

第七章:卖家支持和用户体验

学习 Bluemix 和区块链

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计划: 30 分钟的章节内容以及1到2小时的实践

第一章	什么是区块链? 概念和架构全览
第二章	我们要构建的故事是什么?
第二章第一节	故事的架构
第三章	建立本地Hyperledger Fabric V1 开发环境
第四章	建立和测试网络
第五章	管理员用户体验
第六章	买家支持和用户体验
第七章	卖家支持和用户体验
第八章	提供商支持和用户体验
第九章	发货人支持和用户体验
第十章	金融公司支持和用户体验
第十一章	综合演示
第十二章	事件和自动化演示

几点注释

- 每次启动或者重启docker、docker containers，它们会以原始的状态启动。也就是说他们在系统里没有数据。当你运行./startup.sh 或者./buildAndDeploy.sh 脚本时会出现这种情况。
- 本教程有一个“自动装入”功能，它作为管理员菜单的一部分，在屏幕的顶端。它会自动产生20位成员，9个订单和在为买家“创建新订单”流程时用到的项目文件。
- 如果你需要预先为你的系统生成数据时，你就需要用到这个命令。我们将在最后一章看看如何在这个自动装入程序里增加交易。
- 自动装入会通过网络socket channel显示它的状态，显示在右边。

```
Zero to Blockchain Tutorial Select Language Admin Roles
connected
[6] Cloud Nine Software, Inc successfully added
[10] Software Solutions, Inc successfully added
[18] dummy shipper successfully added
[15] Fast Eddy, Inc successfully added
[11] Hybrid Cloud Designs, Inc successfully added
[14] The Education Game, Inc successfully added
[0] PC Hardware, Inc successfully added
[4] 2nd Life Systems, Inc successfully added
[1] Inovative Solutions, Inc successfully added
[9] Virtual Paper, Inc successfully added
[2] The i-Series Experts, Inc successfully added
[16] The Overnight Experts, Inc successfully added
[21] The App Store, Inc successfully added
[20] UPS Systems, Inc successfully added
[8] NonStop, Inc successfully added
[13] Kid Friendly Learning, Inc successfully added
[12] Born On The Cloud, Inc successfully added
[5] The Cognitive Advantage, Inc successfully added
[17] PC Hardware Now, Inc successfully added
[3] Cooling Systems R Us, Inc successfully added
[19] dummy provider successfully added
[7] Office Experts, Inc successfully added
[22] The Global Financier successfully added
loadTransaction: order 008 successfully added
loadTransaction: order 006 successfully added
loadTransaction: order 009 successfully added
loadTransaction: order 005 successfully added
loadTransaction: order 003 successfully added
loadTransaction: order 004 successfully added
loadTransaction: order 007 successfully added
loadTransaction: order 001 successfully added
loadTransaction: order 002 successfully added
```

订单状态

- 你可以通过我们在第五章中建立的管理界面查看系统里所有订单的状态。

Zero to Blockchain Tutorial

Select Language

Admin

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Zero To Blockchain Chapter 10

