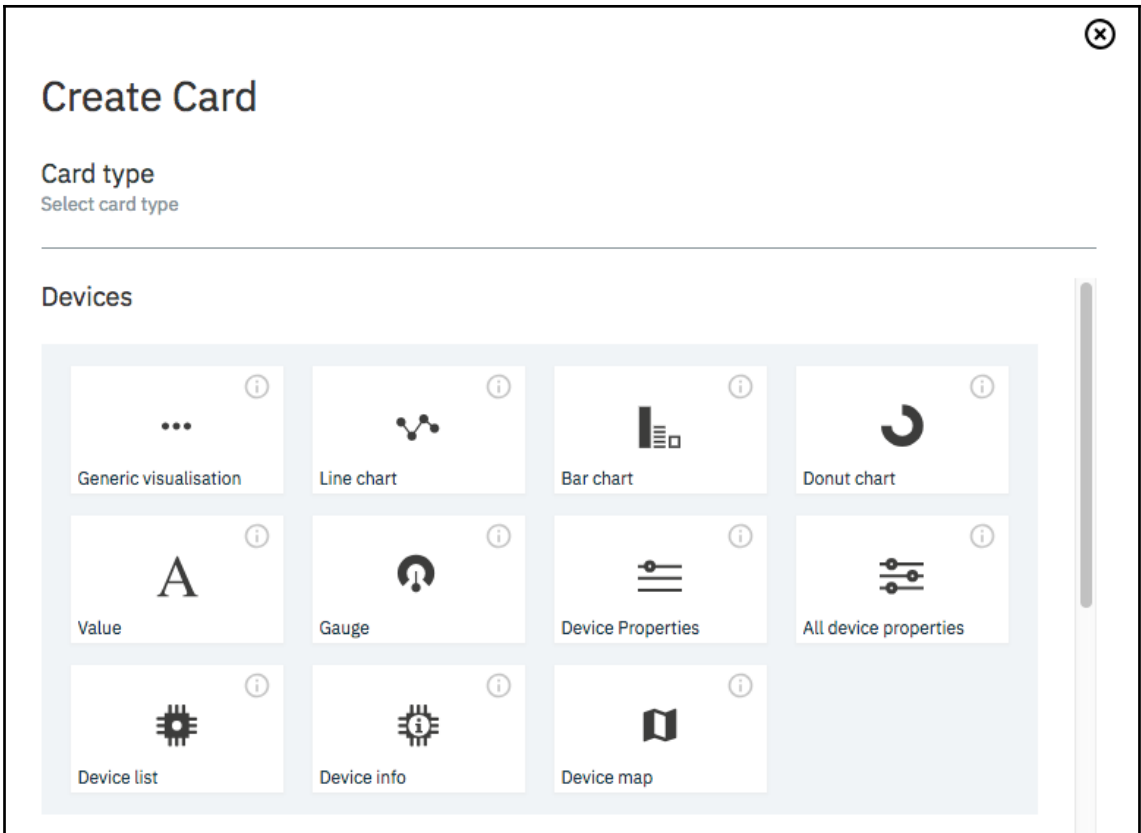
Plant Readings

---

Description

---

- Make this board my landing page.
- Favorite (this also adds this board to your navbar)





Card source data✕

acb1234

Card preview

Card information

## Create Line chart Card

Connect data set

---

☰ Soil Moisture🗑️

Event

status

---

Property

soilMoisture

---

Name

Soil Moisture

---

Type	Unit
Number	%

---

Min	Max
0	100

Card source data

acb1234


Card preview

Card information

## Create Line chart Card

Connect data set

---

☰ Temperature 

Event

status

---

Property


temperature

---

Name

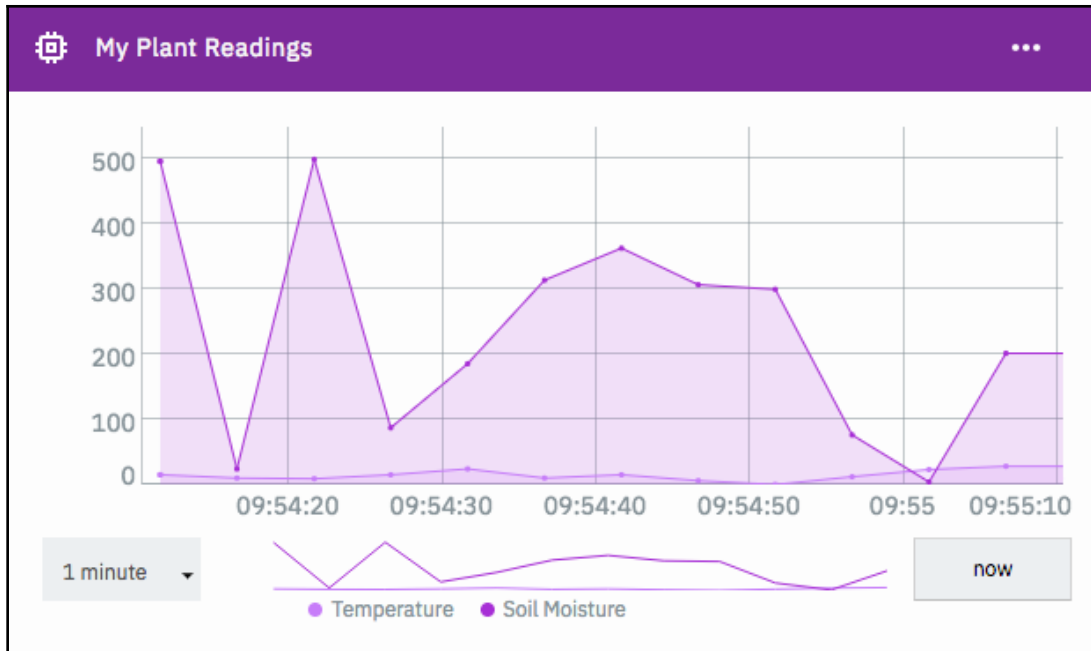
Temperature

---

Type	Unit
Number 	°C

---

Min	Max
0	100




**App name:**  
hands-on-iot-app

**Host name:** hands-on-iot-app      **Domain:** mybluemix.net

**Choose a region/location to deploy in:** Dallas      **Choose an organization:** mraquino\_org      **Choose a space:** IoT


Cloud Foundry apps /

 hands-on-iot-app ● Running [Visit App URL](#)



Org: mraquino\_org Location: US South Space: IoT

Filter items Create connection +

10 Items per page | 1-1 of 1 items 1 of 1 pages < 1 >

CONNECTION NAME	TYPE
 Internet of Things Platform-mf	Internet of Things Platform <span style="float: right;">⋮</span>

User defined

NAME	VALUE	ACTION
MINIMUM_MOISTURE	300	
MAXIMUM_TEMPERATURE	50	

```
Waiting for app to start...

name: hands-on-iot-app
requested state: started
instances: 1/1
usage: 256M x 1 instances
routes: hands-on-iot-app.mybluemix.net
last uploaded: Fri 29 Jun 15:04:15 -03 2018
stack: cflinuxfs2
buildpack: SDK for Node.js(TM) (ibm-node.js-6.13.0, buildpack-v3.20.2-20180524-2057)
start command: ./vendor/initial_startup.rb

#0 state since cpu memory disk details
running 2018-06-29T18:06:02Z 0.0% 71.5M of 256M 86.1M of 1G
```

```
Invoking 'cf logs hands-on-iot-app'...
Retrieving logs for app hands-on-iot-app in org / space IoT as mraquino@r.ibm.com...

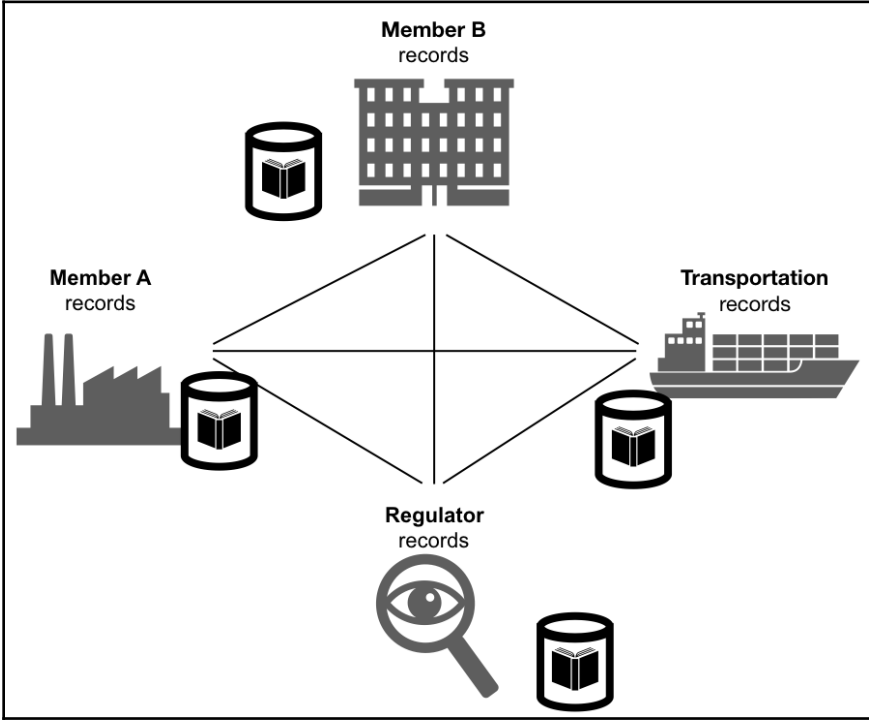
2018-06-29T15:27:42.40-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 28, "soilMoisture": 148}
2018-06-29T15:27:47.40-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 21, "soilMoisture": 257}
2018-06-29T15:27:52.41-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 27, "soilMoisture": 211}
2018-06-29T15:27:57.41-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 26, "soilMoisture": 321}
2018-06-29T15:28:02.41-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 4, "soilMoisture": 364}
2018-06-29T15:28:07.41-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 4, "soilMoisture": 390}
2018-06-29T15:28:12.42-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 18, "soilMoisture": 5}
2018-06-29T15:28:17.42-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 26, "soilMoisture": 370}
2018-06-29T15:28:22.42-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 14, "soilMoisture": 150}
2018-06-29T15:28:27.43-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 25, "soilMoisture": 416}
2018-06-29T15:28:32.43-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 27, "soilMoisture": 85}
2018-06-29T15:28:37.43-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 27, "soilMoisture": 437}
2018-06-29T15:28:42.43-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 11, "soilMoisture": 227}
2018-06-29T15:28:47.44-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 27, "soilMoisture": 376}
2018-06-29T15:28:52.44-0300 [APP/PROC/WEB/0] OUT Device Event from :: DeviceSimulator: acb1234 of event status with payload: { "temperature": 25, "soilMoisture": 15}
```

