



T230 Actions

Ruslan Devyatko

Services | Acumatica

Timing and Agenda

Wed, October 14, 2020 10:00 AM – 11:00 AM PT

Day 1

Course Prerequisites

Part 1: The Battery Replacement Service

Lesson 1.1: Define the Assign Action

Lesson 1.2: Define the Complete Action

Lesson 1.3: Define the Create Invoice Action

Thu, October 15, 2020 10:00 AM – 11:00 AM PT

Day 2

Part 1: The Battery Replacement Service

Lesson 1.4: Configure a Link to the Created Invoice

Lesson 1.5: Change the Status of a Work Order on Payment Release

Timing and Agenda

Fri, October 16, 2020 10:00 AM – 11:00 AM PT

Day 3

Part 2: The Liquid Damage Service

Lesson 2.1: Derive the Value of a Custom Field from Another Entity

Lesson 2.2: Implement the Change of Status when a Prepayment Has Been Applied

Lesson 2.3: Test the Workflow for the Liquid Damage Service Order

Course Prerequisites

Initial Configuration

Step 1: Preparing the environment

Step 2: Deploying the needed Acumatica ERP instance for the training course

Step 3: Publishing the required customization project

Actions

Company Story and Customization Description

Actions on the Repair Work Orders form

Repair Work Orders

← SAVE & CLOSE 📄 ↶ + 🗑️ 📄 ▾ ⏪ < > ⏩

ASSIGN

CREATE SO INVOICE

Order Nbr.: 000009 🔍

Customer ID: C000000001 - Jersey C

Order Total: 35.00

Status: Completed

Service: Battery Replacement

Invoice Nbr.:

* Date Created: Wednesday, ▾

Device: Nokia 3310

Date Completed: Wednesday, Oc

Assignee: EP00000002 - Baker 🔍

Priority: Medium ▾

Description:

REPAIR ITEMS

LABOR

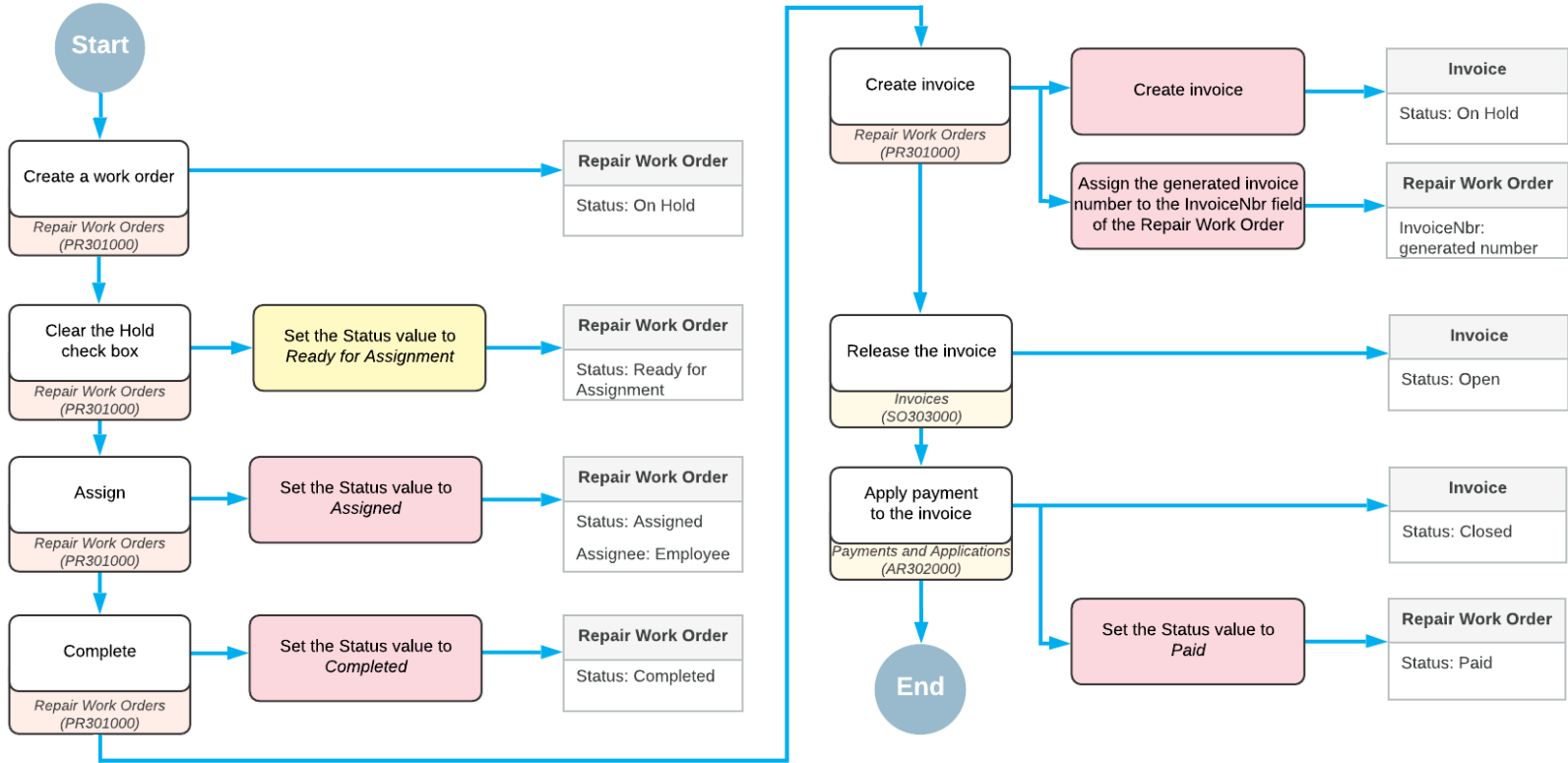
🔄 + ✕ COMPLETE ⏪ 🗑️

📄	🔗	🗑️	Inventory ID	Description	Default Price	Quantity	Ext. Price
>	🔗	🗑️	CONSULT	Consulting service	5.00	1.00	5.00

