



COSMO CONSULT

Business-Software für Menschen

Microsoft AL Application Lifecycle



VS Code

Useful Extensions

- > [AL Formatter](#)
- > [AL Code Outline](#)
- > [AL Object Designer](#)
- > [CRS AL Language Extension](#)
- > [JSON5 syntax](#)
- > [AL Runner](#)
- > [REST Client](#)
- > [VS Live Share](#)
- > [Visual Studio Live Share Extension Pack](#)
- > [Visual Studio IntelliCode](#)

AL

Object Designer

6316 objects

Search

Search for objects

All

Workspace

Events

Tables

Table Ext.

Pages

Page Ext.

Reports

Page Cust.

Codeunits

Control Add.

Queries

Enums

XmlPorts

Profiles

Refresh

+ New Object

+ New Dictionary

+ New Entry Table

TYPE	ID	NAME	APPLICATION	VERSION	PUBLISHER
Table	3	Payment Terms	Application	14.0.27306.0	Microsoft
Table	4	Currency	Application	14.0.27306.0	Microsoft
Table	5	Finance Charge Terms	Application	14.0.27306.0	Microsoft
Table	6	Customer Price Group	Application	14.0.27306.0	Microsoft
Table	7	Standard Text	Application	14.0.27306.0	Microsoft
Table	8	Language	Application	14.0.27306.0	Microsoft
Table	9	Country/Region	Application	14.0.27306.0	Microsoft
Table	10	Shipment Method	Application	14.0.27306.0	Microsoft
Table	11	Country/Region Translation	Application	14.0.27306.0	Microsoft



Application Lifecycle

> Overview

- > Publish
- > Install
- > Uninstall
- > Unpublish

> Reinstall and Upgrade

> Application Dependencies

> Hand On





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App Lifecycle – Installation



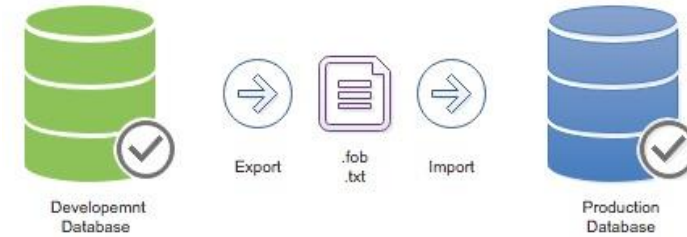
Business Central Installation Process

[Sources]

Dmitry Katson - Demystifying installation process for Business Central Apps

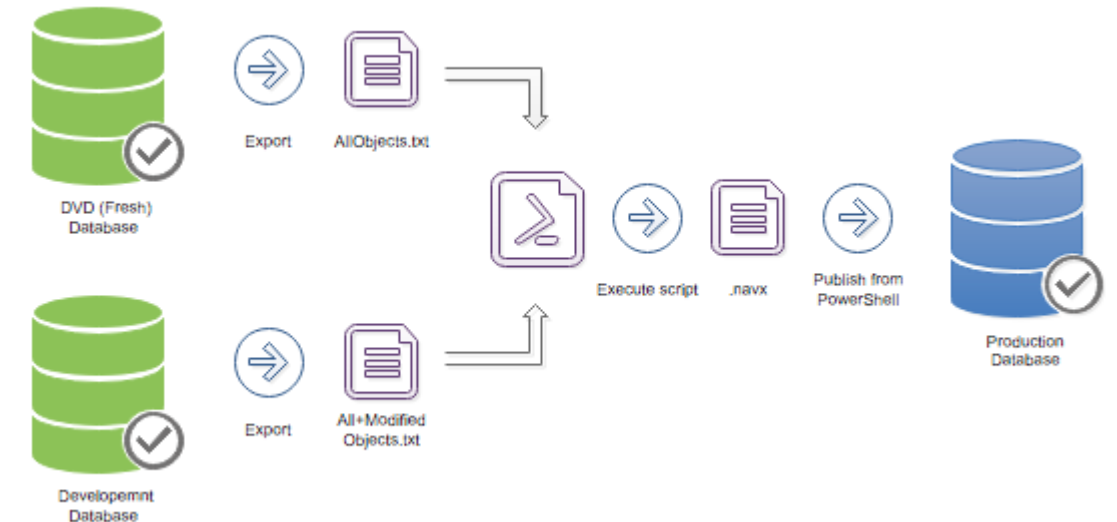
➤ Old classic customizations "installation" approach

- Export sources
- Merge sources into new version
- Import sources



➤ Extensions 1.0

- Export Original sources
- create Delta-Files by PowerShell (Delta = Modified – Original)
- Create App (.navx) with PowerShell (Manifest)
- Publish App