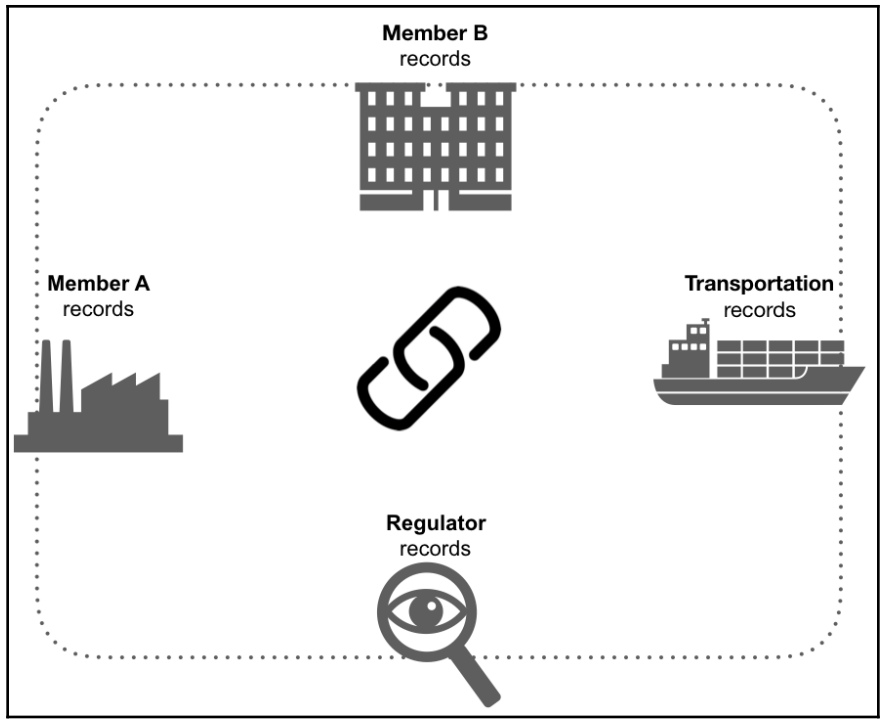
---

```
Event Published
Watering plants for 60 seconds
Event Published
Event Published
Watering plants for 60 seconds
Event Published
Event Published
Watering plants for 60 seconds
Event Published
Event Published
Watering plants for 60 seconds
Event Published
Watering plants for 60 seconds
```

---






# Chapter 3: Explaining Blockchain Technology and Working with Hyperledger










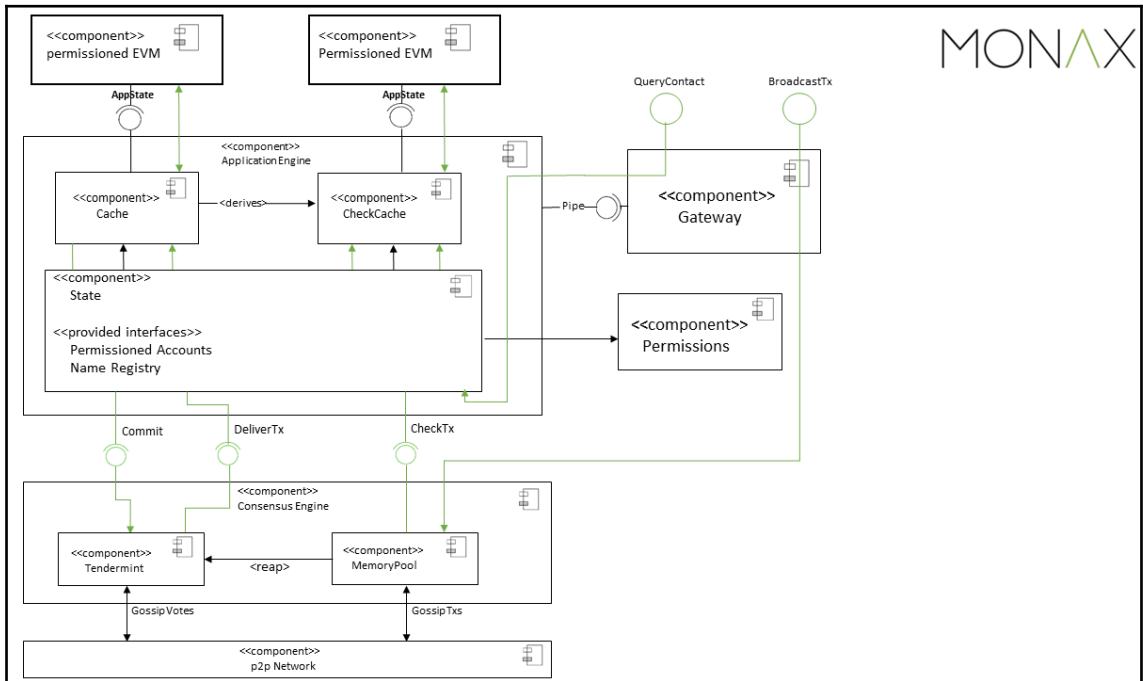
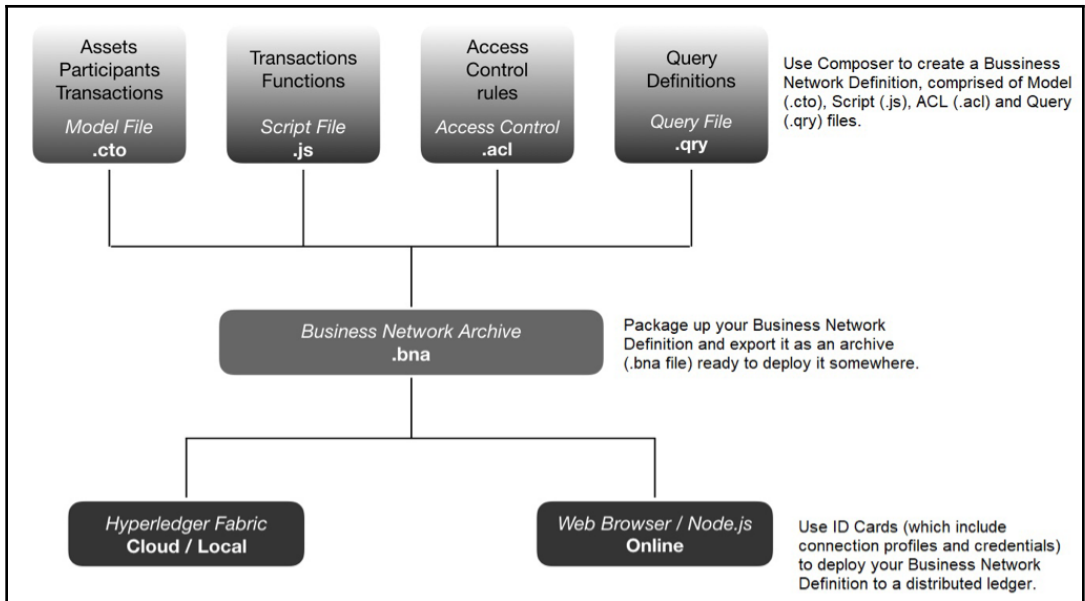
**HYPERLEDGER**

**Frameworks**

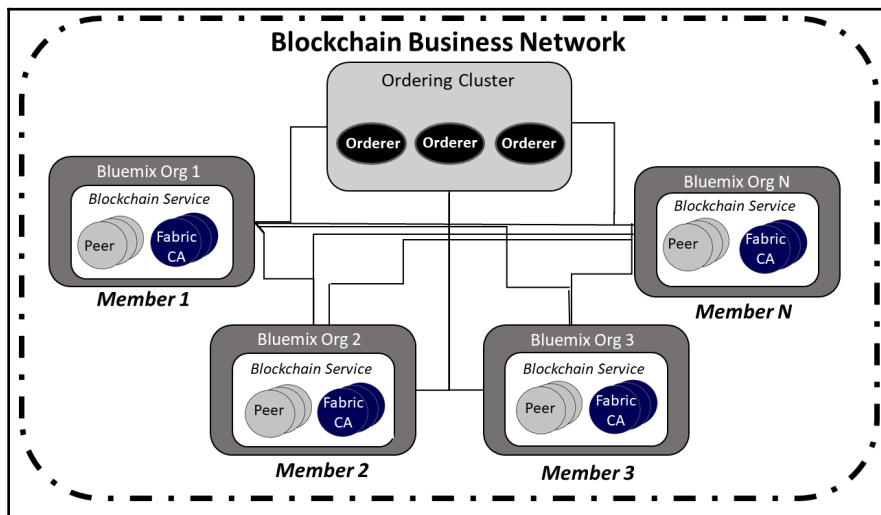
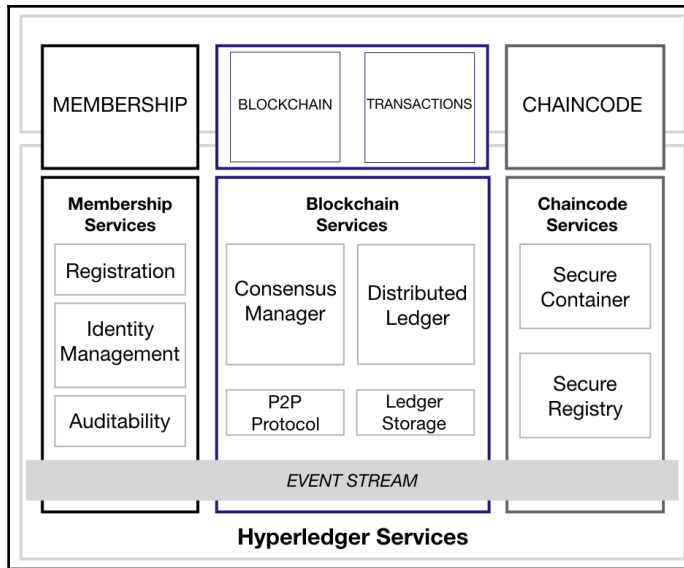
 <p><b>HYPERLEDGER BURROW</b></p> <p>Permissionable smart contract machine (EVM)</p>	 <p><b>HYPERLEDGER FABRIC</b></p> <p>Permissioned with channel support</p>	 <p><b>HYPERLEDGER INDY</b></p> <p>Decentralized identity</p>	 <p><b>HYPERLEDGER IROHA</b></p> <p>Mobile application focus</p>	 <p><b>HYPERLEDGER SAWTOOTH</b></p> <p>Permissioned &amp; permissionless support; EVM transaction family</p>
---	---	--	---	---