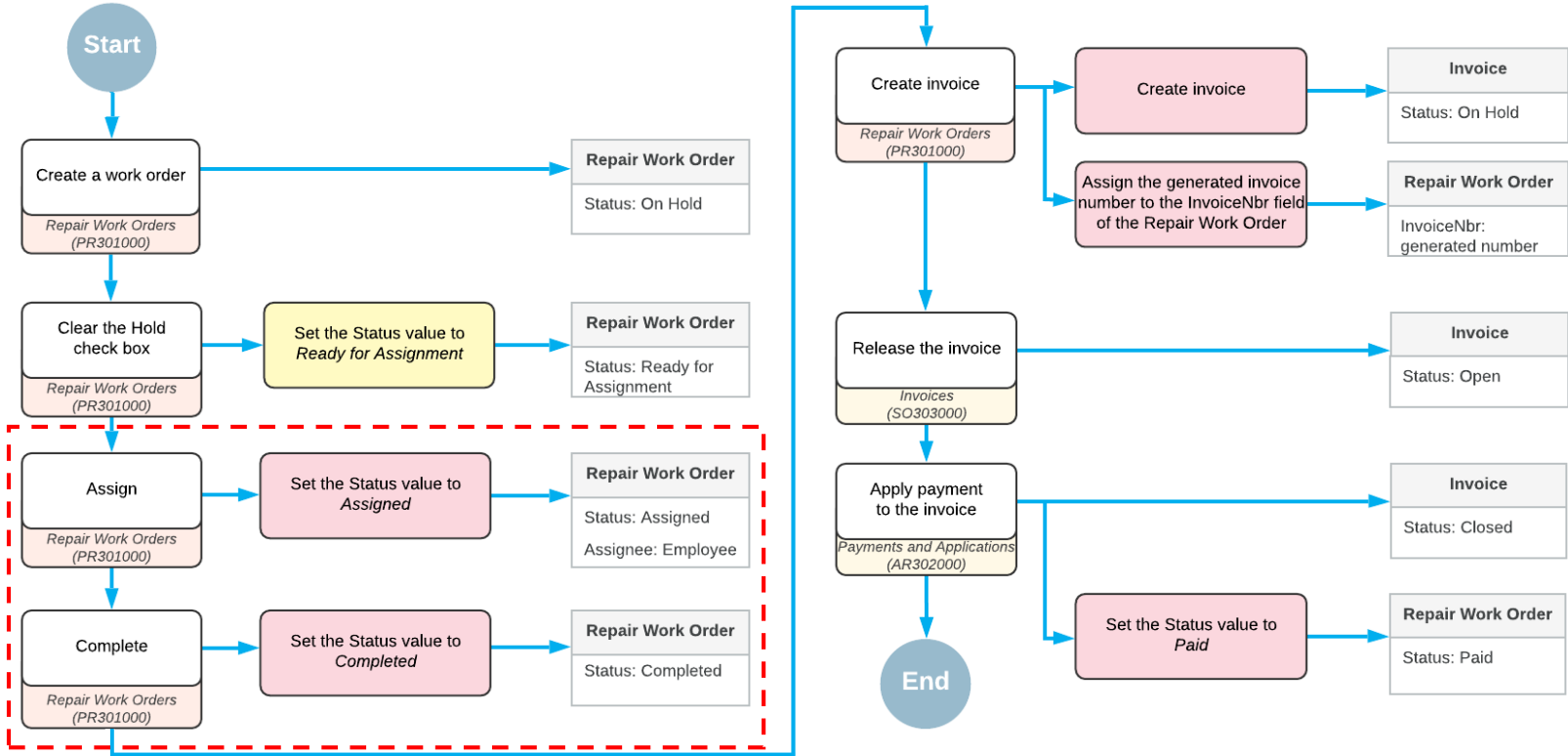
Actions

Part 1: The Battery Replacement Service

Battery Replacement Service Workflow



Battery Replacement Service Workflow



Lesson 1.1: Define the Assign Action

Learning Objectives

As you complete this lesson, you will do the following:

- Define the **Assign** action on the Repair Work Orders form
- Configure the availability of the **Assign** button depending on field values on the form
- Test the implemented action

Declaring Actions in Acumatica Framework

The declaration of an action in a graph consists of:

- A field of the **PXAction<>** type, which is declared as follows

```
public PXAction<Shipment> CancelShipment;
```

- A method that implements the action; this method has the **PXButton** and **PXUIField** attributes

```
[PXButton(CommitChanges = true)]  
[PXUIField(DisplayName = "Cancel Shipment")]  
protected virtual void cancelShipment()  
{  
    ...  
}
```

Callback on the Action

With the **CommitChanges** property of the **PXButton** attribute set to **true**, the framework processes the recent changes made on the screen prior to invoking the action:

```
public PXAction<Shipment> CancelShipment;  
  
[PXButton(CommitChanges = true)]  
[PXUIField(DisplayName = "Cancel Shipment")]  
protected virtual void cancelShipment()  
{  
    ...  
}
```

Changing Appearance of Actions at Runtime

To disable or hide an action, use the following methods of the **PXAction<>** class:

- `CancelShipment.SetEnabled(false); // Disabling the CancelShipment action`
- `CancelShipment.SetEnabled(true); // Enabling the CancelShipment action`
- `CancelShipment.SetVisible(false); // Hiding the CancelShipment action`
- `CancelShipment.SetVisible(true); // Showing the CancelShipment action`

The Assign action on the Repair Work Orders form

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS

← SAVE & CLOSE ↻ + 🗑️ 📄 ⏪ < > ⏩ ASSIGN

* Order Nbr.:	000005	Customer ID:	C000000001 - Jersey C	Order Total:	35.00
Status:	Assigned	Service:	Battery Replacement	Invoice Nbr.:	
* Date Created:	October 11	Device:	Nokia 3310		
Date Completed:		Assignee:	EP00000001 - Andre		
		Priority:	Medium		
Description:					

REPAIR ITEMS LABOR

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🗑️	🗑️	Repair Item Type	Inventory ID	Description	Price
>	🗑️	Battery	BAT3310	Battery for Nokia 3310	20.00
	🗑️	Back Cover	BCOV3310	Back cover for Nokia 3310	10.00

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Lesson 1.2: Define the Complete Action

Learning Objectives

As you complete this lesson, you will learn how to specify the location of an action on the form.

