

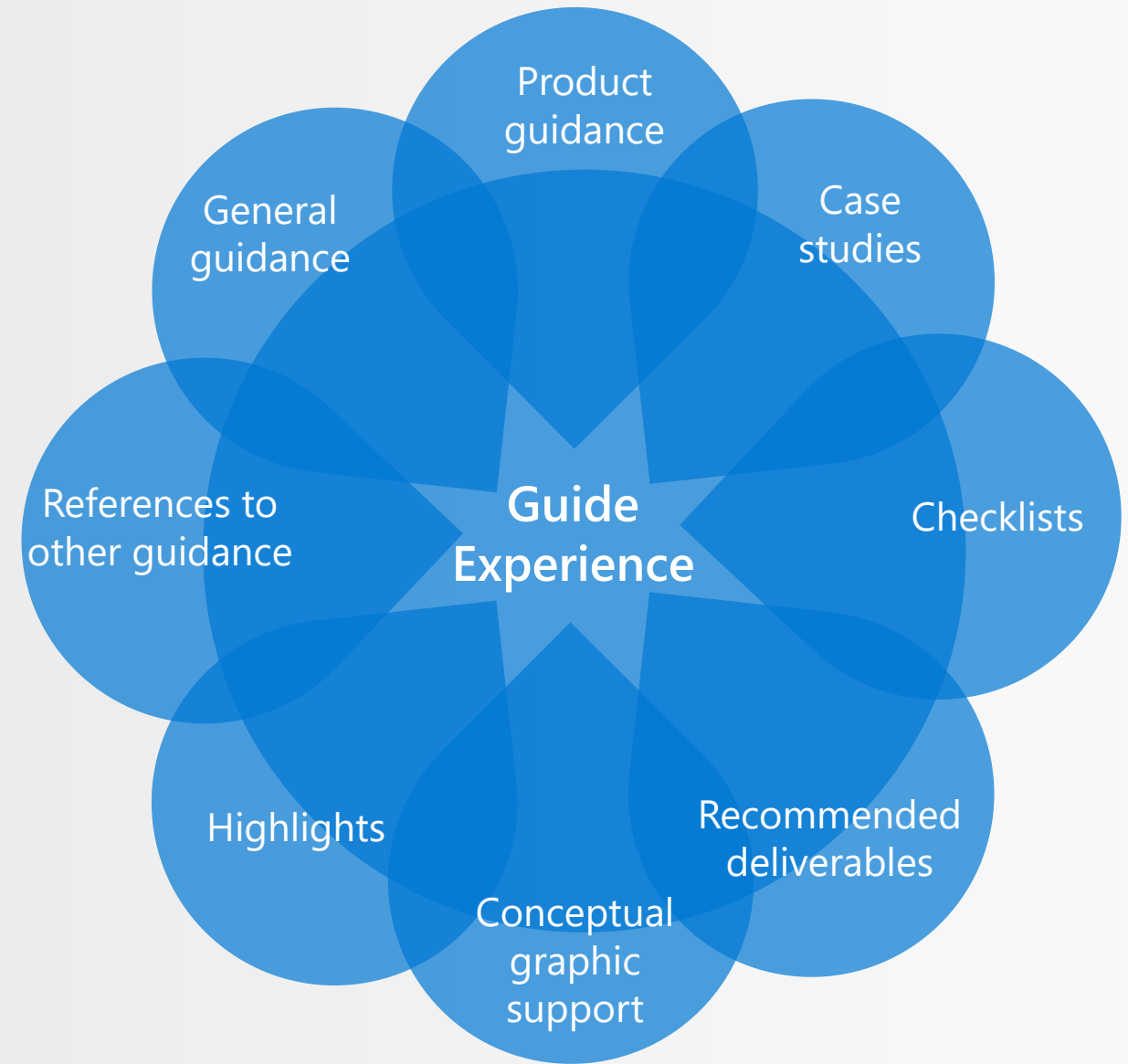
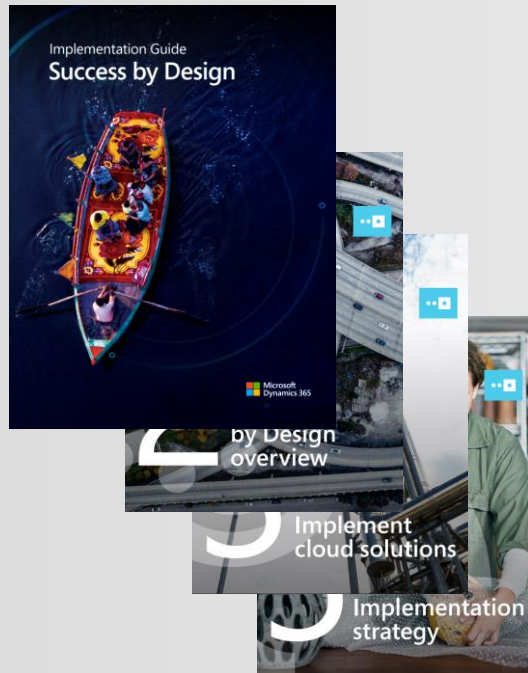
# Migrate POS Extension to the Commerce SDK