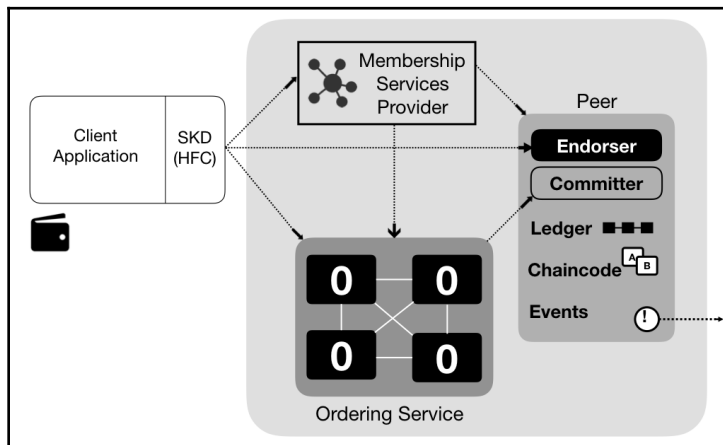
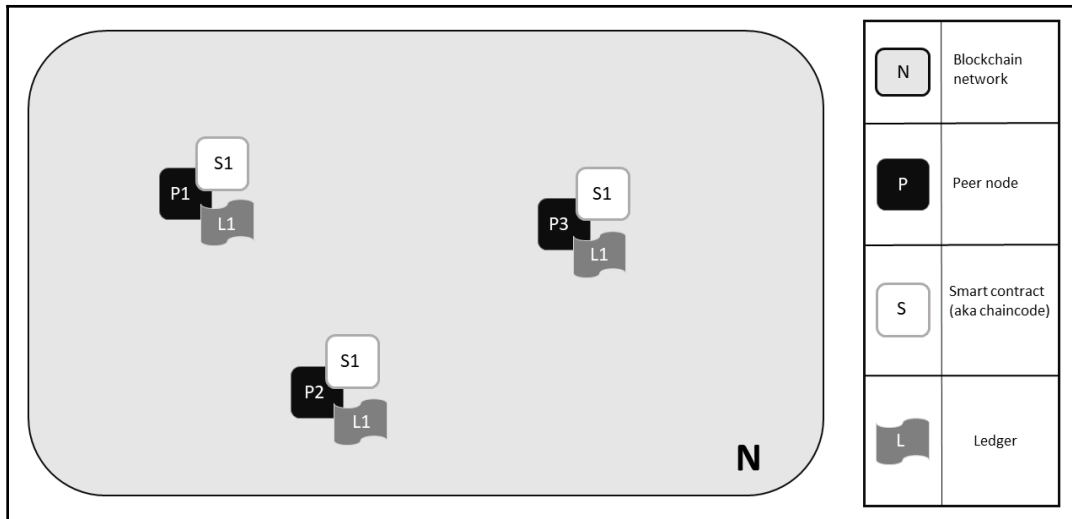
**Tools**

 <p><b>HYPERLEDGER CALIPER</b></p> <p>Blockchain framework benchmark platform</p>	 <p><b>HYPERLEDGER CELLO</b></p> <p>As-a-service deployment</p>	 <p><b>HYPERLEDGER COMPOSER</b></p> <p>Model and build blockchain networks</p>	 <p><b>HYPERLEDGER EXPLORER</b></p> <p>View and explore data on the blockchain</p>	 <p><b>HYPERLEDGER QUILT</b></p> <p>Ledger interoperability</p>
--	--	---	---	--



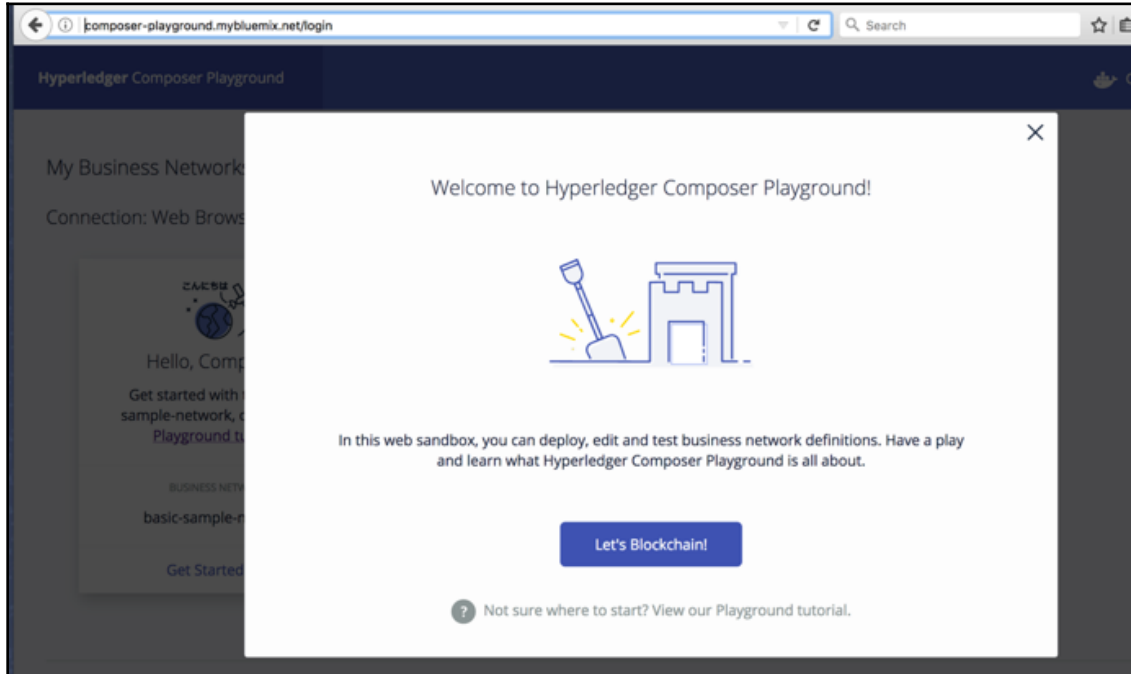


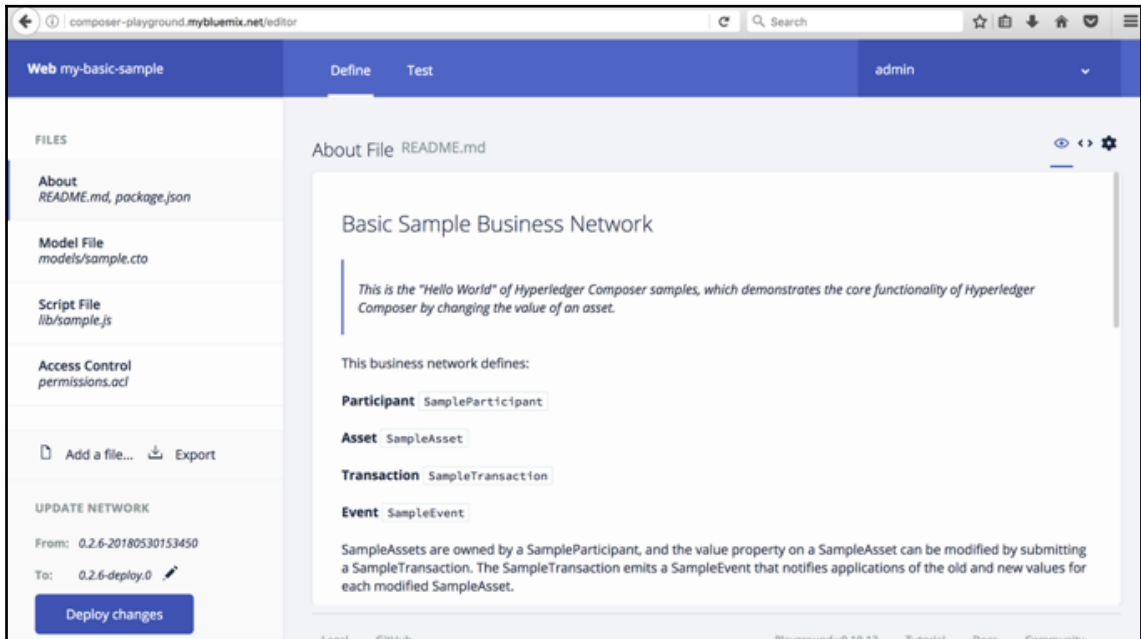
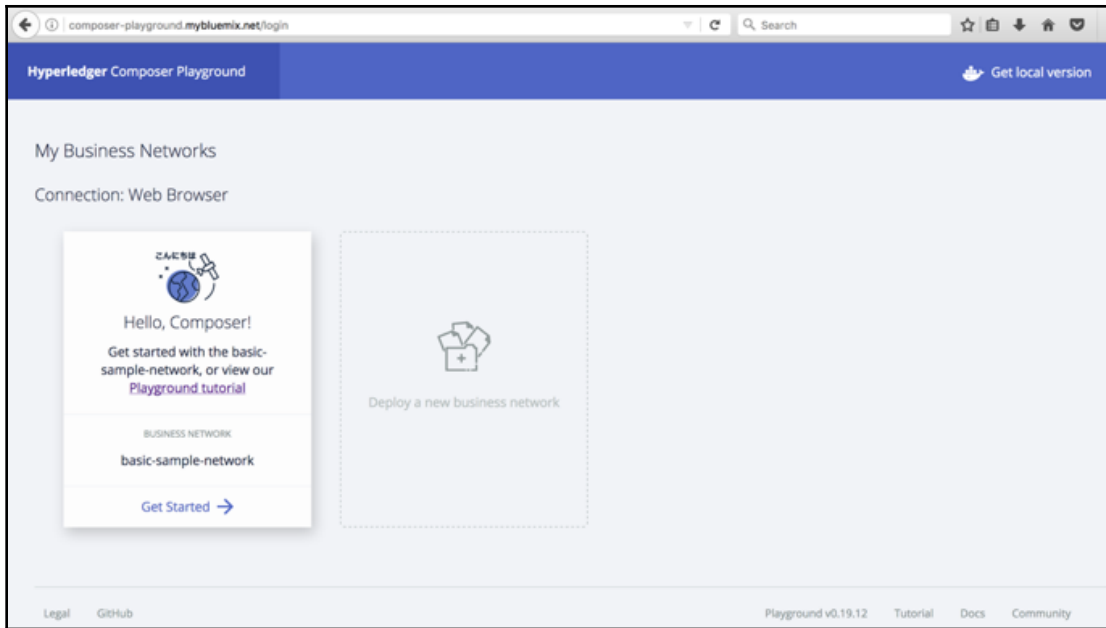