The Complete action on the Repair Work Orders form

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS

SAVE & CLOSE + - < > ASSIGN

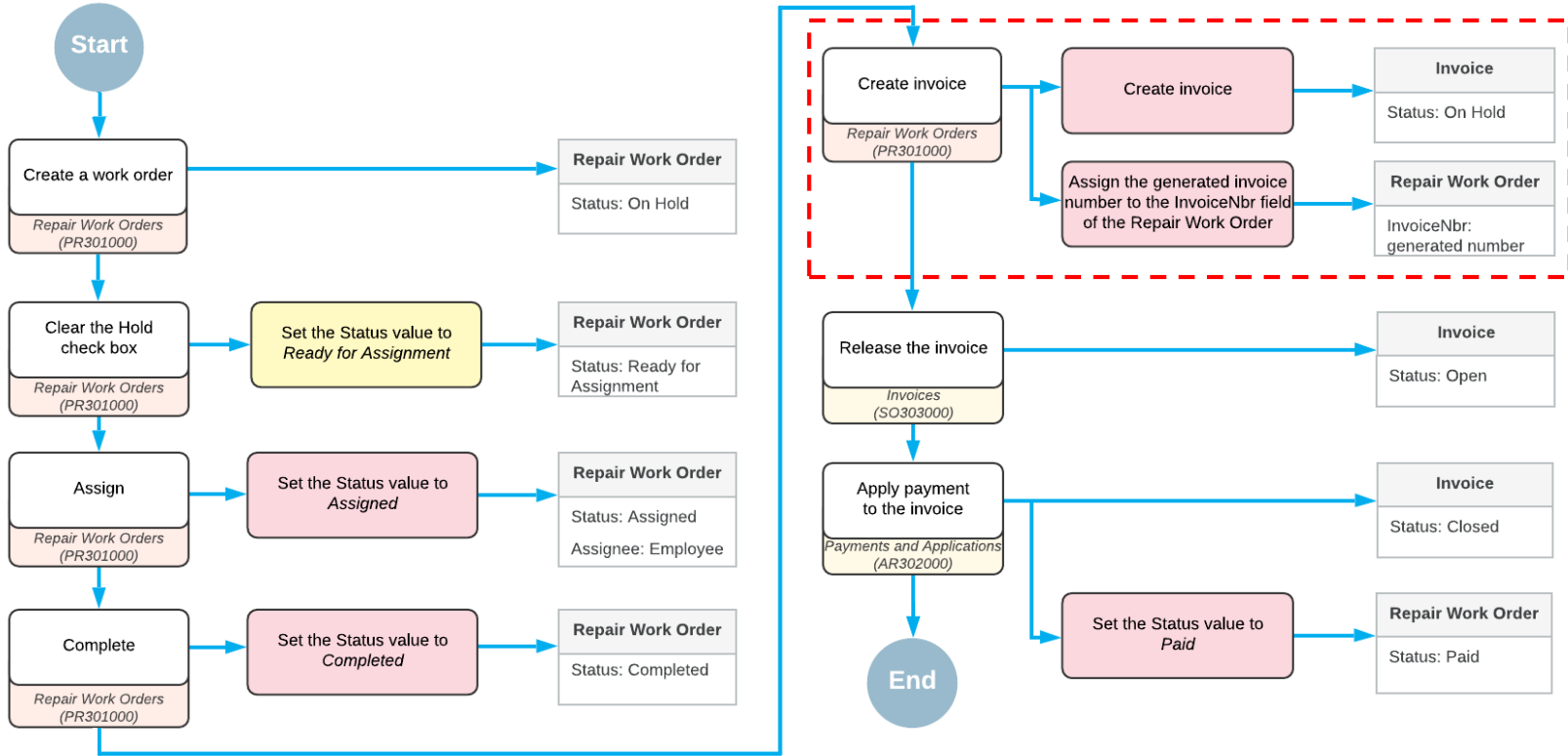
* Order Nbr.: 000005 Customer ID: C000000001 - Jersey C Order Total: 35.00
Status: Completed Service: Battery Replacement Invoice Nbr.:
* Date Created: October 11 Device: Nokia 3310
Date Completed: October 11 Assignee: EP000000001 - Andre
Priority: Medium
Description:

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COMPLETE

Inventory ID	Description	Default Price	Quantity	Ext. Price
CONSULT	Consulting service	5.00	1.00	5.00

Battery Replacement Service Workflow



Lesson 1.3: Define the Create Invoice Action

Learning Objectives

As you complete this lesson, you will do the following:

- Learn about the usage of the **PXLongOperation** class
- Define the **Create Invoice** action on the Repair Work Orders form
- Configure the availability of the **Create Invoice** button

Using the PXLongOperation Class

The **PXLongOperation.StartOperation()** method creates a separate thread and executes the specified delegate asynchronously on this thread:

```
PXLongOperation.StartOperation(this, delegate ()  
{  
    InvoiceOrder(graphCopy); });  
});
```

Declaring Actions in Acumatica Framework

A method that implements an action can be declared without parameters and returning **void**:

```
protected virtual void cancelShipment()  
{  
    ...  
}
```

or with a parameter of type **PXAdapter** and returning **IEnumerable**:

```
protected virtual IEnumerable release(PXAdapter adapter)  
{  
    ...  
    return adapter.Get();  
}
```

Types of Actions

Actions are generally used:

- to modify or validate data records and, optionally, save changes to the database;
- to start a background operation executed in a separate thread;
- to redirect a user to a specific form or report.

Unless the action is used solely for redirection, set **CommitChanges** for **PXButtonAttribute** to *true*.