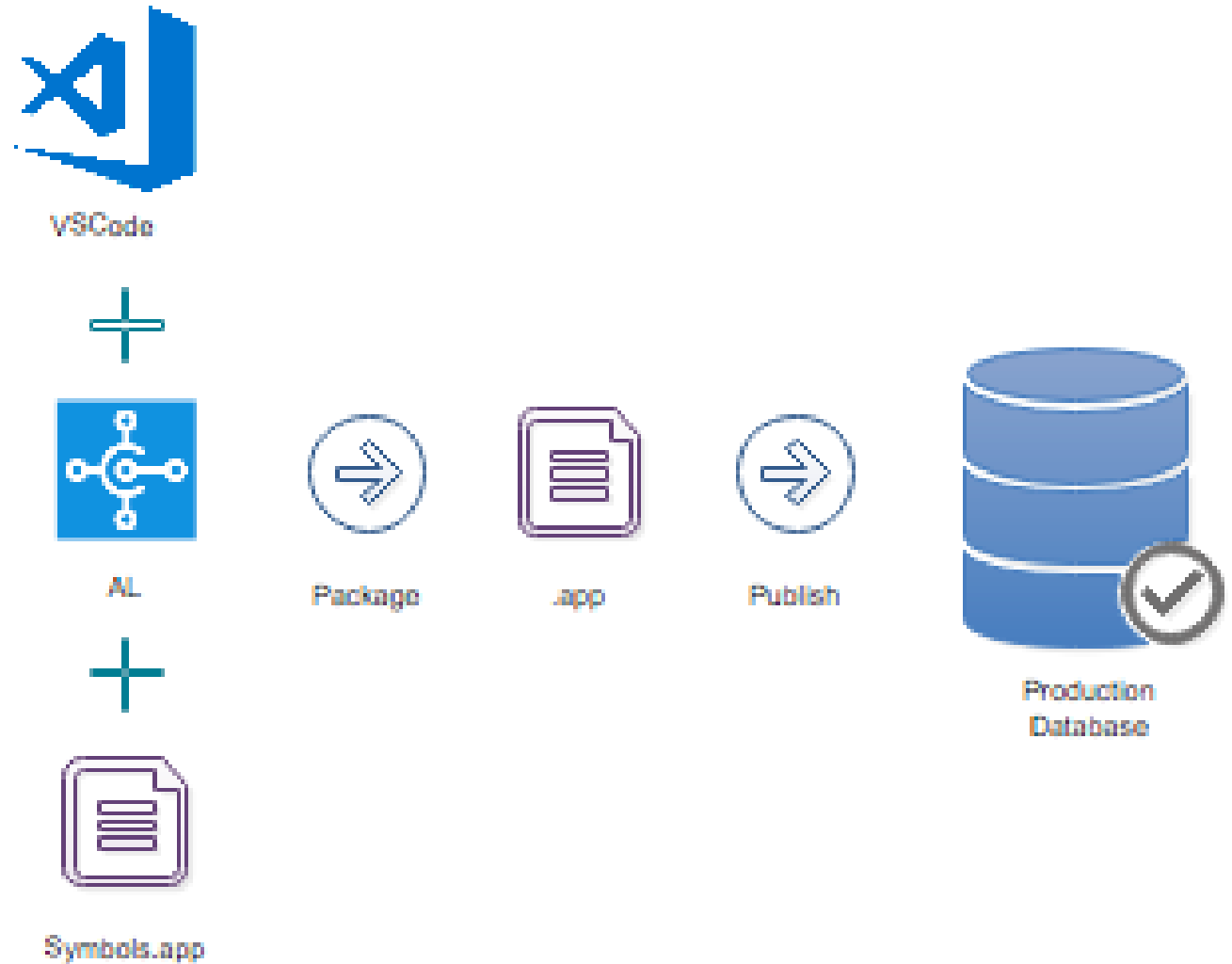
Business Central Installation Process

[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps](#)

➤ Extensions 2.0

- Download Symbols
- Compile App (local Sources)
➔ .app
- Optional sign the App with certificate
- Publish the App



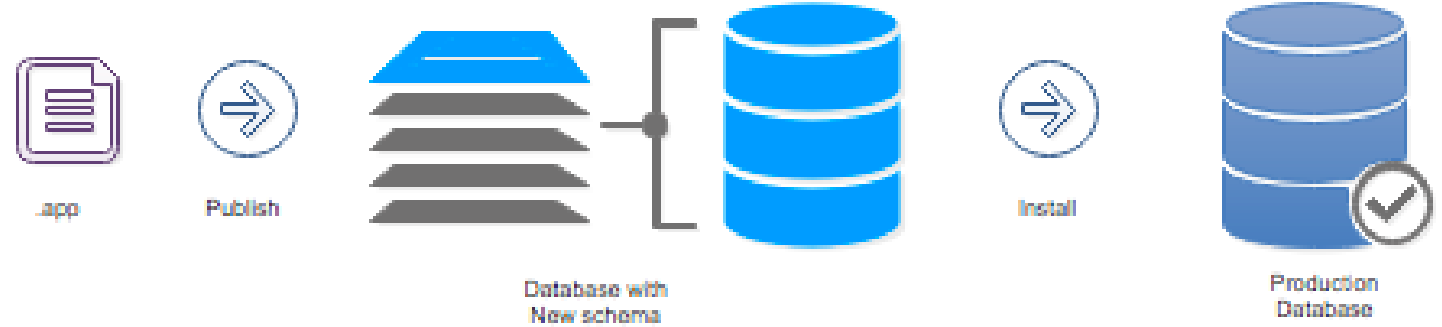
Business Central Installation Process

[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps](#)

➤ Installation of Extensions 2.0

- Download Symbols
- Compile App (local Sources)
➔ .app
- Optional sign the App with certificate
- Publish the App



Business Central

Install and Upgrade Codeunits

➤ Install Codeunit *Subtype=Install;*

- An extension is installed for the **very first time**.
- An uninstalled version is **installed again**.

➤ Upgrade Codeunit *Subtype=Upgrade;*

- “An upgrade codeunit includes AL methods for *synchronizing changes to a table definition in an application with the business data table in SQL Server and migrating existing data.*”

```
codeunit 50110 "Install Logging [CC]"
{
    Subtype = Install;

    trigger OnInstallAppPerDatabase()
    begin
        AddMessageToOurTable('OnInstallAppPerDatabase');
    end;

    trigger OnInstallAppPerCompany()
    begin
        AddMessageToOurTable('OnInstallAppPerCompany');
    end;

    2 references
    local procedure AddMessageToOurTable(MessageFromTrigger: Text)
    var
        CheckInstallProcess: Record "Install Process Details [CC]";
    begin
        CheckInstallProcess.InsertRecord(MessageFromTrigger);
    end;
}
```

```
codeunit 50111 "Upgrade Logging [CC]"
{
    Subtype = Upgrade;

    trigger OnCheckPreconditionsPerDatabase()
    begin
        AddMessageToOurTable('OnCheckPreconditionsPerDatabase');
    end;

    trigger OnCheckPreconditionsPerCompany()
    begin
        AddMessageToOurTable('OnCheckPreconditionsPerCompany');
    end;

    trigger OnUpgradePerDatabase()
    begin
        AddMessageToOurTable('OnUpgradePerDatabase');
    end;

    trigger OnUpgradePerCompany()
    begin
        AddMessageToOurTable('OnUpgradePerCompany');
    end;

    trigger OnValidateUpgradePerDatabase()
    begin
        AddMessageToOurTable('OnValidateUpgradePerDatabase');
    end;

    trigger OnValidateUpgradePerCompany()
    begin
        AddMessageToOurTable('OnValidateUpgradePerCompany');
    end;

    6 references
    local procedure AddMessageToOurTable(MessageFromTrigger: Text)
    var
        CheckInstallProcess: Record "Install Process Details [CC]";
    begin
        CheckInstallProcess.InsertRecord(MessageFromTrigger);
    end;
}
```