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

Result

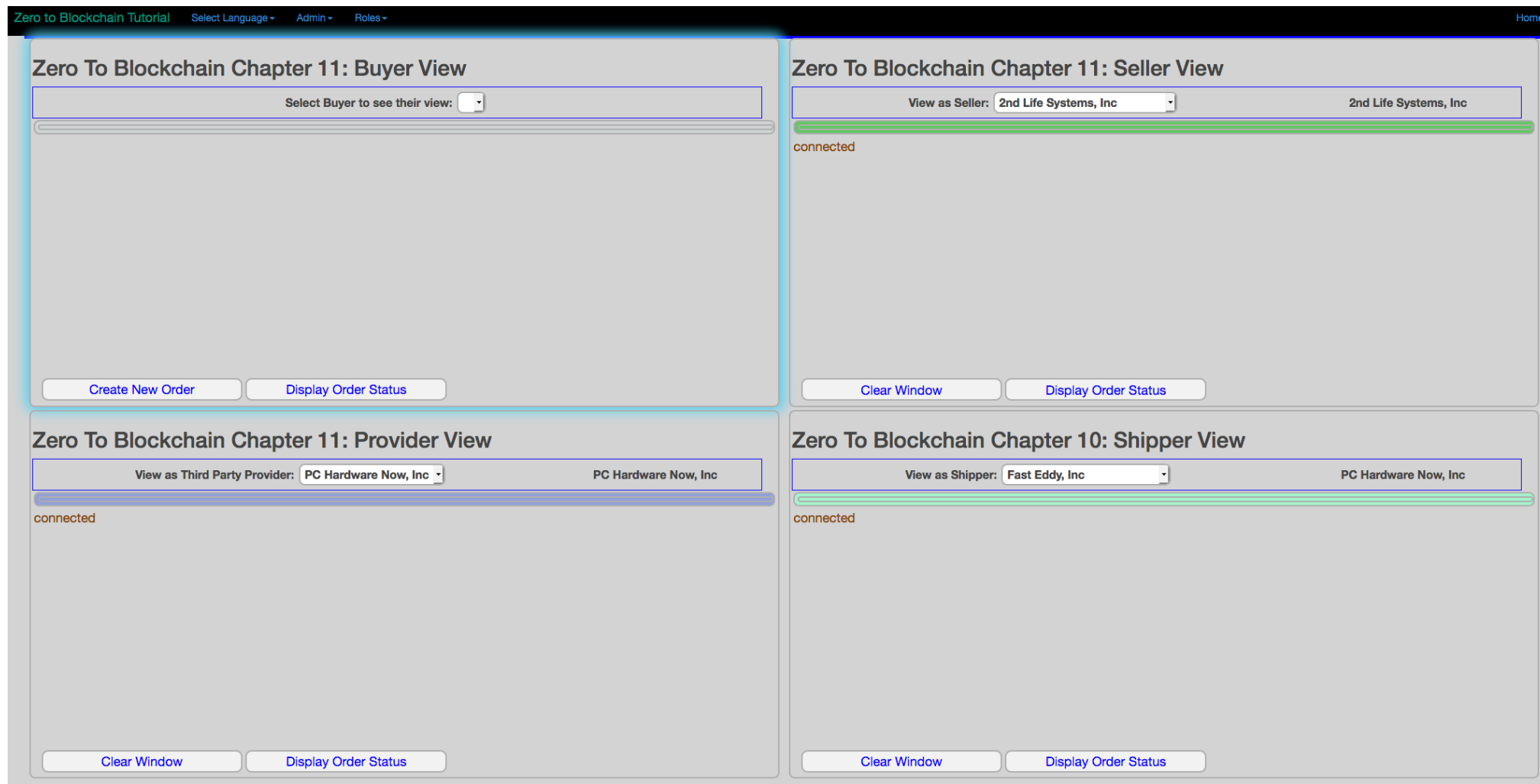
Registry List

Network update results: success

Order Number	Created	Status	Buyer/Seller	Amount
001	2017-09-25T11:59:04.793Z	Order Created	yes@softwaresolutionsinc.com bob@pchardwareinc.com	\$9125.00
002	2017-09-25T11:59:04.795Z	Order Created	yes@softwaresolutionsinc.com jojo@innovativesolutionsinc.com	\$6055.00
003	2017-09-25T11:59:03.770Z	Order Created	yes@softwaresolutionsinc.com Erin@2ndlifetimesinc.com	\$38800.00
004	2017-09-25T11:59:03.786Z	Order Created	yes@softwaresolutionsinc.com aiesha@cloudninesoftwareinc.com	\$9125.00
005	2017-09-25T11:59:03.748Z	Order Created	yes@softwaresolutionsinc.com joshua@officeexpertsinc.com	\$6055.00
006	2017-09-25T11:59:01.937Z	Order Created	eric@bornonthecloudinc.com Erin@2ndlifetimesinc.com	\$38800.00
007	2017-09-25T11:59:04.714Z	Order Created	eric@bornonthecloudinc.com bob@pchardwareinc.com	\$9125.00
008	2017-09-25T11:58:56.406Z	Order Created	eric@bornonthecloudinc.com jojo@innovativesolutionsinc.com	\$6055.00
009	2017-09-25T11:59:03.746Z	Order Created	eric@bornonthecloudinc.com Erin@2ndlifetimesinc.com	\$38800.00

卖家视图

- 在下面的三个课程里，我们将建立图中的每一块仪表盘. 今天，我们集中看看右上角部分：**卖家**



买家视图

- 在第六章，我们已经创建了买家视图，可用让我们创建订单，显示订单和选择性地更新订单状态。

Zero to Blockchain Tutorial

Select Language

Admin

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Zero To Blockchain Chapter 11: Buyer View