The Create Invoice action on the Repair Work Orders form

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS

SAVE & CLOSE [Icons] ASSIGN CREATE SO INVOICE 00:00:07

* Order Nbr.: 000005 Customer ID: C000000001 - Jersey C Order Total: 35.00
Status: Completed Service: Battery Replacement Invoice Nbr.: INV000048
* Date Created: October 11 Device: Nokia 3310
Date Completed: October 11 Assignee: EP00000001 - Andre
Priority: Medium
Description:

REPAIR ITEMS LABOR

Repair Item Type	Inventory ID	Description	Price
Battery	BAT3310	Battery for Nokia 3310	20.00
Back Cover	BCOV3310	Back cover for Nokia 3310	10.00

[Navigation icons]

Lesson 1.4: Configure a Link to the Created Invoice

Learning Objectives

As you complete this lesson, you will do the following:

- Configure the **InvoiceNbr** field of the **RSSVWorkOrder** DAC
- Configure an element for the **InvoiceNbr** field in the **RS301000.aspx** file
- Test the implemented link

The Invoice Nbr. box with a link on the Repair Work Orders form

Repair Work Orders NOTES FILES CUSTOMIZATION TOOLS ▾

← SAVE & CLOSE 📄 ↶ + 🗑️ 📄 ▾ ⌂ < > >| ASSIGN CREATE SO INVOICE

* Order Nbr.: Customer ID: C000000001 - Jersey C Order Total: 35.00
Status: Completed Service: Battery Replacement Invoice Nbr.: INV000048
* Date Created: Device: Nokia 3310
Date Completed: Assignee: EP00000001 - Andre Priority:
Description:

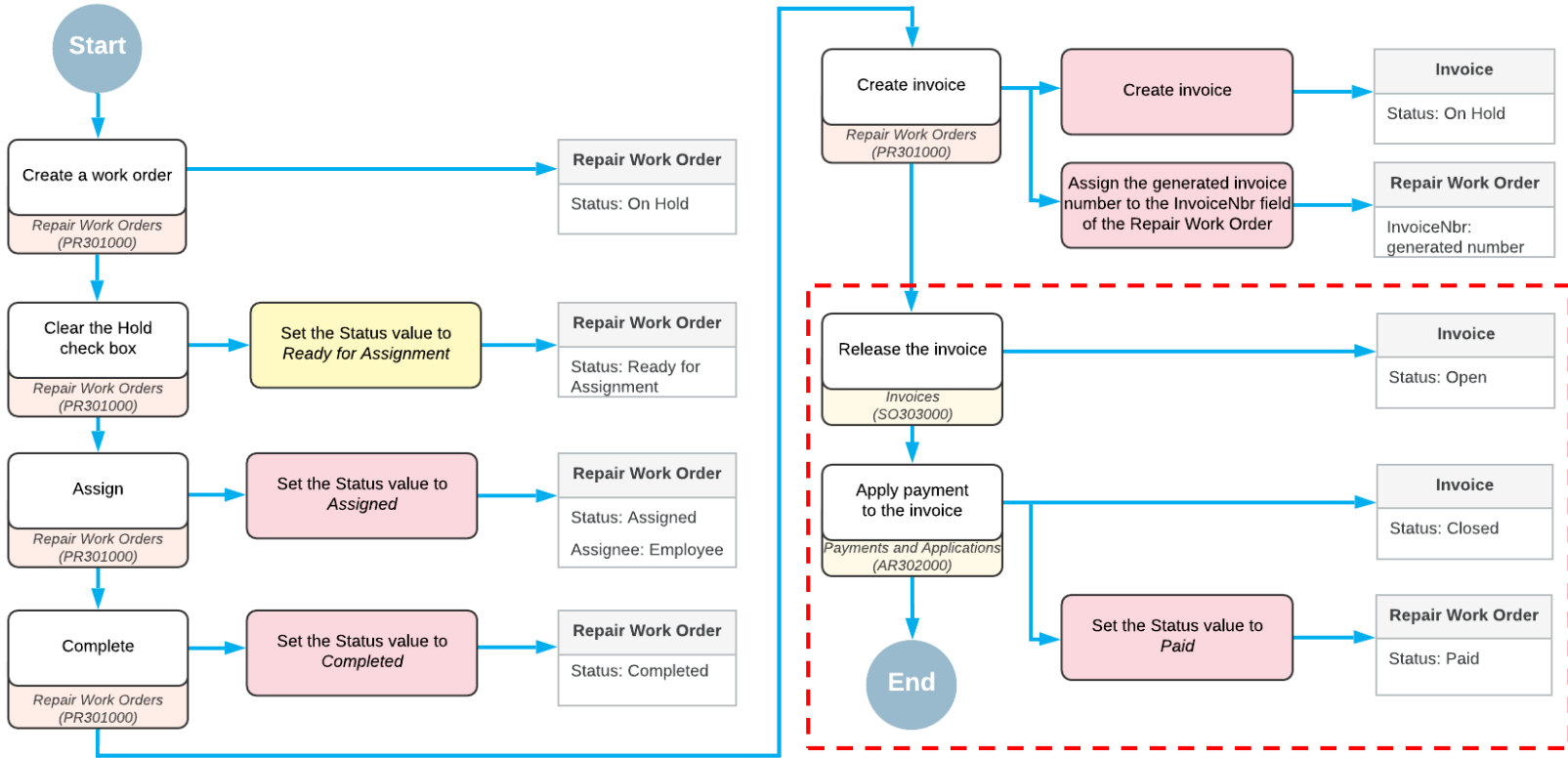
REPAIR ITEMS LABOR

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🗑️	🗑️	Repair Item Type	Inventory ID	Description	Price
>	🗑️	Battery	BAT3310	Battery for Nokia 3310	20.00
	🗑️	Back Cover	BCOV3310	Back cover for Nokia 3310	10.00

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Battery Replacement Service Workflow