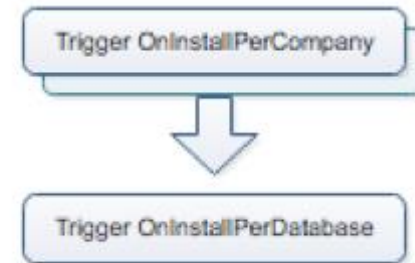

Business Central *Install App – First Time*



➤ Container Sandbox (used for Local Development)

```
VSCode > AL:Publish without debugging (Ctrl+F5)
```

```
PSScript> Publish-NavContainerApp `
    -containerName $containername `
    -appFile $appfilename `
    -install `
    -skipVerification `
    -sync `
    -tenant $tenant
```



➤ Online Sandbox

```
VSCode > AL:Publish without debugging (Ctrl+F5)
```

➤ Online Business Central Production Tenant

```
Web client > Extensions Page >Upload .app file
```



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Hands On



Business Central

Hands-On

➤ Prerequisites

- Connect to your Workshop VM → use Instructions on your Workshop Boarding Pass
- Use the “**Starter-01**” project of your Workshop Material for “**Application Lifecycle**”

➤ Hand On - Tasks

- Create an Install Codeunit
- Create an Upgrade Codeunit
- Install the App and check the results

Business Central

Hands-On

- Use Table “Install Process Details [CC]” ... ID: “50110”
- Complete the method “InsertRecord”
 - Store the message
 - Get and Store version information
 - Get and Store company information
 - Use “ModuleInfo” and “AppInfo”
 - Don’t forget the Timestamp 😊

```
2 references
procedure InsertRecord(MessageFromTrigger: Text)
var
    AppInfo: ModuleInfo;
begin
    NavApp.GetCurrentModuleInfo(AppInfo);
    Init();
    "Trigger" := MessageFromTrigger;
    "Company Name" := CompanyName();
    "Version Installing" := Format(AppInfo.AppVersion());
    "Version Installed" := Format(AppInfo.DataVersion());
    Insert();
end;
}
```

Business Central

Hands-On

- Codeunit "Install Logging [CC]" ... ID: "50110"
 - Create the Codeunit
 - Subtype: **Install**
 - Implement all triggers and Call the prepared method on table "Install Process Details [CC]"

```
codeunit 50110 "Install Logging [CC]"
{
    Subtype = Install;

    trigger OnInstallAppPerDatabase()
    begin
        AddMessageToOurTable('OnInstallAppPerDatabase');
    end;

    trigger OnInstallAppPerCompany()
    begin
        AddMessageToOurTable('OnInstallAppPerCompany');
    end;

    2 references
    local procedure AddMessageToOurTable(MessageFromTrigger: Text)
    var
        CheckInstallProcess: Record "Install Process Details [CC]";
    begin
        CheckInstallProcess.InsertRecord(MessageFromTrigger);
    end;
}
```

Business Central *Hands-On*

- Codeunit “Upgrade Logging [CC]” ... ID: “50111”
 - Create the Codeunit
 - Subtype: **Upgrade**
 - Implement all triggers and Call the prepared method on table “Install Process Details [CC]”

```
codeunit 50111 "Upgrade Logging [CC]"
{
    Subtype = Upgrade;

    trigger OnCheckPreconditionsPerDatabase()
    begin
        AddMessageToOurTable('OnCheckPreconditionsPerDatabase');
    end;

    trigger OnCheckPreconditionsPerCompany()
    begin
        AddMessageToOurTable('OnCheckPreconditionsPerCompany');
    end;

    trigger OnUpgradePerDatabase()
    begin
        AddMessageToOurTable('OnUpgradePerDatabase');
    end;

    trigger OnUpgradePerCompany()
    begin
        AddMessageToOurTable('OnUpgradePerCompany');
    end;

    trigger OnValidateUpgradePerDatabase()
    begin
        AddMessageToOurTable('OnValidateUpgradePerDatabase');
    end;
}
```


Business Central Hands-On

- Check your “launch.json”
 - Update Mode: Synchronize
- Install the App in your Development Environment (several times) 😊
 - VS Code > [Ctrl + F5]
- Check the Result in Web Client
 - Open Page „Install Process Details List“
 - Check the Information
- Switch Update Mode to **Recreate** and run again
 - Check what happens!

```
"startupObjectId": 50110,  
"startupObjectType": "Page",  
"schemaUpdateMode": "Synchronize",  
"breakOnError": false,  
"launchBrowser": true
```

CRONUS USA, Inc.					
Finance Cash Management Sales Purchasing Setup & Extensions Intelligent Cloud Insights					
Install Process Details List: Search + New Manage Open in Excel					
INSTALLATION TIME	COMPANY NAME	TRIGGER	VERSION INSTALLING	VERSION INSTALLED	
1/29/2019 3:52 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	0.0.0.0	
1/29/2019 3:52 PM	My Company	OnInstallAppPerCompany	1.0.0.0	0.0.0.0	
1/29/2019 3:52 PM		OnInstallAppPerDatabase	1.0.0.0	0.0.0.0	
1/29/2019 3:53 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	1.0.0.0	
1/29/2019 3:53 PM	My Company	OnInstallAppPerCompany	1.0.0.0	1.0.0.0	
1/29/2019 3:53 PM		OnInstallAppPerDatabase	1.0.0.0	1.0.0.0	