---

# Chapter 4: Creating Your Own Blockchain Network





Web basic-sample-network
Define Test
admin

FILES

About  
README.md, package.json

Model File  
models/sample.cto

Script File  
lib/sample.js

Access Control  
permissions.acl

Add a file... Export

UPDATE NETWORK

From: 0.2.6-deploy.3

To: 0.2.6-deploy.4

Deploy changes

Model File models/sample.cto

```

10 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
11 * See the License for the specific language governing permissions and
12 * limitations under the License.
13 */
14
15 /**
16  * Sample business network definition.
17  */
18 namespace org.example.basic
19
20 asset SampleAsset identified by assetId {
21   o String assetId
22   --> SampleParticipant owner
23   o Double value
24 }
25
26 participant SampleParticipant identified by participantId {
27   o String participantId
28   o String firstName
29   o String lastName
30 }
31
32 transaction SampleTransaction {
33   --> SampleAsset origin
34   --> SampleAsset target
35   o Double txTransferAmount
36 }
37
38 event SampleEvent {
39   --> SampleAsset origin
40   --> SampleAsset target
41   o Double txTransferAmount
42 }
43

```

Everything looks good!  
Any problems detected in your code would be reported here

Legal GitHub Playground v0.19.13 Tutorial Docs Community

Web my-basic-sample
Define Test
admin

PARTICIPANTS

SampleParticipant

ASSETS

SampleAsset


TRANSACTIONS

All Transactions

Submit Transaction

Participant registry for org.example.basic.SampleParticipant

+ 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>	

Web basic-sample-network
Define Test
admin

FILES

About  
README.md, package.json

Model File  
models/sample.cto

Script File  
lib/sample.js

Access Control  
permissions.acl

Add a file... Export

UPDATE NETWORK

From: 0.2.6-deploy.3

To: 0.2.6-deploy.4

Deploy changes

Script File lib/sample.js

```

--
22 async function sampleExchange(tx) {
23
24 // Get the asset registry for the asset.
25 const assetRegistry = await getAssetRegistry('org.example.basic.SampleAsset');
26
27 //Ensure the balance is greather than the amount to be transferred
28 if(tx.origin.value > tx.txTransferAmount) {
29
30 //charge from receiver account
31 tx.origin.value = (tx.origin.value - tx.txTransferAmount);
32
33 //add to receiver account
34 tx.target.value = (tx.target.value + tx.txTransferAmount);
35
36 // Update the asset in the asset registry.
37 await assetRegistry.update(tx.origin);
38 await assetRegistry.update(tx.target);
39
40 // Emit an event for the modified asset.
41 let event = getFactory().newEvent('org.example.basic', 'SampleEvent');
42
43 event.origin = tx.origin;
44 event.target = tx.target;
45 event.txTransferAmount = tx.txTransferAmount;
46
47 emit(event);
48
49 }else{
50 throw Error('You do not have enough balance for this transaction:
51 Balance US$: ${tx.origin.value}
52 Transfer Amount: ${tx.txTransferAmount} ');
53 }
54 }
55

```

Everything looks good!  
Any problems detected in your code would be reported here

Legal GitHub Playground v0.19.13 Tutorial Docs Community

Web basic-sample-network
Define Test
admin

FILES

About  
README.md, package.json

Model File  
models/sample.cto

Script File  
lib/sample.js

Access Control  
permissions.acl

Add a file... Export

UPDATE NETWORK

From: 0.2.6-deploy.3

To: 0.2.6-deploy.4

Deploy changes

ACL File permissions.acl

```

15 /**
16 * Sample access control list.
17 */
18 rule EverybodyCanReadEverything {
19 description: "Allow all participants read access to all resources"
20 participants: "org.example.basic.SampleParticipant"
21 operation: READ
22 resource: "org.example.basic.*"
23 action: ALLOW
24 }
25
26 rule EverybodyCanSubmitTransactions {
27 description: "Allow all participants to submit transactions"
28 participant: "org.example.basic.SampleParticipant"
29 operation: CREATE
30 resource: "org.example.basic.SampleTransaction"
31 action: ALLOW
32 }
33
34 rule OwnerHasFullAccessToTheirAssets {
35 description: "Allow all participants full access to their assets"
36 participant(p): "org.example.basic.SampleParticipant"
37 operation: ALL
38 resource(r): "org.example.basic.SampleAsset"
39 condition: (r.owner.getIdentifier() === p.getIdentifier())
40 action: ALLOW
41 }
42
43 rule SystemACL {
44 description: "System ACL to permit all access"
45 participant: "org.hyperledger.composer.system.Participant"
46 operation: ALL
47 resource: "org.hyperledger.composer.system.*"
48 action: ALLOW
49 }
50

```

Everything looks good!  
Any problems detected in your code would be reported here

Legal GitHub Playground v0.19.13 Tutorial Docs Community

https://composer-playground.mybluemix.net/test

Web my-basic-sample Define Test admin

PARTICIPANTS

SampleParticipant

ASSETS

SampleAsset

TRANSACTIONS


All Transactions

Submit Transaction

Participant registry for org.example.basic.SampleParticipant

+ Create New Participant

ID	Data
----	------



This registry is empty!

To create resources in this registry click create new at the top of this page

Web basic-sample-network Define Test admin

PARTICIPANTS

SampleParticipant

ASSETS

SampleAsset

TRANSACTIONS

All Transactions

Submit Transaction

Participant registry

ID	Data
0614	
2211	

Create New Participant

In registry: **org.example.basic.SampleParticipant**

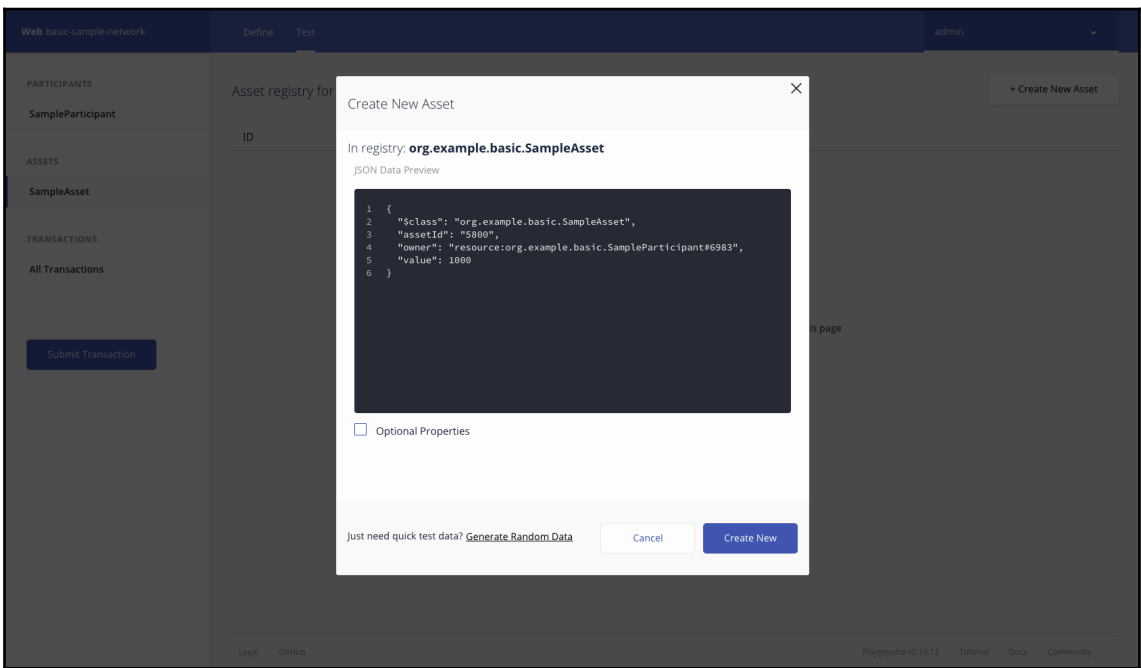
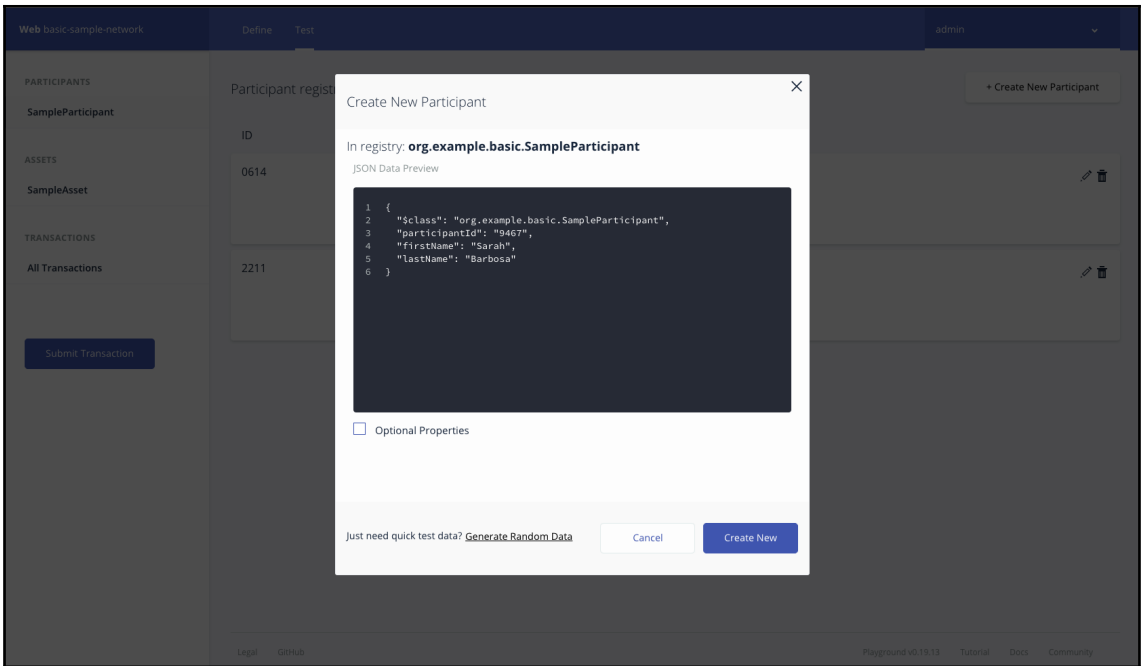
JSON Data Preview

```
1 {
2   "$class": "org.example.basic.SampleParticipant",
3   "participantId": "6983",
4   "firstName": "João",
5   "lastName": "Dow"
6 }
```

Optional Properties

Just need quick test data? [Generate Random Data](#)

Legal GitHub Playground v0.19.13 Tutorial Docs Community





Web basic-sample-network Define Test admin

PARTICIPANTS

SampleParticipant

ASSETS

SampleAsset

TRANSACTIONS

All Transactions

Submit Transaction

Asset registry for

ID 5800

Create New Asset

In registry: **org.example.basic.SampleAsset**

JSON Data Preview

```
1 {
2   "class": "org.example.basic.SampleAsset",
3   "assetId": "8499",
4   "owner": "resource:org.example.basic.SampleParticipant#9647",
5   "value": 2000
6 }
```

Optional Properties

Just need quick test data? [Generate Random Data](#)

Legal Github Playground v0.19.13 Tutorial Docs Community

Web basic-sample-network Define Test admin

PARTICIPANTS

SampleParticipant

ASSETS

SampleAsset

TRANSACTIONS

All Transactions

Submit Transaction

Asset registry for

ID 5800

8499

Submit Transaction

Transaction Type SampleTransaction

JSON Data Preview

```
1 {
2   "class": "org.example.basic.SampleTransaction",
3   "origin": "resource:org.example.basic.SampleAsset#8499",
4   "target": "resource:org.example.basic.SampleAsset#5800",
5   "txTransferAmount": 300
6 }
```

Optional Properties

Just need quick test data? [Generate Random Data](#)

Legal Github Playground v0.19.13 Tutorial Docs Community

The screenshot displays the Hyperledger Composer Playground interface. The browser address bar shows the URL <https://composer-playground.mybluemix.net/test>. The application title is "Web basic-sample-network" and the user is logged in as "admin".