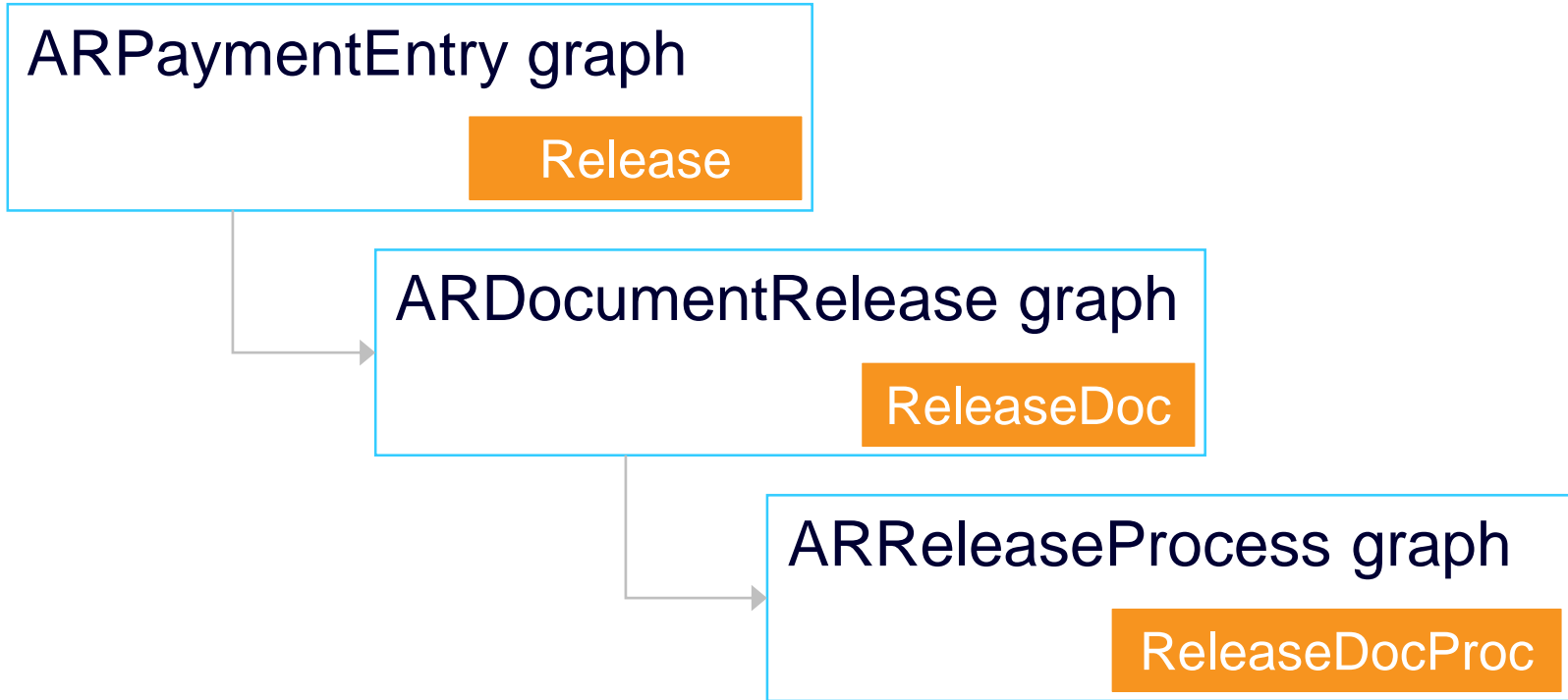
Lesson 1.5: Change the Status of a Work Order on Payment Release

Learning Objectives

As you complete this lesson, you will do the following:

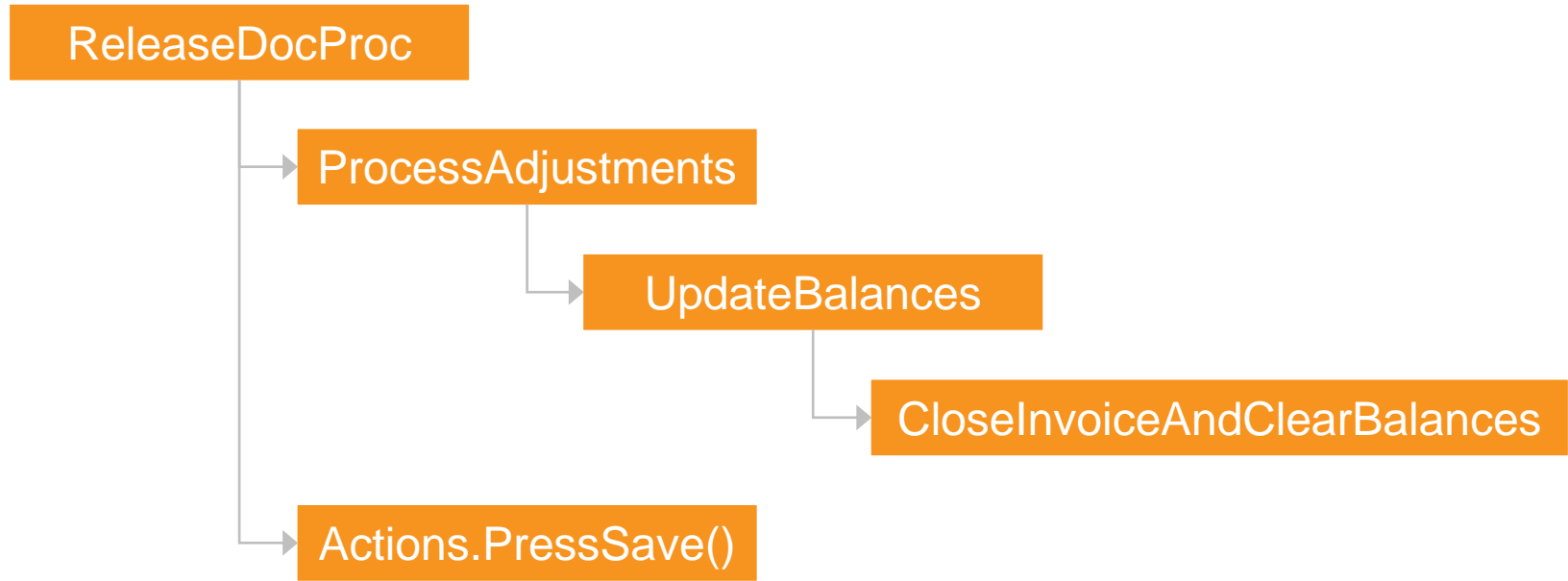
- Learn the principles of overriding methods in Acumatica Framework
- Explore the code of the **Release** button of the Payments and Applications form and find the method to override
- Learn how to debug the code of Acumatica ERP
- Override the found method

Customizing the Release Action



Customizing the Release Action

ARReleaseProcess graph



Overriding Methods in Acumatica Framework

Override method is added to the virtual method execution queue:

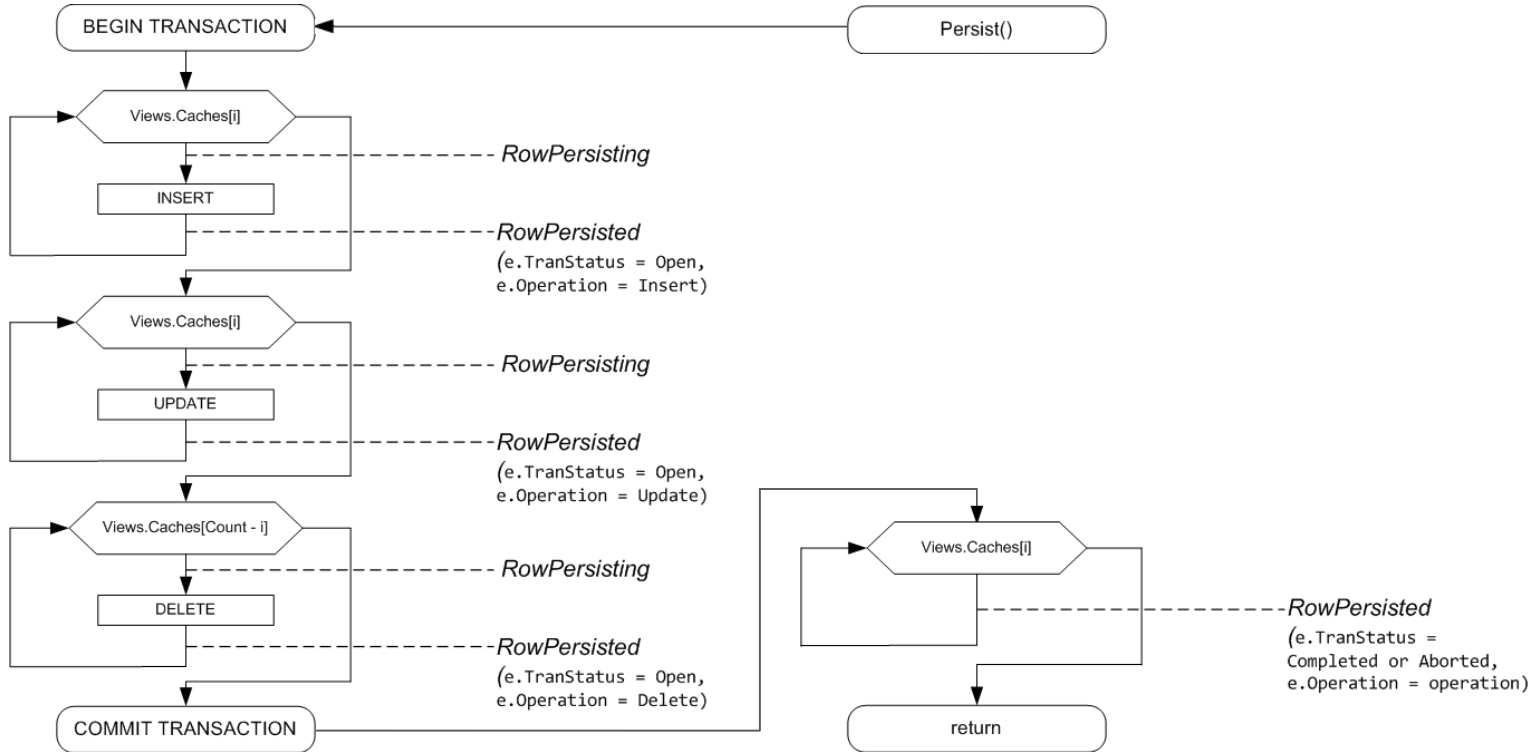
```
public class BaseBLC_Extension : PXGraphExtension<BaseBLC>
{
    [PXOverride]
    public void MyMethod([List of Parameters])
    {
        ...
    }
}
```

Overriding Methods in Acumatica Framework

Override method replaces the virtual method:

```
public class BaseBLC_Extension : PXGraphExtension<BaseBLC>
{
    public delegate ReturnType MyMethodDelegate([List of Parameters]);
    [PXOverride]
    public ReturnType MyMethod([List of Parameters,]
        MyMethodDelegate baseMethod)
    {
        return baseMethod?.Invoke([List of Parameters]);
    }
}
```

Saving Changes to the Database



The Paid status of the repair work

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS ▾

← SAVE & CLOSE 📄 ↶ + 🗑️ 📄 ▾ ⏪ < > ⏩ ASSIGN

* Order Nbr.:	<input type="text" value="000005"/>	Customer ID:	<input type="text" value="C000000001 - Jersey C"/>	Order Total:	<input type="text" value="35.00"/>
Status:	<input type="text" value="Paid"/>	Service:	<input type="text" value="Battery Replacement"/>	Invoice Nbr.:	<input type="text" value="INV000048"/>
* Date Created:	<input type="text" value="October 11"/>	Device:	<input type="text" value="Nokia 3310"/>		
Date Completed:	<input type="text" value="October 11"/>	Assignee:	<input type="text" value="EP00000001 - Andre"/>		
		Priority:	<input type="text" value="Medium"/>		
Description:	<input type="text"/>				