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# Dynamics 365 Implementation Guide

Collective experience gained through  
thousands of Dynamics 365 implementations



Available at: <https://aka.ms/d365implementationguide>



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# Agenda

- 
- ❑ Overview of POS Extension Migration process.
  - ❑ Changed and Unchanged Code Components for migration.
  - ❑ Migration and code sharing Deep dive.
  - ❑ Troubleshoot Extensions.
  - ❑ Session Takeaways
  - ❑ Q & A.

# **Migrate to Commerce SDK**

# Why?

## Benefits

- ❑ Seamless update experience.
- ❑ Improved performance using the new ASP. Net Core 3.1.
- ❑ Sample Extensions are published to GitHub
- ❑ The new Sealed installers are headless.
- ❑ Automated packaging and configuration of extensions.
- ❑ Improved build times.
- ❑ Improved Dev experience, using VS Code for CSU extensions.

# Timeline

Retail SDK will be deprecated on Oct 2022.

- ❑ Extension can continue to use Retail SDK and deploy the extension package generated in Retail SDK till Oct 2022.
- ❑ After Oct 2022, only Commerce SDK will be published and supported for extension deployment.

# Prerequisites

## Local Development Environment

- ❑ Setup up Commerce in LCS Development Environment - [Dynamics365Commerce.ScaleUnit/src/ScaleUnitSample at release/9.33 · microsoft/Dynamics365Commerce.ScaleUnit \(github.com\)](https://github.com/microsoft/Dynamics365Commerce.ScaleUnit/tree/release/9.33)
  - ❑ This includes channel database with demo data or setup a full local development environment with Async client for data synchronization.
- ❑ POS - <https://docs.microsoft.com/en-us/dynamics365/commerce/dev-itpro/pos-extension/pos-extension-getting-started#set-up-the-pos-development-environment>

## Commerce SDK

- ❑ Packages – Public feed  
[https://pkgs.dev.azure.com/commerce-partner/Registry/\\_packaging/dynamics365-commerce/nuget/v3/index.json](https://pkgs.dev.azure.com/commerce-partner/Registry/_packaging/dynamics365-commerce/nuget/v3/index.json)
- ❑ Samples - GitHub  
[microsoft/Dynamics365Commerce.ScaleUnit: Repository for hosting the Dynamics 365 Commerce ScaleUnit Samples \(github.com\)](https://github.com/microsoft/Dynamics365Commerce.ScaleUnit)  
[microsoft/Dynamics365Commerce.InStore: Repository for hosting the Dynamics 365 Commerce in store Samples \(github.com\)](https://github.com/microsoft/Dynamics365Commerce.InStore)

# Sealed Installers

## Published in LCS

<https://lcs.dynamics.com/V2/SharedAssetLibrary>

## Prerequisites

- Uninstall the legacy installers.
- Deploy the new installer and Activate the app.