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App Lifecycle – Upgrade



Business Central Upgrading an App

[Sources]

Dmitry Katson - Demystifying upgrade process for Business Central Apps

➤ Preparation

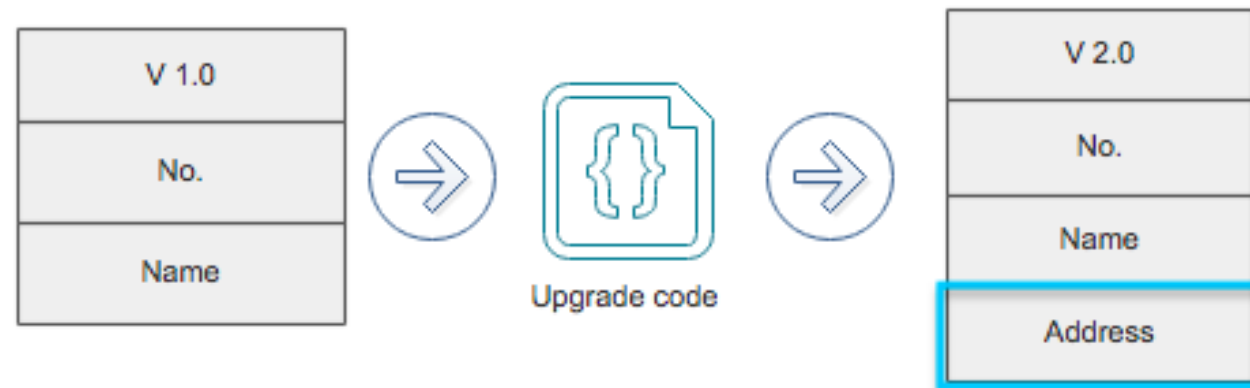
- What app version is already installed?
- What app version is installing?

➤ Reasons for Upgrades

- Improved or new functionality
- *changes on tables*
- *Correction of data*

➤ How to Upgrade?

- Increase the version number in “app.json”
- Add an Upgrade Codeunit to handle some changes in Triggers
- Check the Versions numbers in the Upgrade Process



```
{  
  "id": "4eed11d1-ae52-43bc-a64a-a32d3c91f958",  
  "name": "Application-Lifecycle",  
  "publisher": "COSMO CONSULT Dresden GmbH",  
  "brief": "Application-Lifecycle-Demo",  
  "description": "This example is used to understand",  
  "version": "2.0.0.0",  
  "privacyStatement": "",  
  "EULA": "",  
}
```

```
procedure GetInstallingVersionNo(): Text  
var  
    AppInfo: ModuleInfo;  
begin  
    NavApp.GetCurrentModuleInfo(AppInfo);  
    exit(FORMAT(AppInfo.AppVersion()));  
end;  
  
1 reference  
procedure GetCurrentlyInstalledVersionNo(): Text  
var  
    AppInfo: ModuleInfo;  
begin  
    NavApp.GetCurrentModuleInfo(AppInfo);  
    exit(FORMAT(AppInfo.DataVersion()));  
end;
```


Business Central Upgrading an App

[Sources]

[Dmitry Katson](#) - [Demystifying upgrade process for Business Central Apps](#)

- Changes in our App
 - Table Extension with additional fields
- Upgrade Codeunit – Triggers
 - Check Pre Conditions
 - Validate Upgrade
 - Execute the Upgrade

```
tableextension 50110 "Customer Ext. [CC]" extends Customer
{
    fields
    {
        1 reference
        field(50110; "New Address"; Text[50]) { }
    }
}
```

- Prepare the Upgrade

```
local procedure PopulateNewAddressField()
var
    Customer: Record Customer;
begin
    With Customer do begin
        if FindSet() then
            repeat
                "New Address" := 'some value';
                Modify;
            until next = 0;
        end;
    end;
end;
```

```
// Upgrade Triggers - per Database
trigger OnCheckPreconditionsPerDatabase()
begin
end;
```

```
trigger OnValidateUpgradePerDatabase()
begin
end;
```

```
trigger OnUpgradePerDatabase()
begin
end;
```

```
// Upgrade Triggers - per Company
trigger OnCheckPreconditionsPerCompany()
begin
end;
```

```
trigger OnValidateUpgradePerCompany()
begin
end;
```

```
trigger OnUpgradePerCompany()
begin
end;
```

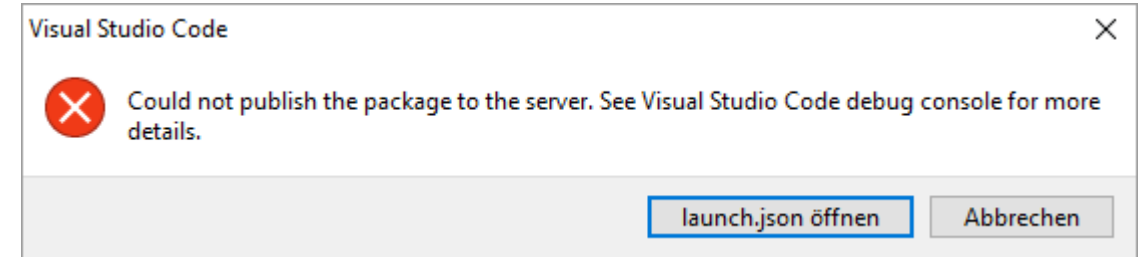
Business Central Upgrading an App

[Sources]