REPAIR ITEMS LABOR

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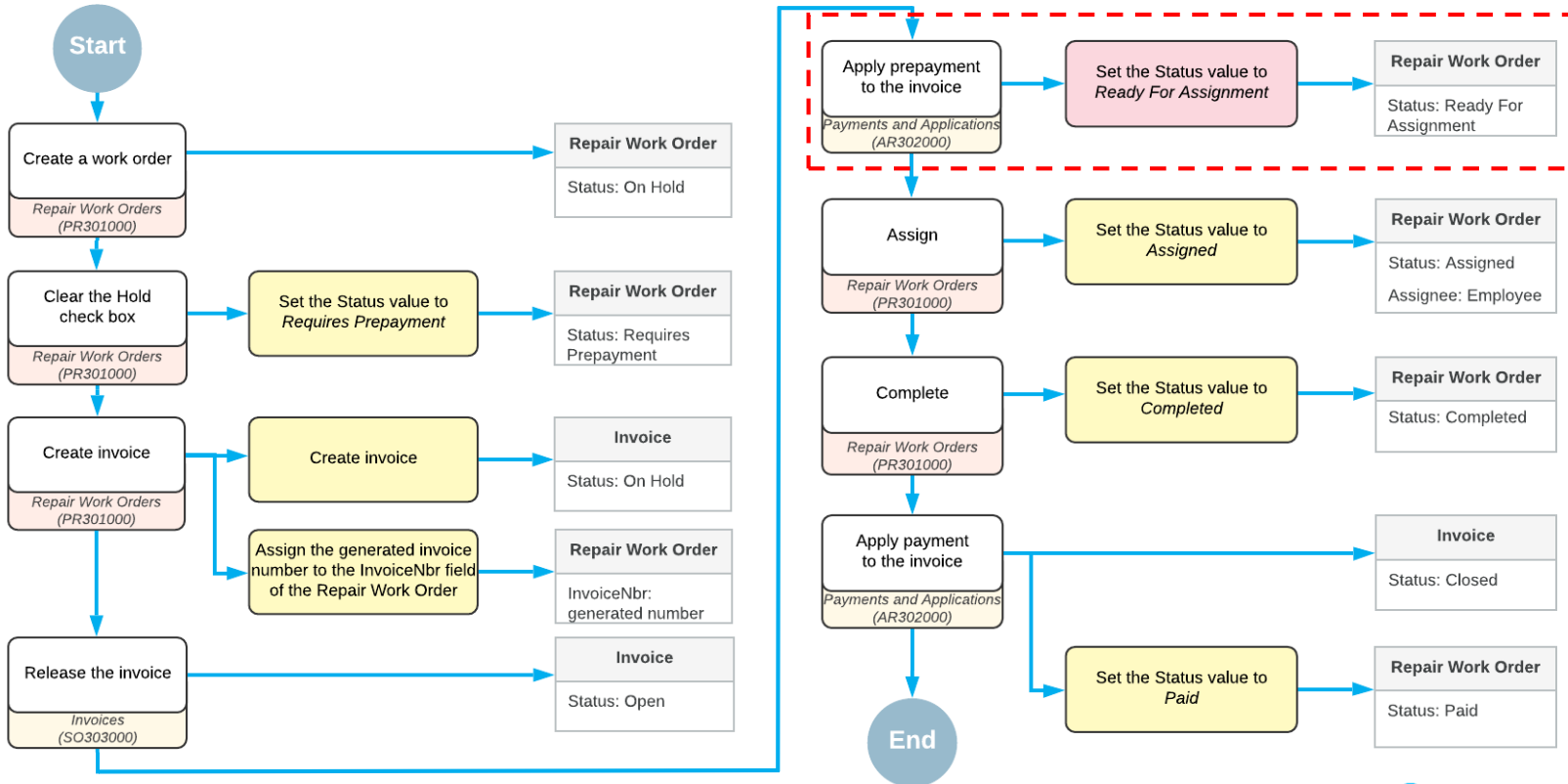
🗑️	🔍	☐	Repair Item Type	Inventory ID	Description	Price
>	🔍	☐	Battery	BAT3310	Battery for Nokia 3310	20.00
	🔍	☐	Back Cover	BCOV3310	Back cover for Nokia 3310	10.00

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Actions

Part 2: The Liquid Damage Service

Liquid Damage Service Workflow



Lesson 2.1: Derive the Value of a Custom Field from Another Entity

Learning Objectives

In this lesson, you will learn how to do derive the value for a custom field from another form.

The Prepayment Percent box on the Payments and Applications form

Payments and Applications

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

SAVE & CLOSE [Icons] RELEASE VOID ACTIONS INQUIRIES REPORTS

Type: **Payment** Customer: C000000001 - Jersey Central Office Equi Payment Amo... 50.00 Prepayment Perc... 5.00

Reference Nbr.: <NEW> Payment Meth... CHECK - Check Payment Applied to Doc... 3.00

Status: On Hold Card/Account ... Applied to Ord... 0.00

Hold New Card Available Bala... 47.00

* Application Date: 10/11/2019 * Cash Account: 102000-YOGI - Checking Account Write-Off Amo... 0.00

* Application Pe... 10-2019 Finance Charg... 0.00

* Payment Ref.: 000002 Deducted Cha... 0.00

Description:

DOCUMENTS TO APPLY APPLICATION HISTORY ORDERS TO APPLY FINANCIAL DETAILS APPROVAL DETAILS FINANCE CHARGES

LOAD DOCUMENTS AUTO APPLY [Icons]

Branch	Doc. Type	Reference Nbr.	Amount Paid	Cash Discount Taken	Write-Off Amount	Write-Off Reason Code	Date	Due Date	Cash Discount Date
YOGIFON	Invoice	INV000050	3.00	0.00	0.00		10/11/2019	11/10/2019	10/11/2019