Select Buyer to see their view: abby@kidfriendlyinc.com

Kid Friendly Learning, Inc

Order #

Status

Total

Seller: 2nd Life Systems, Inc

abbykidfriendlyinc.com1506340965954

Order Purchased: 2017-09-25T12:03:08.267Z

\$4265.00

No Action

Execute

Item Number	Description	Quantity	Price
1	Macbook Pro 16Gb, 1Tb	2	\$2570.00
8	4K Monitor - 42	3	\$1695.00

Zero To Blockchain Chapter 11: Provider View

View as Third Party Provider: PC Hardware Now, Inc

PC Hardware Now, Inc

connected

Clear Window

Display Order Status

Zero To Blockchain Chapter 11: Seller View

View as Seller: 2nd Life Systems, Inc

2nd Life Systems, Inc

Order #

Status

Total

Buyer: Born On The Cloud, Inc

006

Order Purchased: 2017-09-25T12:03:33.024Z

\$38800.00

Order From Supplier

Execute

PC Hardware Now, Inc

Item Number	Description	Quantity	Price
3	Lenovo Thinkpad W520 16Gb, .25Tb	15	\$7500.00
4	Lenovo Thinkpad W520 32Gb, 1Tb	20	\$31300.00

Order #

Status

Total

Buyer: Kid Friendly Learning, Inc

abbykidfriendlyinc.com1506340965954

Order Purchased: 2017-09-25T12:03:08.267Z

\$4265.00

No Action

Execute

PC Hardware Now, Inc

Item Number	Description	Quantity	Price
1	Macbook Pro 16Gb, 1Tb	2	\$2570.00
8	4K Monitor - 42	3	\$1695.00