### Select asset type

- Asset type
- Business database
- Commerce Cloud Scale Unit Extension
- Configuration
- Cortana intelligence application
- Data package
- Database backup
- Deployment
- Downloadable VHD
- Dynamics 365 Retail SDK
- e-Commerce package
- GER Configuration
- Localized financial report
- Localized financial report 2012
- Marketing asset
- Model
- Model database
- Model store
- Nuget package
- Power BI report model
- Retail Self-service package (80)

### Retail Self-service package files

+ 🗑️ ✎️ 🔄 PUBLISH VERSIONS

✓	Name	Valid	Version	Scope	
	10.0.22 - Commerce Scale Unit	✓	2	Global	
	10.0.21 - Real-time Service for Dynamics AX 2012 R3	✓	2	Global	
	10.0.22 - Hardware Station (SEALED)	✓	1	Global	
	10.0.22 - Commerce Scale Unit (SEALED)	✓	1	Global	
	10.0.21 - Real-time Service for Dynamics AX 2012	✓	1	Global	
	10.0.22 - Modern POS (SEALED)	✓	2	Global	
	10.0.21 - Modern POS (SEALED)	✓	2	Global	
	10.0.21 - Commerce Scale Unit (SEALED)	✓	2	Global	
	10.0.21 - Hardware Station (SEALED)	✓	1	Global	
	10.0.21 - Commerce Peripheral Simulator	✓	1	Global	
	10.0.19 - Commerce Scale Unit (SEALED)	✓	2	Global	
	10.0.20 - Commerce Scale Unit (SEALED)	✓	2	Global	
	10.0.20 - Modern POS (SEALED)	✓	1	Global	
	10.0.20 - Hardware Station (SEALED)	✓	1	Global	
	10.0.19 - Modern POS (SEALED)	✓	1	Global	
	10.0.19 - Hardware Station (SEALED)	✓	1	Global	
	10.0.18 - Modern POS (SEALED)	✓	1	Global	
	10.0.18 - Hardware Station (SEALED)	✓	1	Global	
	10.0.13 - Async Server Connector Service	✓	1	Global	



# Migrate to the Commerce SDK

<https://docs.microsoft.com/en-us/dynamics365/commerce/dev-itpro/retail-sdk/migrate-commerce-sdk>

## Commerce and Retail SDK

Component	Commerce SDK	Retail SDK
Samples	Samples are published on GitHub.	Samples are published in the \Sample extension folder in the Retail SDK.
Packages or reference libraries	Packages are published to the public feed and can be consumed via NuGet.	Reference libraries and packages that are required for Commerce development are available in the /Pkgs folder in the Retail SDK.
Deployable packages	Cloud Scale unit package and separate installers for extensions.	Combined Retail deployable package.
Updates	To update the extensions, consume the latest package that is available in the public feed	Updates must be done from LCS. The LCS update process must be followed.

# Migrate to the Commerce SDK

## CRT and API extensions

- Updated the project to .NET standard 2.0
- Edit the project file to consume from the public feed.
- For API extend from IController and EDMMODEL implementation is not required.

## Channel Database:

- No changes required but packaged part of the Cloud Scale unit extensions and installers.

## Hardware Station:

- Extend from IController

# Migrate to the Commerce SDK

## POS SDK

Component	Commerce SDK
POS app and Extension project	No POS app or extension project, samples templates available in GitHub to create extension
POS API	Removed reference to knockout.js, Pos.UI.Sdk library is obsolete. Instead use POSApi/Consume/Controls.
Deployable packages	Separate extension installer for MPOS and CPOS is packaged part of Cloud Scale unit and Scale unit installer.

# Migrate to the Commerce SDK

POS Extension migration – No Code changes required.