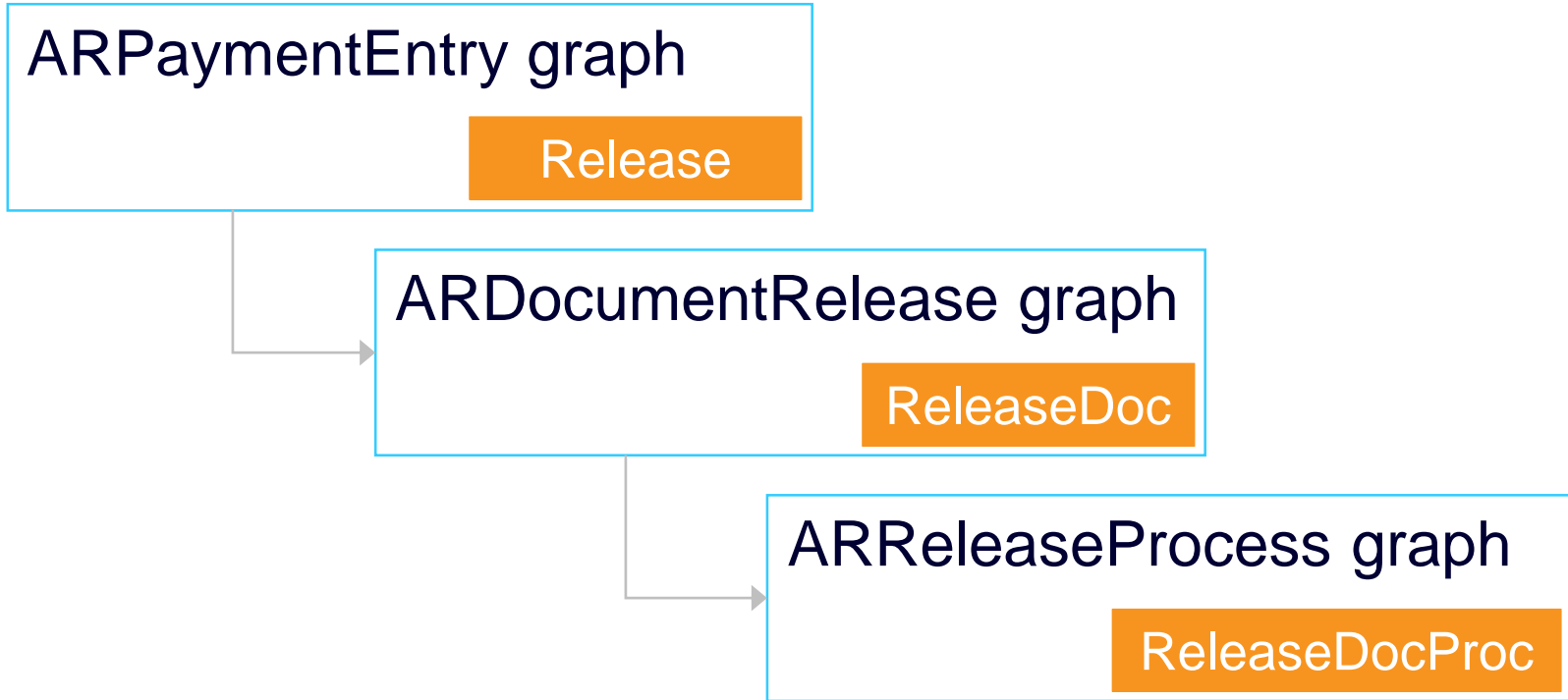
Lesson 2.2: Implement the Change of Status when a Prepayment Has Been Applied

Learning Objectives

As you complete this lesson, you will do the following:

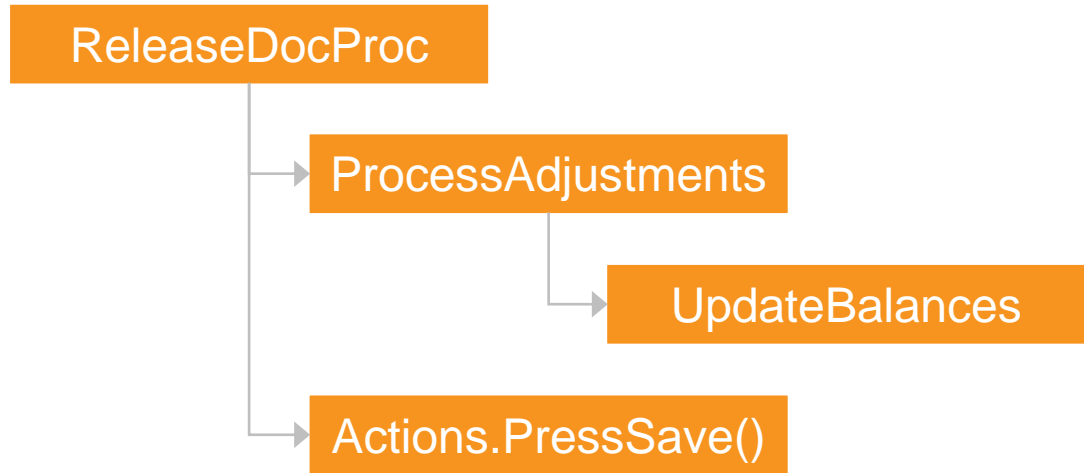
- Explore the code of the Release button of the Payments and Applications form and find the method to override
- Override the method you have found
- Configure the availability of the Create Invoice button on the Repair Work Orders form

Customizing the Release Action



Customizing the Release Action

ARReleaseProcess graph



The repair work order with the Ready for Assignment status

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS

SAVE & CLOSE + - < > ASSIGN

* Order Nbr.: Customer ID: Order Total:
Status: Service: Invoice Nbr.:
 Hold Device:
* Date Created: Assignee:
Date Completed: Priority:
Description:

REPAIR ITEMS LABOR

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Repair Item Type	Inventory ID	Description	Price
Battery	BAT3310	Battery for Nokia 3310	20.00
Battery	BAT3310EX	Extended Battery for Nokia 3310	30.00

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Lesson 2.3: Test the Workflow for the Liquid Damage Service Order

Learning Objectives

In this lesson, you will test the implemented workflow of the repair work order for the Liquid Damage service.

The Paid status of the repair work

Repair Work Orders

NOTES FILES CUSTOMIZATION TOOLS ▾

← SAVE & CLOSE 📄 ↶ + 🗑️ 📄 ▾ ⏪ < > ⏩ ASSIGN

* Order Nbr.:	<input type="text" value="000005"/>	Customer ID:	<input type="text" value="C000000001 - Jersey C"/>	Order Total:	<input type="text" value="35.00"/>
Status:	<input type="text" value="Paid"/>	Service:	<input type="text" value="Battery Replacement"/>	Invoice Nbr.:	<input type="text" value="INV000048"/>
* Date Created:	<input type="text" value="October 11"/>	Device:	<input type="text" value="Nokia 3310"/>		
Date Completed:	<input type="text" value="October 11"/>	Assignee:	<input type="text" value="EP00000001 - Andre"/>		
		Priority:	<input type="text" value="Medium"/>		
Description:	<input type="text"/>				

REPAIR ITEMS LABOR

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🗑️	🔍	☐	Repair Item Type	Inventory ID	Description	Price
>	🔍	☐	Battery	BAT3310	Battery for Nokia 3310	20.00
	🔍	☐	Back Cover	BCOV3310	Back cover for Nokia 3310	10.00

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Actions

Course Summary

Time for Q&A





Thank You

Ruslan Devyatko

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