order 006 successfully updated to Order From Supplier

Zero To Blockchain Chapter 10: Shipper View

View as Shipper: Fast Eddy, Inc

PC Hardware Now, Inc

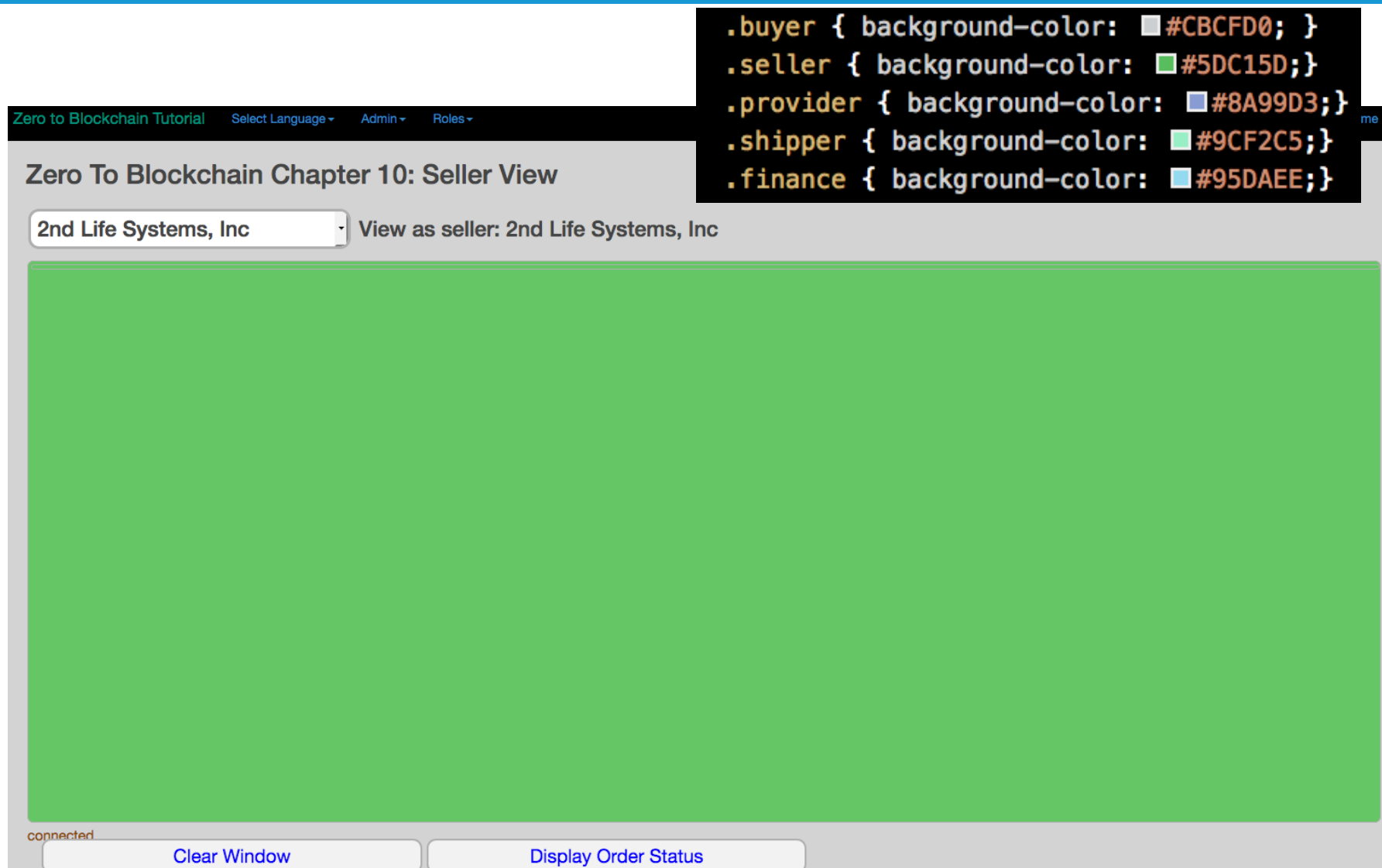
connected

Clear Window

Display Order Status

背景颜色

- 你会看到卖家的背景色是绿色。你可以在 `pageStyles.css` 指定颜色。因为四类会员角色都在同一个浏览器页面显示，用不同的颜色显示易于把它们区分开来。
- 我们将重用在买家用户体验中使用的绝大部分代码来创建卖家用户体验。



查询文件

- 我们在上一章节建立了query.qry 文件，它的查询如下：

```
query selectOrders {  
  description: "Select all Orders"  
  statement:  
    SELECT org.acme.Z2BTestNetwork.Order  
}
```

- Hyperledger Composer 怎样做到为不同的人和角色使用同一个查询呢？答案是通过 ACL 定义。
- 我们为卖家做相同的事情：允许访问（缺省，卖家无法访问）和限制访问特定的交易。

```
rule BuyerACLCreate {  
  description: "Enable Buyers to execute all actions on an Order"  
  participant(m): "org.acme.Z2BTestNetwork.Buyer"  
  operation: READ, CREATE, UPDATE  
  resource(v): "org.acme.Z2BTestNetwork.**"  
  transaction(tx): "org.acme.Z2BTestNetwork.CreateOrder"  
  condition: (v.buyer.buyerID == m.getIdentifier())  
  action: ALLOW  
}  
  
rule BuyerACLBuy {  
  description: "Enable a Buyer to update an Order from Create to Buy"  
  participant(m): "org.acme.Z2BTestNetwork.Buyer"  
  operation: READ, CREATE, UPDATE  
  resource(v): "org.acme.Z2BTestNetwork.**"  
  transaction(tx): "org.acme.Z2BTestNetwork.Buy"  
  condition: (v.buyer.buyerID == m.getIdentifier())  
  action: ALLOW  
}  
  
rule BuyerACLCancel {  
  description: "Enable a Buyer to CANCEL an Order"  
  participant(m): "org.acme.Z2BTestNetwork.Buyer"  
  operation: READ, CREATE, UPDATE, DELETE  
  resource(v): "org.acme.Z2BTestNetwork.**"  
  transaction(tx): "org.acme.Z2BTestNetwork.OrderCancel"  
  condition: (v.buyer.buyerID == m.getIdentifier())  
  action: ALLOW  
}  
  
rule BuyerACLDispute {  
  description: "Enable a Buyer to raise a DISPUTE on an Order"  
  participant(m): "org.acme.Z2BTestNetwork.Buyer"  
  operation: READ, CREATE, UPDATE  
  resource(v): "org.acme.Z2BTestNetwork.**"  
  transaction(tx): "org.acme.Z2BTestNetwork.Dispute"  
  condition: (v.buyer.buyerID == m.getIdentifier())
```