The interface is divided into several sections:

- Left Sidebar:** Contains navigation options for "PARTICIPANTS" (SampleParticipant), "ASSETS" (SampleAsset), and "TRANSACTIONS" (All Transactions). A "Submit Transaction" button is located at the bottom of this sidebar.
- Main Content Area:** Titled "Asset registry for org.example.basic.SampleAsset", it displays a table with two rows of asset data.
- Right Notification:** A "Submit Transaction Successful" message box is visible, showing the Transaction ID: 2fc28c12-89a9-4fa4-9e95-821a063a7dd9.

ID	Data
5800	<pre>{   "class": "org.example.basic.SampleAsset",   "assetId": "5800",   "owner": "resource:org.example.basic.SampleParticipant#6983",   "value": 1300 }</pre>
8499	<pre>{   "class": "org.example.basic.SampleAsset",   "assetId": "8499",   "owner": "resource:org.example.basic.SampleParticipant#9647",   "value": 1700 }</pre>

At the bottom of the page, there are links for "Legal", "GitHub", "Playground v0.19.13", "Tutorial", "Docs", and "Community".

Web basic-sample-network
Define Test
admin ▼

PARTICIPANTS

SampleParticipant

---

ASSETS

SampleAsset

---

TRANSACTIONS

All Transactions

---

Submit Transaction

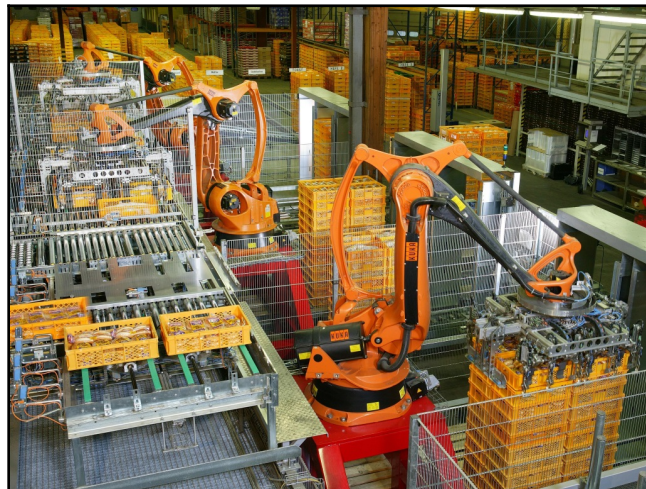
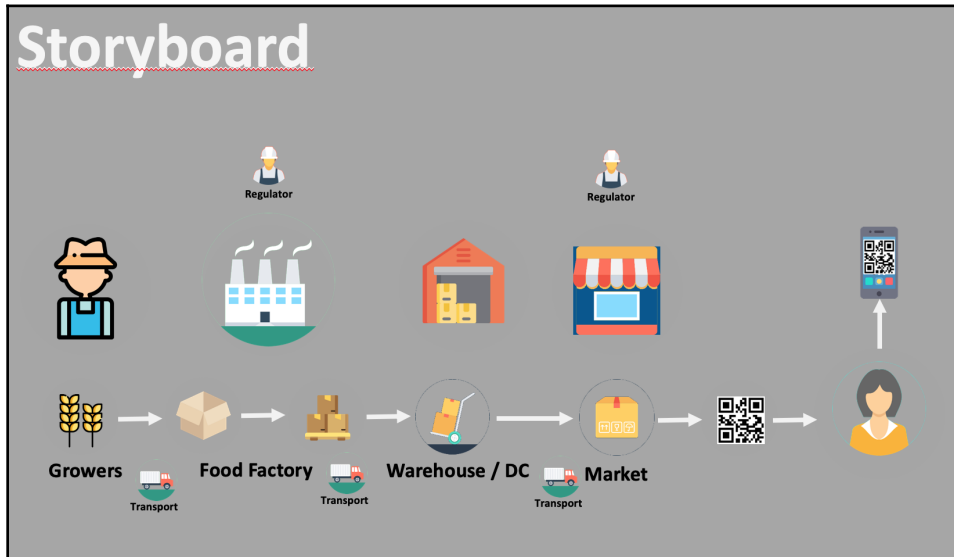
Date, Time	Entry Type	Participant	
2018-08-06, 17:44:11	SampleTransaction	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:41:18	AddAsset	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:40:49	RemoveAsset	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:40:28	AddAsset	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:38:35	AddAsset	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:37:56	AddParticipant	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:37:22	AddParticipant	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:36:50	RemoveParticipant	admin (NetworkAdmin)	<a href="#">view record</a>
2018-08-06, 17:36:47	RemoveParticipant	admin (NetworkAdmin)	<a href="#">view record</a>

[Legal](#) [GitHub](#)
Playground v0.19.13 [Tutorial](#) [Docs](#) [Community](#)

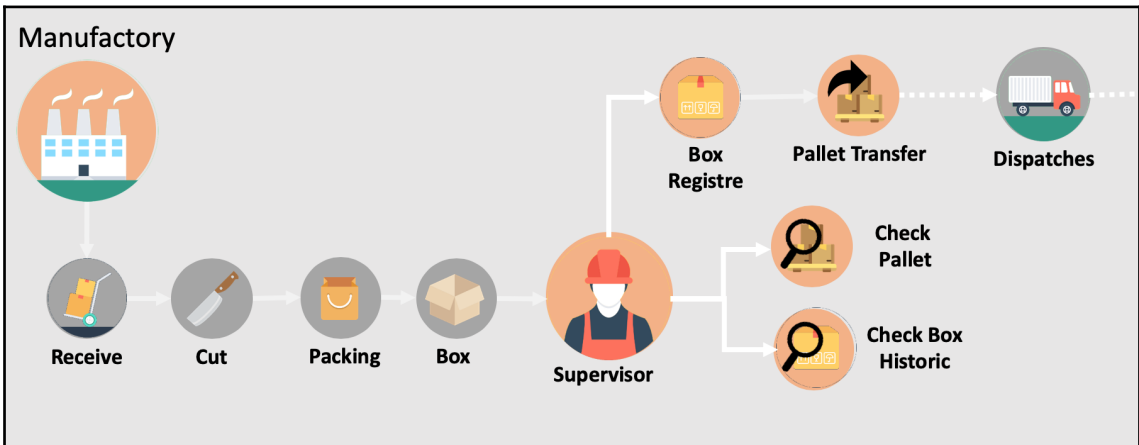
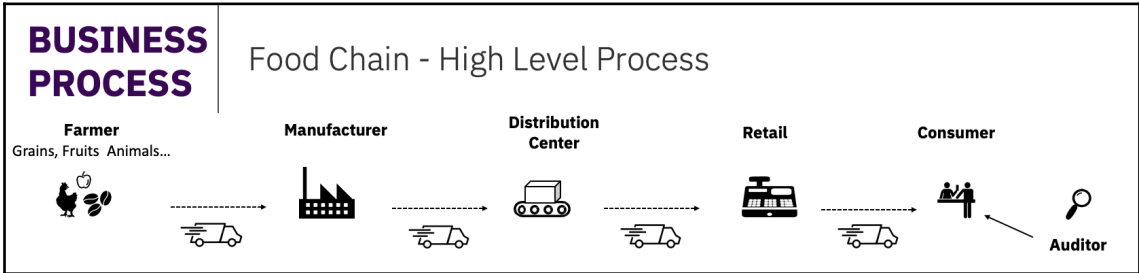
<https://composer-playground.mybluemix.net/test/>

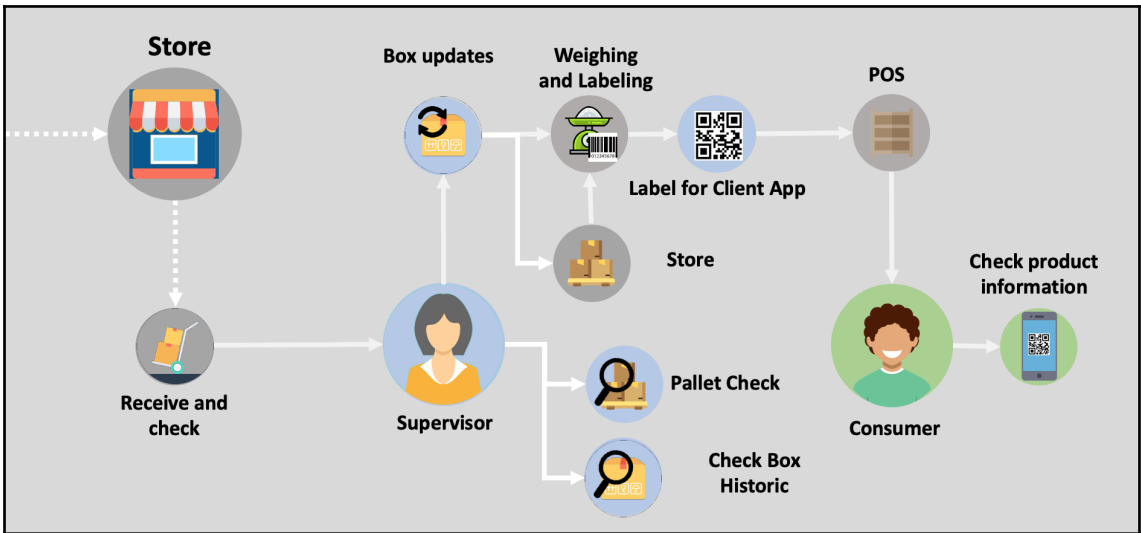
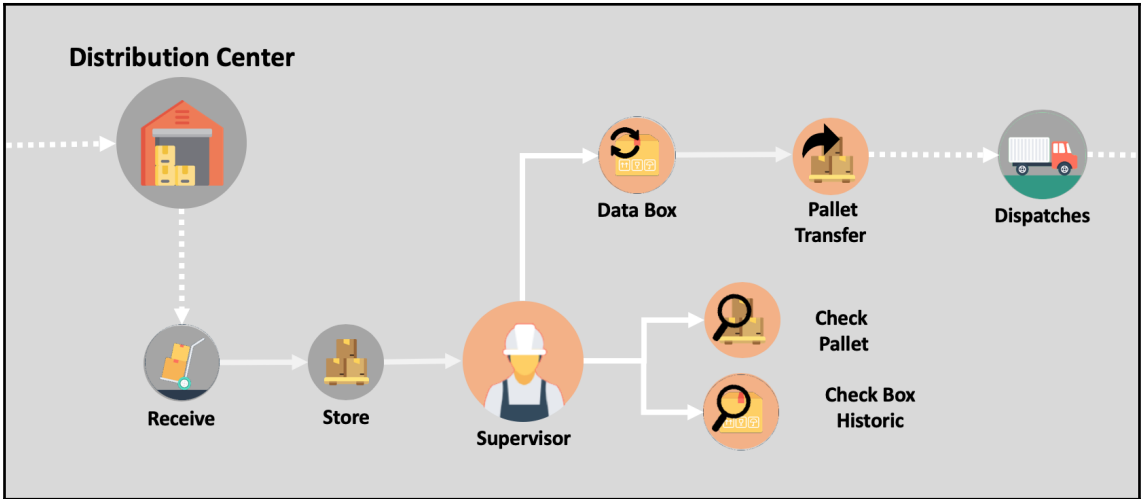
---