Dmitry Katson - Demystifying upgrade process for Business Central Apps

➤ Deploying the Upgrade / Running from VS Code Upgrade

- [Ctrl + F5] or [F5] → Error
- BUT ... App is Published & Not Installed

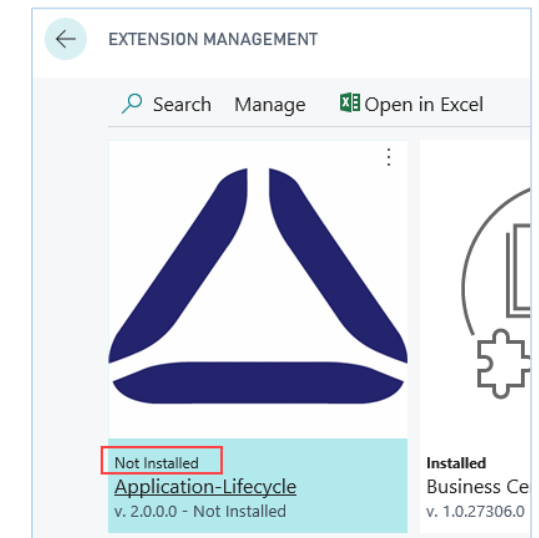


*The request for path /NAV/dev/apps?SchemaUpdateMode=synchronize failed with code 422. Reason: Cannot install the extension Application-Lifecycle by COSMO CONSULT Dresden GmbH 1.0.0.1 for the tenant default **because an earlier version was already installed.** Run **Start-NAVAppDataUpgrade** to **upgrade the extension.***

➤ Upgrade by PowerShell

- or use NAVContainerHelper on the local VM!!! ... *BUT you need Access to the Container!!!*

```
PSScript> Start-NavContainerAppDataUpgrade`  
          -containerName $containername`  
          -appName       $appname
```



Business Central

Upgrading an App

[Sources]

[Dmitry Katson](#) - [Demystifying upgrade process for Business Central Apps](#)

- Data Upgrade is executed – invoked by PowerShell

```
Administrator: Nav Container Helper
PS C:\ProgramData\navcontainerhelper> Start-NavContainerAppDataUpgrade -containerName navserver -appName "Application-Lifecycle"
Welcome to the NAV Container PowerShell prompt

Upgrading app Application-Lifecycle
WARNING: This license is not compatible with this version of Business Central.
App successfully upgraded
PS C:\ProgramData\navcontainerhelper> _
```



Business Central

Upgrading an App

[Sources]

[Dmitry Katson](#) - [Demystifying upgrade process for Business Central Apps](#)

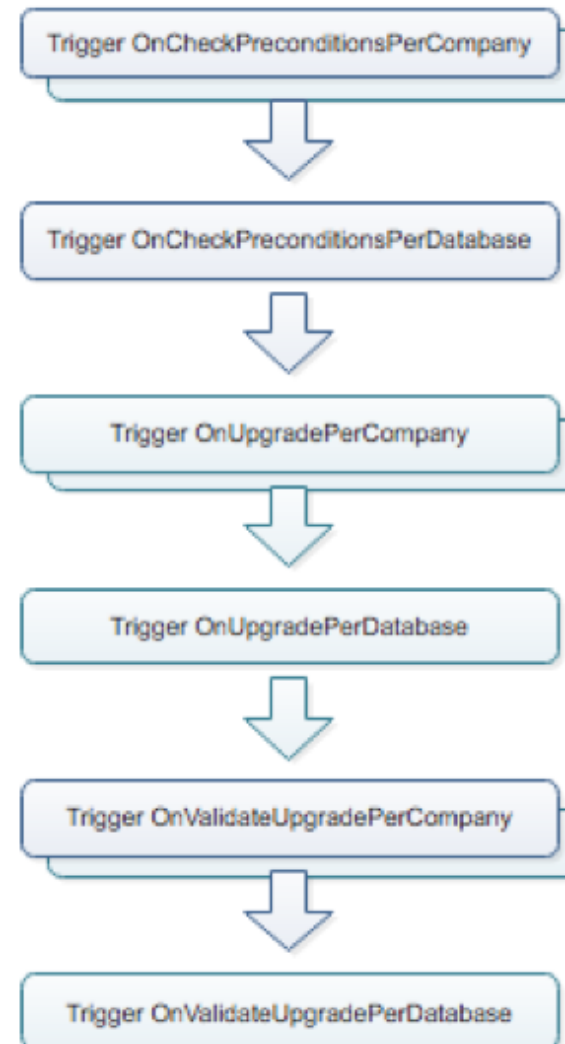
INSTALLATION TIME	COMPANY NAME	TRIGGER	VERSION INSTALLING	VERSION INSTALLED
1/29/2019 3:52 PM	⋮ CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	0.0.0.0
1/29/2019 3:52 PM	My Company	OnInstallAppPerCompany	1.0.0.0	0.0.0.0
1/29/2019 3:52 PM		OnInstallAppPerDatabase	1.0.0.0	0.0.0.0
1/29/2019 3:53 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	1.0.0.0
1/29/2019 3:53 PM	My Company	OnInstallAppPerCompany	1.0.0.0	1.0.0.0
1/29/2019 3:53 PM		OnInstallAppPerDatabase	1.0.0.0	1.0.0.0
1/31/2019 7:51 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	1.0.0.0
1/31/2019 7:51 AM	My Company	OnInstallAppPerCompany	1.0.0.0	1.0.0.0
1/31/2019 7:51 AM		OnInstallAppPerDatabase	1.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnCheckPreconditionsPerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnCheckPreconditionsPerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnCheckPreconditionsPerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0

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Upgrading an App



- Upgrade codeunit was triggered
...because we publish our app for the second time
...because with increased version id.
- Install codeunit was **not** triggered.
... because we changed the version of our app





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Hands On



Business Central

Hands-On

➤ Prerequisites

- Connect to your Workshop VM → use Instructions on your Workshop Boarding Pass
- Use the “**Starter-02**” project of your Workshop Material for “**Application Lifecycle**”

➤ Hand On - Tasks

- Create an Upgrade Codeunit for your example
- Try to Install the App
- Run the “***AppDataUpgrade***”
- Check the results