Extension components
POS Operations
Triggers
Request handlers
Consume APIs
View extensions (If you consumed POS UI SDK, then code is required).
Custom Dialogs
Custom controls

# Migrate to the Commerce SDK

## POS Extension migration

Extension components	Code changes
POS Controls - Pos.Ui.Sdk	Pos.Ui.Sdk library is obsolete. Instead use POSApi/Consume/Controls.
Knockout.js	Removed reference to knockout.js, there is no global ko object, use your own third-party library.
Custom view	Extend from CustomViewControllerBase instead of ExtensionViewControllerBase, Header and Navigation bar are visible by default.
Load Extension using the CRT trigger	Instead of extension.json, implement the CRT GetExtensionPackageDefinitionsRequest trigger.

# Migrate to the Commerce SDK

## POS Code migration

Projects	Type	Description
POS Extensions	csproj	Sample project contains all the POS extensions.  This project will be shared between Cloud POS and Modern POS.
Modern POS	jsproj	Sample project to generate the POS appx, proxy and Commerce runtime settings, and sign the appx.
Modern POS Installer	csproj	Sample project to generate the installer.
Scale unit	csproj	Sample project to generate the Cloud POS deployment package for Cloud Scale unit.

# **Sample Extension Code Migration Walkthrough.**

# Migrate to Commerce Sdk with continued Retail Sdk support

- Why?
  - Not all customers will switch to Commerce SDK at once
    - ~6 month period ISV solutions may need to support both models
  - Enable customers to migrate CSU extensions first & MPOS second
  - Enable continued updates through the Retail SDK while migration is in progress





# How to support Commerce & Retail Sdks

## One Approach

- Create a Commerce Sdk folder/solution in the same repo as the Retail Sdk solution
- Retail Sdk & Commerce Sdk solutions have separate folder structure
  - No references from the Commerce Sdk to the Retail Sdk
- Source files are moved to the Commerce Sdk solution/folders
- Retail Sdk solution links to the new location in the Commerce Sdk folder

## Benefits

- No code duplication between Retail Sdk & Commerce Sdk
- Migrating components in order
- Enable easy deletion of Retail SDK in the future

# Migrating the Store Hours Sample

1

Update the Store Hours Repo to add the folder/project structure for the Commerce Sdk solution

2

Move the Commerce Runtime, Retail Server & Channel Database Extensions to the Commerce Sdk