# Chapter 5: Addressing Food Safety - Building around the Blockchain

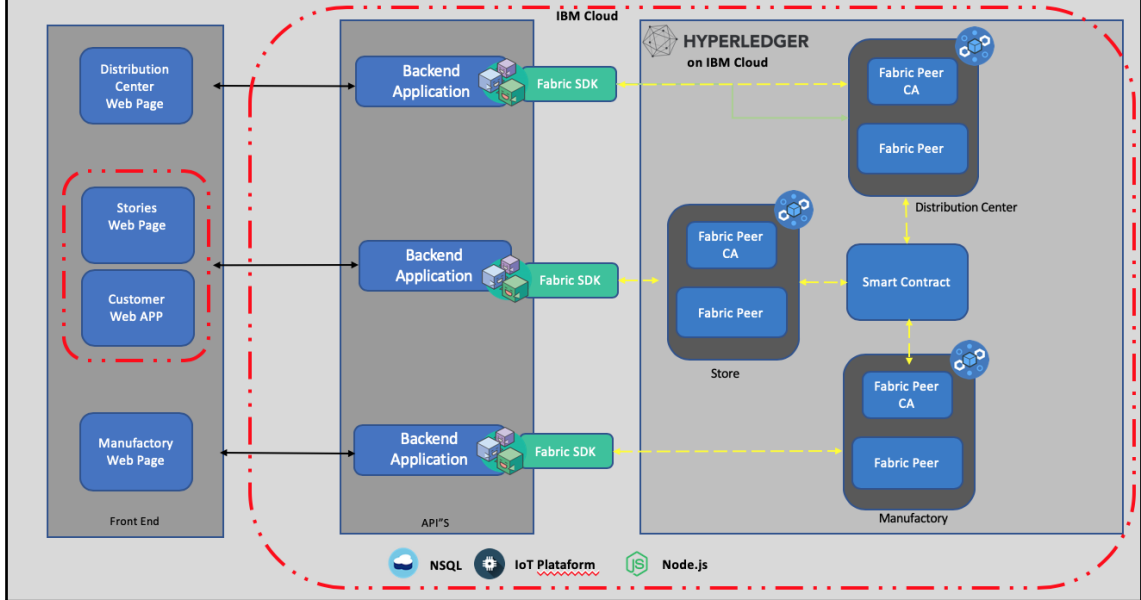


# Chapter 6: Designing the Solution Architecture








# High Level Architecture





**UI frameworks**



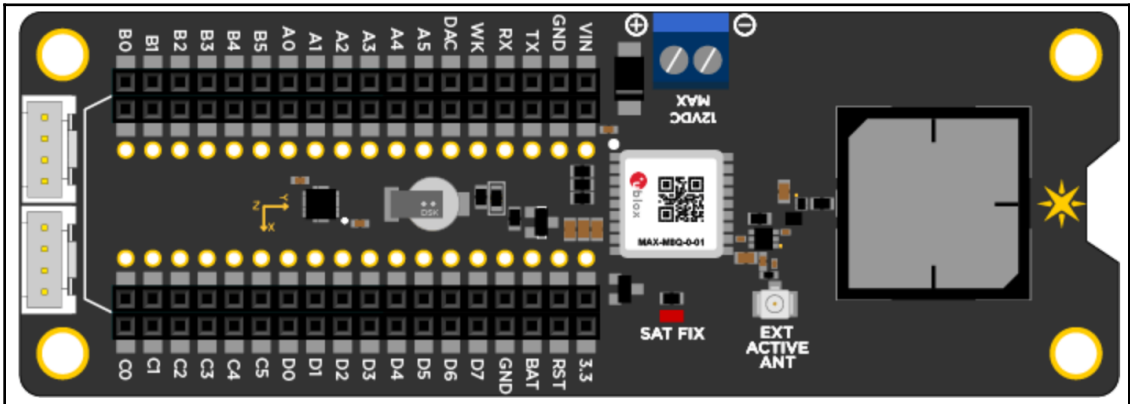
**Language Spec**



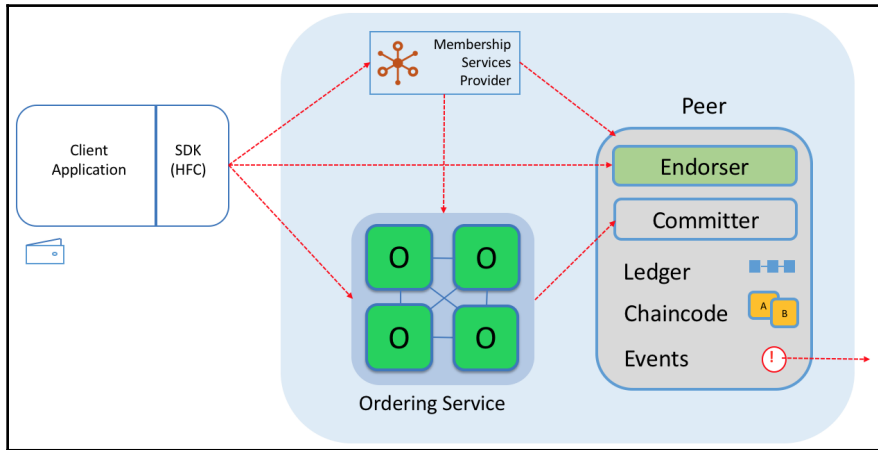
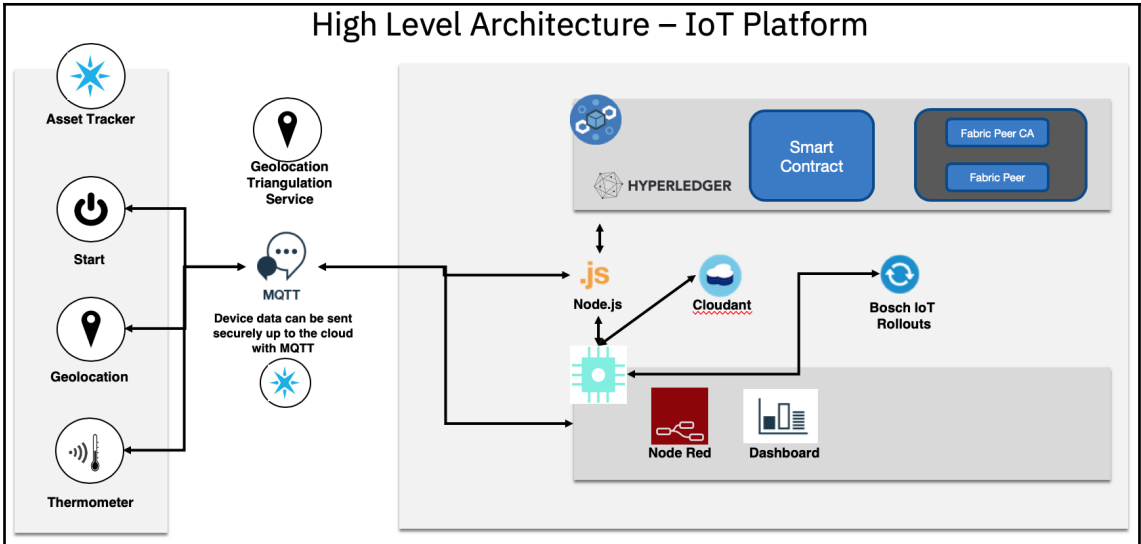
**Build Tool**

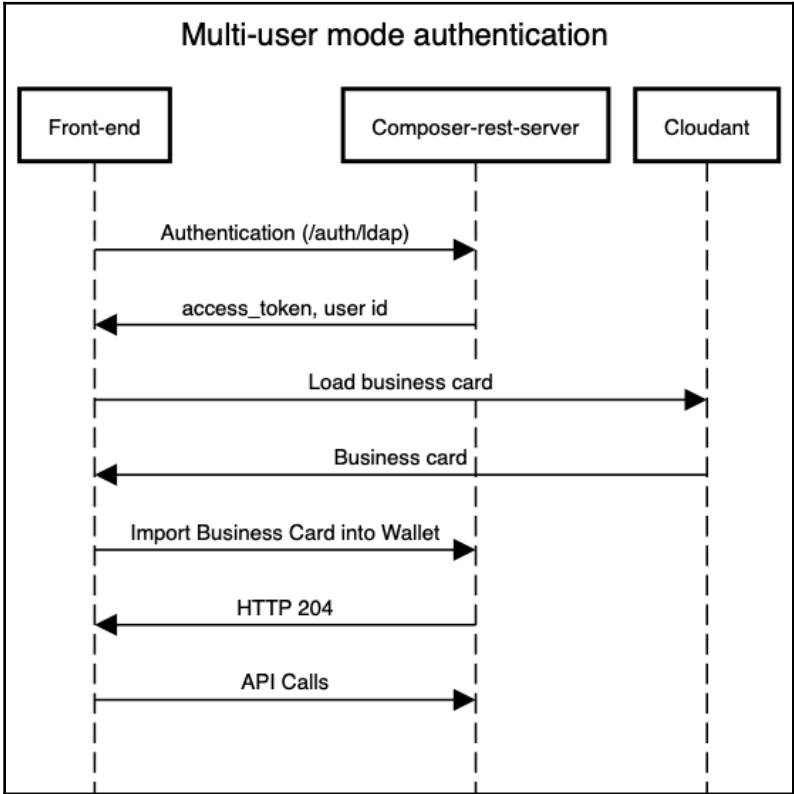
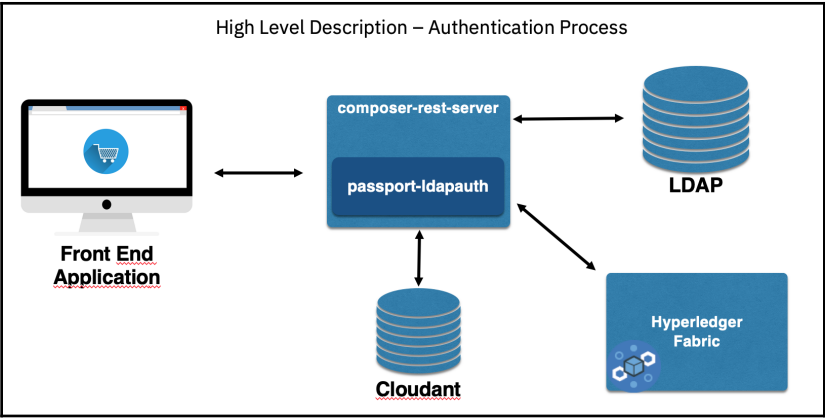