Business Central

Hands-On / Prepare the Upgrade

➤ Open your App Manifest

- Change the Version to "2.0.0.0"

```
{  
  "id": "4eed11d1-ae52-43bc-a64a-a32d3c91f958",  
  "name": "Application-Lifecycle",  
  "publisher": "COSMO CONSULT Dresden GmbH",  
  "brief": "Application-Lifecycle-Demo",  
  "description": "This example is used to understand the Application-Lifecycle with Microsoft AL App development",  
  "version": "2.0.0.0",  
  "privacyStatement": "",  
  "EULA": "",  
}
```

➤ Check the Table Extension

- "Customer Ext. [CC]" with ID "50110"
- Extend table "Customer"
- Check field "New Address" (ID 50110) of type Text[50]

```
0 references  
tableextension 50110 "Customer Ext. [CC]" extends Customer  
{  
  fields  
  {  
    1 reference  
    field(50110; "New Address"; Text[50]) { }  
  }  
}
```

Business Central

Hands-On / Prepare the Upgrade

- Create an Upgrade Codeunit
 - Name “Upgrade App to v2 [CC]” with ID “50112”
 - Subtype: Upgrade
 - Add code and initialize the new field “New Address” on table “Customer”

```
codeunit 50112 "Upgrade App to v2 [CC]"
{
    Subtype = Upgrade;

    // ...

    0 references
    local procedure PopulateNewAddressField()
    var
        Customer: Record Customer;
    begin
        With Customer do begin
            if FindSet() then
                repeat
                    "New Address" := 'some value';
                    Modify;
                until next = 0;
            end;
        end;
    end;
}
```

Business Central

Hands-On / Prepare the Upgrade

➤ Handle the Upgrade

- Implement the right Trigger
- Check the Version change from:

1.0.0.0 ➔ 2.0.0.0

```
codeunit 50112 "Upgrade App to v2 [CC]"
{
    Subtype = Upgrade;

    trigger OnUpgradePerCompany()
    begin
        If not CheckIfInstallingAppVersionCompatibleWithInstalledVersion() then
            exit;

        PopulateNewAddressField();
    end;

    1 reference
    local procedure CheckIfInstallingAppVersionCompatibleWithInstalledVersion(): Boolean
    begin
        Exit((GetInstallingVersionNo() = '2.0.0.0') and (GetCurrentlyInstalledVersionNo() = '1.0.0.0'));
    end;

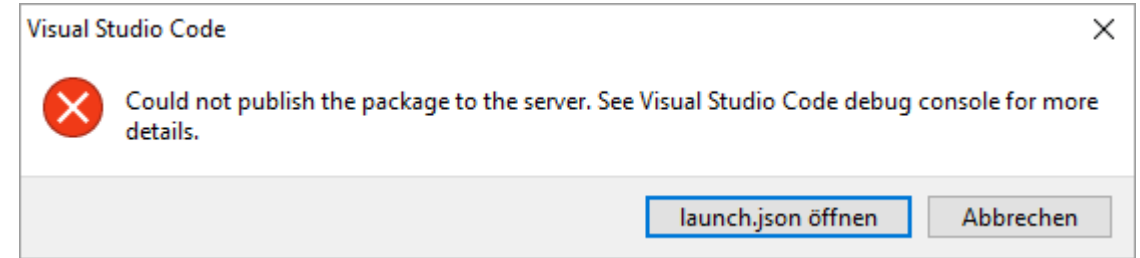
    1 reference
    procedure GetInstallingVersionNo(): Text
    var
        AppInfo: ModuleInfo;
    begin
        NavApp.GetCurrentModuleInfo(AppInfo);
        exit(FORMAT(AppInfo.AppVersion()));
    end;

    1 reference
    procedure GetCurrentlyInstalledVersionNo(): Text
    var
        AppInfo: ModuleInfo;
    begin
        NavApp.GetCurrentModuleInfo(AppInfo);
        exit(FORMAT(AppInfo.DataVersion()));
    end;
}
```

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Hands-On / Check and Run the Upgrade

- Open Page “Extension Management”
 - Check the current Version of your App
- Publish the App from VS Code [Ctrl + F5]
 - An error should appear and Check the error message
- Open Page “Extension Management”
 - Check the current Version of your App
- Connect to your VM (Remote Desktop)
 - Open the PowerShell (NAVContainerHelper)
 - Start the App Data Upgrade
- Check the Result and the called triggers in Page “Install Process Details List”



```
PSScript> Start-NavContainerAppDataUpgrade `
          -containerName $containername `
          -appName        $appname
```




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Reinstalling an App



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Re-Install an App

➤ 3 Way to Re-Install an App

- Re-Install an App by Development
→ VS-Code
- Re-Install an App by Uninstall & Install
→ PowerShell
- Re-Install an App by Uninstall, Unpublish, Publish and Install
→ PowerShell

➤ Unpublish and Upgrade your App

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Re-Install an App 1

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. Without uninstall](#)

- Overriding the App during development



- Container Sandbox (used for Local Development)

```
VSCode > AL:Publish without debugging (Ctrl+F5)
```

```
Sending request to https://[REDACTED].westeurope.cloudapp.azure.com:7049/NAV/dev/metadata  
Sending request to https://[REDACTED].westeurope.cloudapp.azure.com:7049/NAV/dev/apps?SchemaUpdateMode=synchronize  
Success: The package 'COSMO CONSULT Dresden GmbH_Application-Lifecycle_2.0.0.0.app' has been published to the server.
```

- Current App overrides the existing App – because Synchronization isn't necessary