3

Move the POS Extensions to the Commerce Sdk

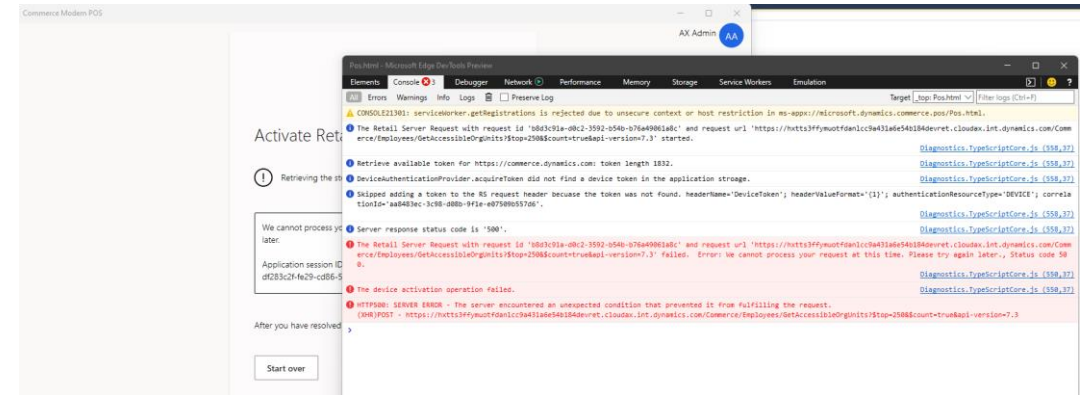
4

Create Installer & Packaging Projects in Commerce Sdk

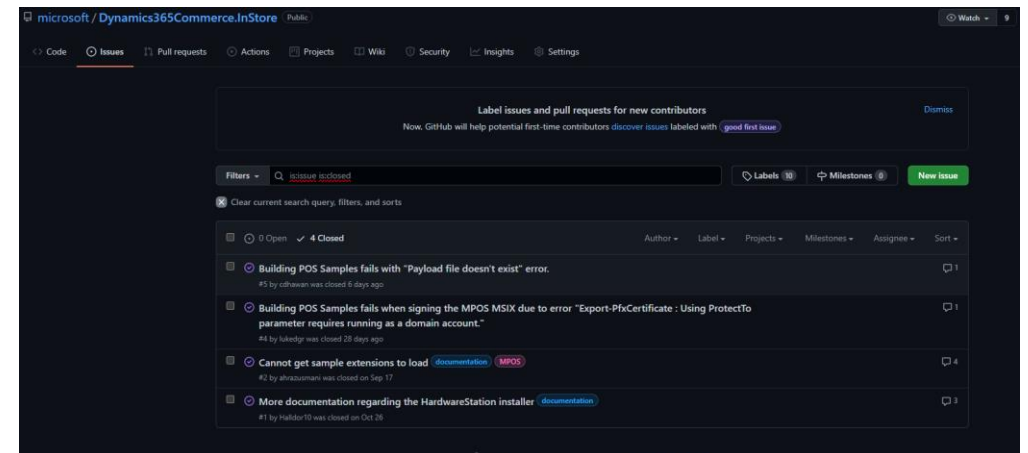
# Troubleshoot Extensions

# Troubleshoot Extensions

- ❑ Use JavaScript Console.
- ❑ Extensions Packages not showing/loading in the settings view
  - ❑ Validate CRT Trigger implementation.
  - ❑ Manifest formatting.
- ❑ Windows compatibility issue
  - ❑ Packages not supported in UWP app.
- ❑ Use GitHub to report and search issues.
  - ❑ Not able to compile the sample project in GitHub because of the Certificate issue.



```
    {  
        return new[] { typeof(GetExtensionPackageDefinitionsRequest) };  
    }  
  
    /// <summary>  
    /// Post trigger to retrieve extension package.  
    /// </summary>  
    /// <param name="request">The request.</param>  
    /// <param name="response">The response.</param>  
    1 reference | Dynamics 365 Commerce, 232 days ago | 1 author, 1 change  
    public void OnExecuted(Request request, Response response)  
    {  
        ThrowIf.Null(request, "request");  
        ThrowIf.Null(response, "response");  
  
        var getExtensionsResponse = (GetExtensionPackageDefinitionsResponse)response;  
        var extensionPackageDefinition = new ExtensionPackageDefinition();  
  
        // Should match the PackageName used when packaging the customization package (i.e. in CustomizationPackage.props).  
        extensionPackageDefinition.Name = "Contoso.Commerce";  
        extensionPackageDefinition.Publisher = "Contoso";  
        extensionPackageDefinition.IsEnabled = true;  
    }  
}
```



# Key Takeaways

- ❑ Retail SDK is getting deprecated in Oct 2022.
- ❑ Code sharing between Retail SDK and Commerce SDK.
- ❑ Sealed installers.
- ❑ GitHub issues.

# Upcoming Tech talks

Tech talk title	Date		Persona
Deep dive on Commerce Extension packaging and Azure DevOps Build pipeline setup.	Dec 14 <sup>th</sup> , 2021	Learn how to package Commerce extension using the Commerce SDK and setup Azure DevOps build pipeline to build and generate packages for the Commerce extensions.	Developer, Technical consultant and Architect.
Hardware Station Extension deep dive with the Commerce SDK	Jan 12 <sup>th</sup> or 13 <sup>th</sup> TBD	Deep dive on how to customize the Hardware station (HWS) to integrate with Payment terminal or hardware device with Commerce SDK.	Developer, Technical consultant and Architect.
Migrate Commerce Runtime and Headless Commerce (Retail Server) extension to the Commerce SDK	Jan 26 <sup>th</sup> or 27 <sup>th</sup> TBD	Learn how to migrate the Commerce runtime and Headless Commerce extension to the Commerce SDK.	Developer, Technical consultant and Architect.

# Q & A