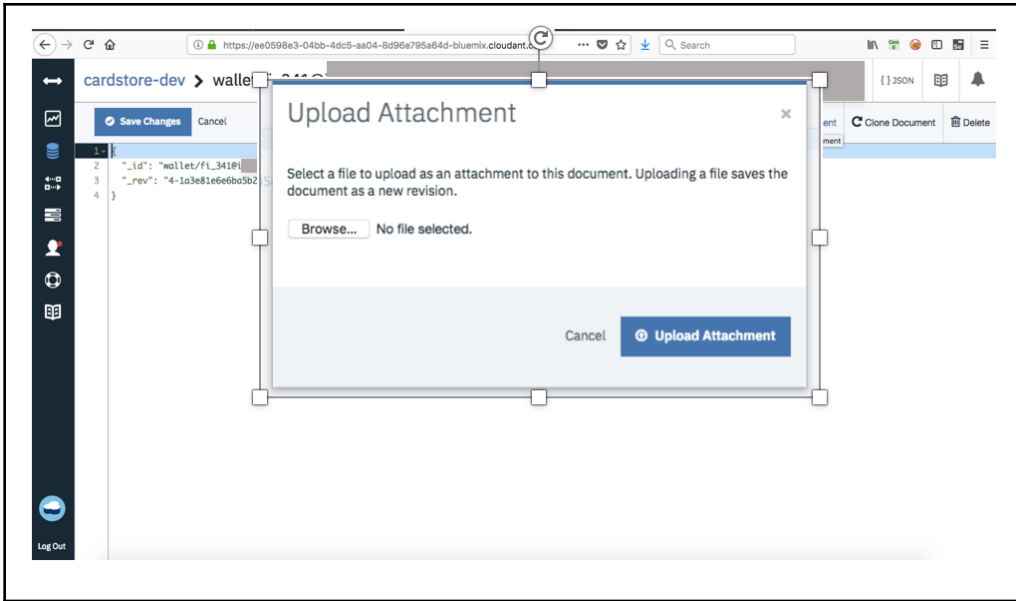
**Package Manager**



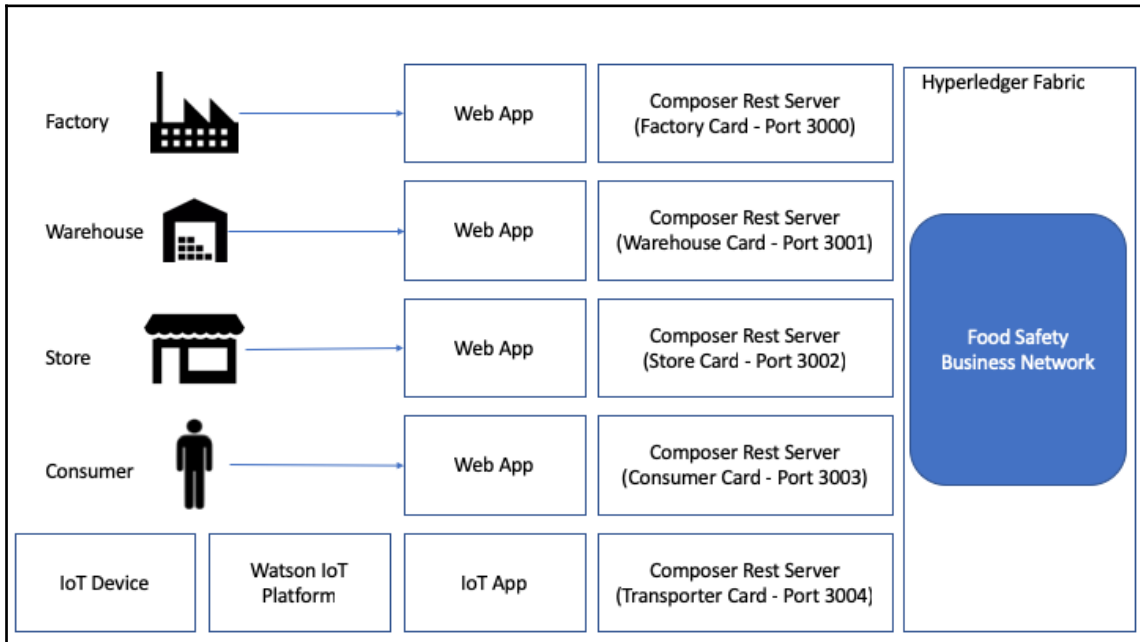


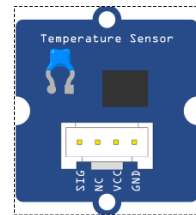
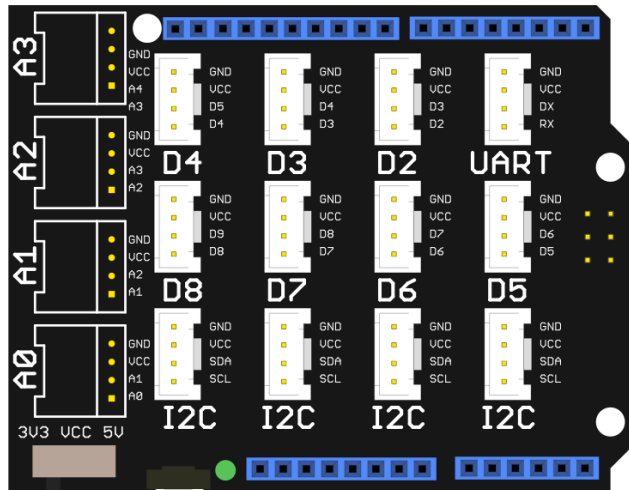
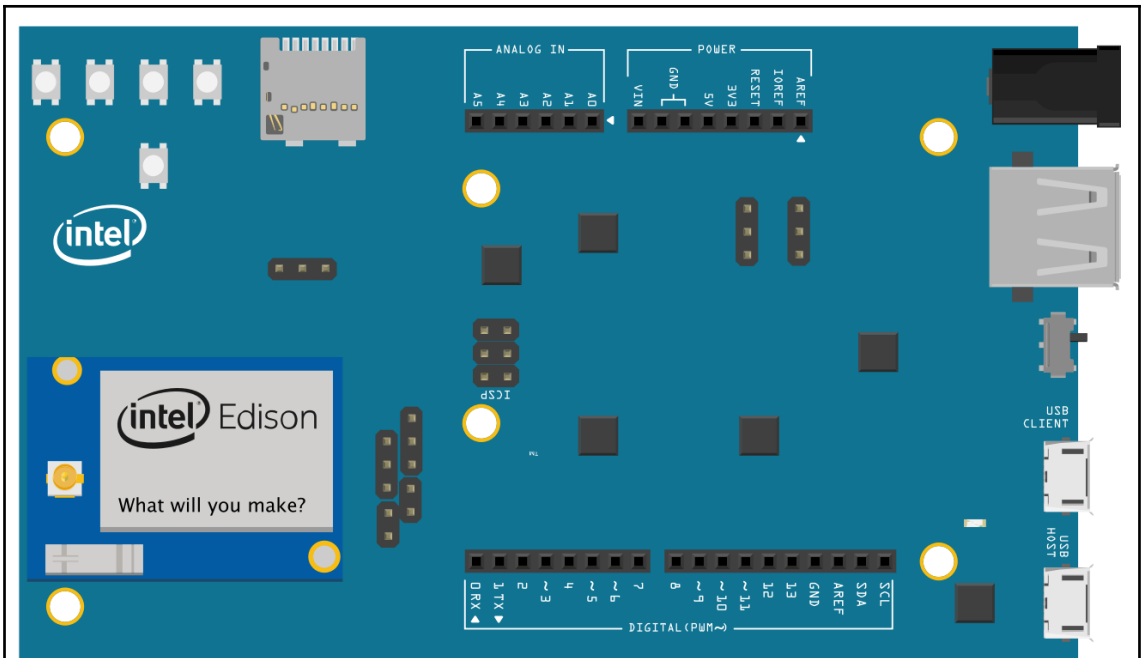




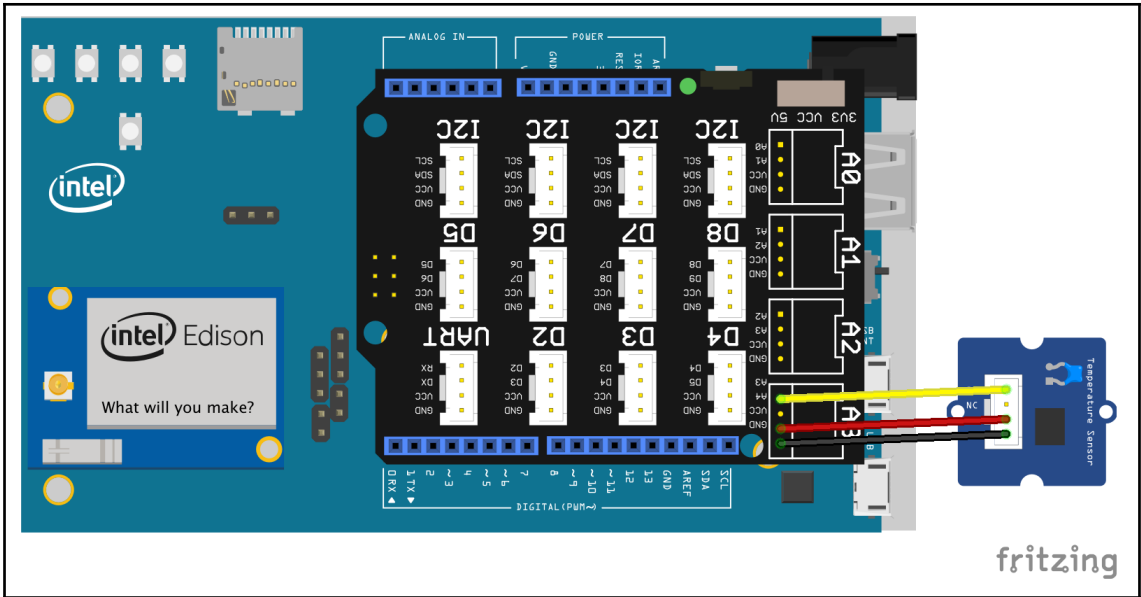
---

# Chapter 7: Creating Your Blockchain and IoT Solution





fritzing



Hyperledger Composer Playground

My Business Networks

Connection: hlfv1

Import Business Network Card    Create Business Network Card

Icon	User ID	Business Network	Action
P	PeerAdmin@hlfv1	none	Connect now →
C	Consumer@food-safety-b10...	food-safety-b10407	Connect now →
T	Transporter@food-safety-b...	food-safety-b10407	Connect now →
F	Factory@food-safety-b10407	food-safety-b10407	Connect now →
A	admin@food-safety-b10407	food-safety-b10407	Connect now →
W	Warehouse@food-safety-b1...	food-safety-b10407	Connect now →
S	Store@food-safety-b10407	food-safety-b10407	Connect now →
		Deploy a new business network	