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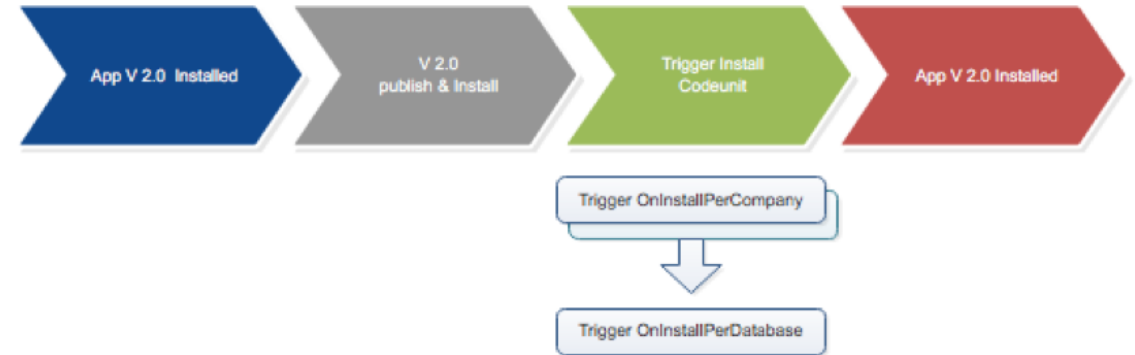
Re-Install an App 1

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. Without uninstall](#)

➤ Summary

- Upgrade codeunit was not triggered
- Install codeunit was triggered



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

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Re-Install an App 2

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

- Uninstall the App with PowerShell and NAVContainerHelper

```
PSScript> UnInstall-NavContainerApp `
        -containerName $containername `
        -tenant        $tenant `
        -appName        $appname
```

```
PS C:\ProgramData\navcontainerhelper> UnInstall-NavContainerApp -containerName navserver -appName "Application-Lifecycle"
Uninstalling Application-Lifecycle from default
WARNING: This license is not compatible with this version of Business Central.
App successfully uninstalled
PS C:\ProgramData\navcontainerhelper> _
```

- Re-Install the App by VS Code or PowerShell

```
VSCode > AL:Publish without debugging (Ctrl+F5)
```

```
PSScript> Install-NavContainerApp `
        -containerName $containername `
        -tenant        $tenant `
        -appName        $appname
```

```
PS C:\ProgramData\navcontainerhelper> Install-NavContainerApp -containerName navserver -appName "Application-Lifecycle"
Installing Application-Lifecycle on default
WARNING: This license is not compatible with this version of Business Central.
App successfully installed
PS C:\ProgramData\navcontainerhelper> _
```

Business Central

Re-Install an App 2

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

> Summary

- > Upgrade codeunit **was not** triggered
- > Install codeunit **was** triggered



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

Business Central

Re-Install an App 3

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

➤ Unpublish the current App with PowerShell

```
PSScript> UnPublish-NavContainerApp `
        -containerName $containername `
        -tenant         $tenant `
        -appName        $appname `
        -unInstall `
        -version         $version `
        -tenant         $tenant
```

```
PS C:\ProgramData\navcontainerhelper> UnPublish-NavContainerApp -containerName navserver -appName "Application-Lifecycle" -unInstall
Uninstalling Application-Lifecycle from tenant default
WARNING: This license is not compatible with this version of Business Central.
Unpublishing Application-Lifecycle
WARNING: This license is not compatible with this version of Business Central.
App successfully unpublished
PS C:\ProgramData\navcontainerhelper> _
```

➤ Re-Publish the App from VS Code [Ctrl + F5]

```
[2019-02-01 12:10:33.39] Publishing AL application using launch configuration 'BC'.
[2019-02-01 12:10:33.49] Targeting server 'https://[REDACTED].westeurope.cloudapp.azure.com' and server instance 'NAV'.
[2019-02-01 12:10:33.52] Using user name and password authentication. User name used is: 'cosmo'.
[2019-02-01 12:10:33.53] Sending request to https://[REDACTED].westeurope.cloudapp.azure.com:7049/NAV/dev/apps?SchemaUpdateMode=synchronize
[2019-02-01 12:10:34.29] Success: The package 'COSMO CONSULT Dresden GmbH_Application-Lifecycle_2.0.0.0.app' has been published to the server.
```

Business Central

Re-Install an App 3

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

- Publish the current App with VS Code [Ctrl + F5]

```
[2019-02-01 12:10:33.39] Publishing AL application using launch configuration 'BC'.  
[2019-02-01 12:10:33.49] Targeting server 'https://[REDACTED].westeurope.cloudapp.azure.com' and server instance 'NAV'.  
[2019-02-01 12:10:33.52] Using user name and password authentication. User name used is: 'cosmo'.  
[2019-02-01 12:10:33.53] Sending request to https://[REDACTED].westeurope.cloudapp.azure.com:7049/NAV/dev/apps?SchemaUpdateMode=synchronize  
[2019-02-01 12:10:34.29] Success: The package 'COSMO CONSULT Dresden GmbH_Application-Lifecycle_2.0.0.0.app' has been published to the server.
```

Business Central

Re-Install an App 3

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

> Summary

- > Upgrade codeunit was not triggered
- > Install codeunit was triggered



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

Business Central

Upgrade with Un-Publish

[Sources]

[Dmitry Katson](#) - [Demystifying re-installation process for Business Central Apps. With uninstall](#)

> Preparation

- > New App-Version 3.0.0.0 in app.json

> Unpublish the current App with PowerShell

```
PSScript> UnPublish-NavContainerApp `
        -containerName $containername `
        -tenant        $tenant `
        -appName       $appname `
        -unInstall `
        -version       $version `
        -tenant        $tenant
```

```
PS C:\ProgramData\navcontainerhelper> UnPublish-NavContainerApp -containerName navserver -appName "Application-Lifecycle" -unInstall
Uninstalling Application-Lifecycle from tenant default
WARNING: This license is not compatible with this version of Business Central.
Unpublishing Application-Lifecycle
WARNING: This license is not compatible with this version of Business Central.
App successfully unpublished
PS C:\ProgramData\navcontainerhelper> _
```