OrderAction 函数

- 在第六章，我们创建了 OrderAction 函数，它可以为买家处理订单状态。我们将扩展它的能力来支持卖家需要的功能。

买家功能:

```
case 'Purchase':
  console.log('Purchase entered');
  updateOrder = factory.newTransaction(NS, 'Buy');
  updateOrder.buyer = factory.newRelationship(NS, 'Buyer', order.buyer.$identifier);
  updateOrder.seller = factory.newRelationship(NS, 'Seller', order.seller.$identifier);
  break;
case 'Order From Supplier':
  console.log('Order from Supplier entered for '+order.orderNumber+ ' inbound id: '+ _userID+ ' with o
  updateOrder = factory.newTransaction(NS, 'OrderFromSupplier');
  updateOrder.provider = factory.newRelationship(NS, 'Provider', req.body.provider);
  updateOrder.seller = factory.newRelationship(NS, 'Seller', order.seller.$identifier);
  break;
case 'Resolve':
  console.log('Resolve entered');
  updateOrder = factory.newTransaction(NS, 'Resolve');
  updateOrder.buyer = factory.newRelationship(NS, 'Buyer', order.buyer.$identifier);
  updateOrder.shipper = factory.newRelationship(NS, 'Shipper', order.shipper.$identifier);
  updateOrder.provider = factory.newRelationship(NS, 'Provider', order.provider.$identifier);
  updateOrder.seller = factory.newRelationship(NS, 'Seller', order.seller.$identifier);
  updateOrder.financeCo = factory.newRelationship(NS, 'FinanceCo', financeCoID);
  updateOrder.resolve = req.body.reason;
  break;
case 'Dispute':
  console.log('Dispute entered');
  updateOrder = factory.newTransaction(NS, 'Dispute');
  updateOrder.financeCo = factory.newRelationship(NS, 'FinanceCo', financeCoID);
  updateOrder.buyer = factory.newRelationship(NS, 'Buyer', order.buyer.$identifier);
  updateOrder.seller = factory.newRelationship(NS, 'Seller', order.seller.$identifier);
  updateOrder.dispute = req.body.reason;
  break;
case 'Authorize Payment':
  console.log('Authorize Payment entered');
  updateOrder = factory.newTransaction(NS, 'AuthorizePayment');
  updateOrder.buyer = factory.newRelationship(NS, 'Buyer', order.buyer.$identifier);
  updateOrder.financeCo = factory.newRelationship(NS, 'FinanceCo', financeCoID);
  break;
case 'Cancel':
  console.log('Cancel entered');
  updateOrder = factory.newTransaction(NS, 'OrderCancel');
  updateOrder.buyer = factory.newRelationship(NS, 'Buyer', order.buyer.$identifier);
  updateOrder.seller = factory.newRelationship(NS, 'Seller', order.seller.$identifier);
  break;
```

卖家功能:

- Order From Supplier
- Request Payment
- Resolve (争议)
- Refund (订单)

备注: 争议解决已经在买家部分写好了，我们不需要做任何事情就可重用...为什么呢？

卖家视图

Zero to Blockchain Tutorial

Select Language ▾

Admin ▾

Roles ▾

Home

Zero To Blockchain Chapter 10: Seller View

2nd Life Systems, Inc ▾

View as seller: 2nd Life Systems, Inc

Order #		Status		Total		Buyer: Born On The Cloud, Inc	
006		Order Purchased: 2017-09-25T12:03:33.024Z		\$38800.00		<div>No Action ▾</div> <div>PC Hardware Now, Inc ▾</div> <div>Execute</div>	
Item Number		Description		Quantity		Price	
3		Lenovo Thinkpad W520 16Gb, .25Tb		15		\$7500.00	
4		Lenovo Thinkpad W520 32Gb, 1Tb		20		\$31300.00	

Order #		Status		Total		Buyer: Kid Friendly Learning, Inc	
abbykidfriendlyinccom1506340965954		Order Purchased: 2017-09-25T12:03:08.267Z		\$4265.00		<div>No Action ▾</div> <div>PC Hardware Now, Inc ▾</div> <div>Execute</div>	
Item Number		Description		Quantity		Price	
1		Macbook Pro 16Gb, 1Tb		2		\$2570.00	
8		4K Monitor - 42		3		\$1695.00	

connected

Clear Window

Display Order Status

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