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Playground v0.20.5    Tutorial    Docs    Community

hfv1 food-safety-b10407 Define Test Factory 1

PARTICIPANTS

- Consumer
- FoodFactory
- Store
- Transporter
- Warehouse

ASSETS

- FoodBox
- FoodBoxPallet

TRANSACTIONS

- All Transactions

Submit Transaction

### Create New Asset

In registry: **com.packtpublishing.businessnetwork.foodsafety.FoodBox**

JSON Data Preview

```
1 {
2   "$class":
3   "com.packtpublishing.businessnetwork.foodsafety.FoodBox",
4   "foodBoxIdentifier": "1",
5   "assetTrackingInformation": [],
6   "measureTrackingInformation": [],
7   "owner":
8   "resource:com.packtpublishing.businessnetwork.foodsafety.FoodFactor
9   y#1"
10 }
```

Optional Properties

Just need quick test data? [Generate Random Data](#)

Cancel Create New

+ Create New Asset

ground v0.20.5 Tutorial Docs Community

hfv1 food-safety-b10407 Define Test Transporter 1

PARTICIPANTS

- Consumer
- FoodFactory
- Store
- Transporter
- Warehouse

ASSETS

- FoodBox
- FoodBoxPallet

TRANSACTIONS

- All Transactions

Submit Transaction

### Asset registry for com.packtpublishing.businessnetwork.foodsafety.FoodBox

+ Create New Asset

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

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Nifx1 food-safety-110407		Define	Test	Consumer
PARTICIPANTS				
Consumer				
FoodFactory				
Store	2018-12-24, 12:52:16	ActivateCurrentIdentity	none	<a href="#">view record</a>
Transporter				
Warehouse	2018-12-24, 12:47:35	UpdateTransportationData	2 (Transporter)	<a href="#">view record</a>
ASSETS				
FoodBox	2018-12-24, 12:47:12	UpdateTransportationData	2 (Transporter)	<a href="#">view record</a>
FoodBoxPallet	2018-12-24, 12:45:04	UpdateTransportationData	2 (Transporter)	<a href="#">view record</a>
TRANSACTIONS				
All Transactions	2018-12-24, 12:44:16	UpdateAsset	3 (Warehouse)	<a href="#">view record</a>
	2018-12-24, 12:44:02	UpdateAsset	3 (Warehouse)	<a href="#">view record</a>
<input type="button" value="Submit Transaction"/>	2018-12-24, 12:43:34	AddAsset	3 (Warehouse)	<a href="#">view record</a>
	2018-12-24, 12:40:39	AddAsset	3 (Warehouse)	<a href="#">view record</a>
	2018-12-24, 12:37:20	ActivateCurrentIdentity	none	<a href="#">view record</a>
	2018-12-24, 12:37:09	UpdateAsset	3 (Warehouse)	<a href="#">view record</a>



## Historian Record



Transaction

Events (0)

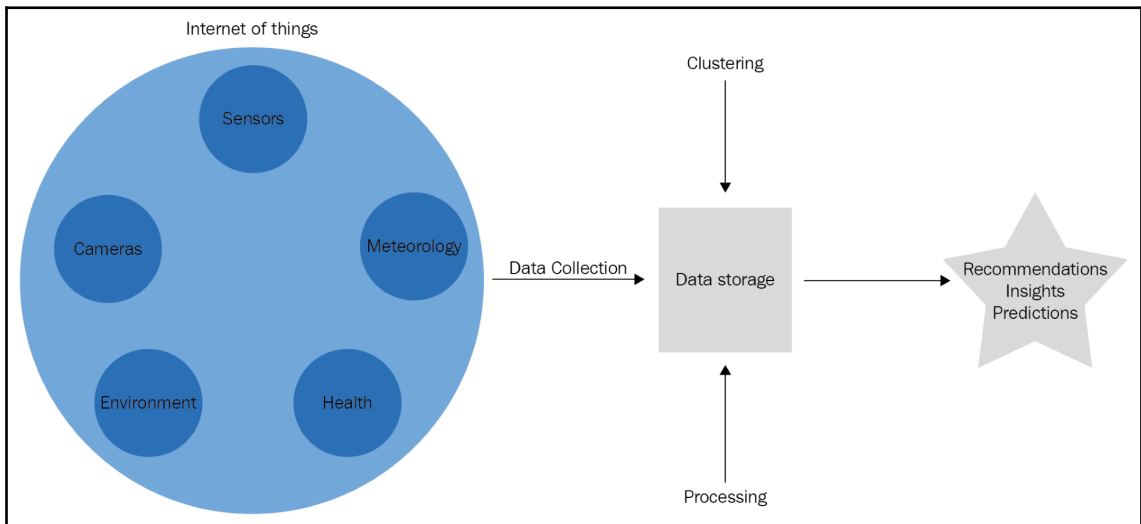
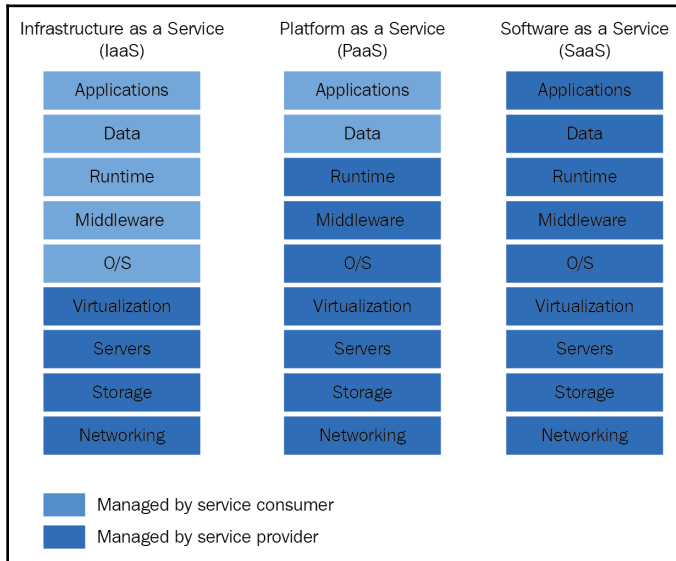
```
1  {  
2    "$class":  
3    "com.packtpublishing.businessnetwork.foodsafety.UpdateTransport  
4    ationData",  
5    "asset":  
6    "resource:com.packtpublishing.businessnetwork.foodsafety.FoodBo  
7    xPallet#3485",  
8    "locationInformation": {  
9      "$class":  
10     "com.packtpublishing.businessnetwork.foodsafety.Location",  
11     "date": "2018-12-24T14:47:21.712Z",  
12     "location": "STORE",  
13     "locationIdentifier": "4",  
14     "status": "ARRIVED"  
15   },  
16   "measurementInformation": {
```

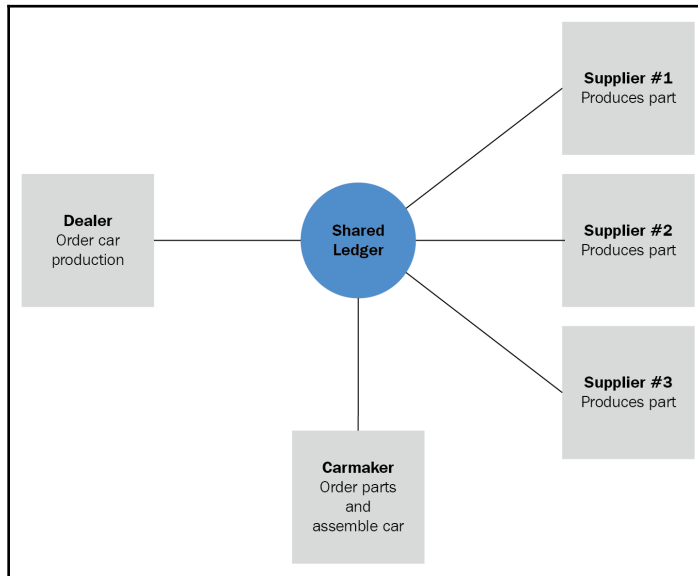
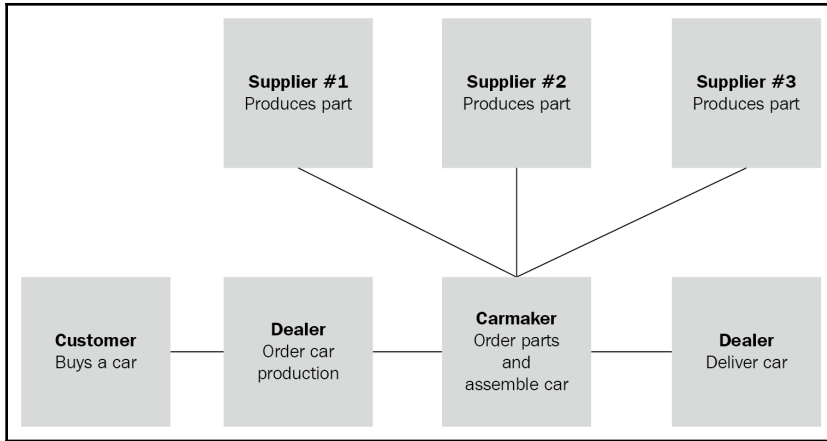
AddAsset

3 (Warehouse)

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# Chapter 8: The IoT, Blockchain, and Industry 4.0





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## Chapter 9: Best Practices for Developing Blockchain and IoT Solutions