Business Central Upgrade with Un-Publish

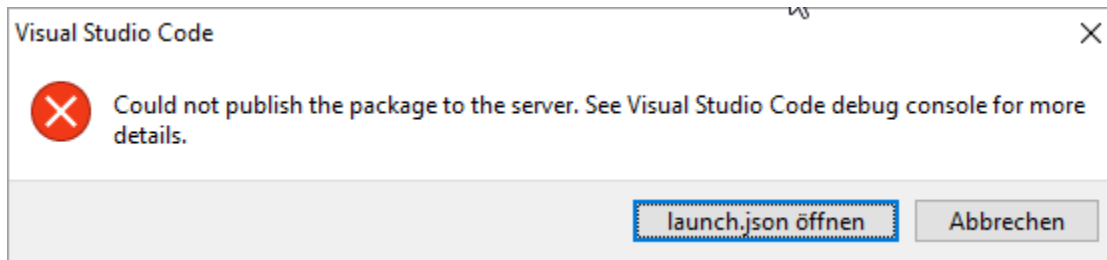
[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps. Conclusion](#)

- Re-Compile the App 3.0.0.0

```
"description": "This example is used to understand the Application-Lifecycle with Microsoft AL App development",  
"version": "3.0.0.0",  
"privacyStatement": ""
```

- Publish App 3.0.0.0 with VS Code [Ctrl + F5]



```
[2019-02-01 12:59:11.34] Publishing AL application using launch configuration 'BC'.  
[2019-02-01 12:59:11.44] Targeting server 'https://[REDACTED].westeurope.cloudapp.azure.com' and server instance 'NAV'.  
[2019-02-01 12:59:11.48] Using user name and password authentication. User name used is: 'cosmo'.  
[2019-02-01 12:59:11.51] Sending request to https://[REDACTED].westeurope.cloudapp.azure.com:7049/NAV/dev/apps?SchemaUpdateMode=synchronize  
[2019-02-01 12:59:12.25] The request for path /NAV/dev/apps?SchemaUpdateMode=synchronize failed with code 422. Reason: Cannot install the extension Application-Lifecycle by COSMO CONSULT Dresden GmbH 3.0.0.0 for the tenant default because an earlier version was already installed. Run Start-NAVAppDataUpgrade to upgrade the extension.
```

Business Central Upgrade with Un-Publish

[Sources]

[Dmitry Katson - Demystifying installation process for Business Central Apps. Conclusion](#)

➤ Publish App 3.0.0.0 with PowerShell

```
PSScript> Publish-NavContainerApp `
        -containerName $containername `
        -appFile $appfilename `
        -install `
        -skipVerification `
        -sync `
        -tenant $tenant
```

```
PS C:\ProgramData\navcontainerhelper> Publish-NavContainerApp -containerName navserver -appFile ".\COSMO CONSULT Dresden GmbH_Application-Lifecycle_3.0.0.0.app" -sync -skipVerification -install
Copy .\COSMO CONSULT Dresden GmbH_Application-Lifecycle_3.0.0.0.app to container navserver (c:\run\COSMO CONSULT Dresden GmbH_Application-Lifecycle_3.0.0.0.app)
Publishing c:\run\COSMO CONSULT Dresden GmbH_Application-Lifecycle_3.0.0.0.app
WARNING: This license is not compatible with this version of Business Central.
Synchronizing Application-Lifecycle on tenant default
Installing Application-Lifecycle on tenant default
WARNING: This license is not compatible with this version of Business Central.
Cannot install the extension Application-Lifecycle by COSMO CONSULT Dresden GmbH 3.0.0.0 for the tenant default because an earlier version was already installed. Run Start-NAVAppDataUpgrade to upgrade the extension.
At C:\Program Files\WindowsPowerShell\Modules\navcontainerhelper\0.4.3.0\AppHandling\Publish-NavContainerApp.ps1:67 char:5
+     Invoke-Command -Session $session -ScriptBlock { Param($appFile, $ ...
+     ~~~~~
+ CategoryInfo          : InvalidOperation: (:) [Install-NAVApp], InvalidOperationException
+ FullyQualifiedErrorId : MicrosoftDynamicsNavServer$NAV/default,Microsoft.Dynamics.Nav.Apps.Management.Cmdlets.InstallNavApp
+ PSComputerName        : 9395fa1a4006ae00236227a636b4946bbc003fd9adb03cab58de918362d6a5f6

PS C:\ProgramData\navcontainerhelper> _
```

Business Central Upgrade with Un-Publish

[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps. Conclusion](#)

➤ Run NAV App Data Upgrade with PowerShell for App 3.0.0.0

```
PSScript> Start-NavContainerAppDataUpgrade -containerName $containername -appName $appname
```

```
PS C:\ProgramData\navcontainerhelper> Start-NavContainerAppDataUpgrade -containerName navserver -appName "Application-Lifecycle"
Upgrading app Application-Lifecycle
WARNING: This license is not compatible with this version of Business Central.
App successfully upgraded
PS C:\ProgramData\navcontainerhelper> _
```

INSTALLATION TIME	COMPANY NAME	TRIGGER	VERSION INSTALLING	VERSION INSTALLED
2/1/2019 12:57 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	0.0.0.0
2/1/2019 12:57 PM	My Company	OnInstallAppPerCompany	2.0.0.0	0.0.0.0
2/1/2019 12:57 PM		OnInstallAppPerDatabase	2.0.0.0	0.0.0.0
2/1/2019 1:08 PM	CRONUS USA, Inc.	OnCheckPreconditionsPerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM	My Company	OnCheckPreconditionsPerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM		OnCheckPreconditionsPerDatabase	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM	CRONUS USA, Inc.	OnUpgradePerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM	My Company	OnUpgradePerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM		OnUpgradePerDatabase	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM	My Company	OnValidateUpgradePerCompany	3.0.0.0	2.0.0.0
2/1/2019 1:08 PM		OnValidateUpgradePerDatabase	3.0.0.0	2.0.0.0

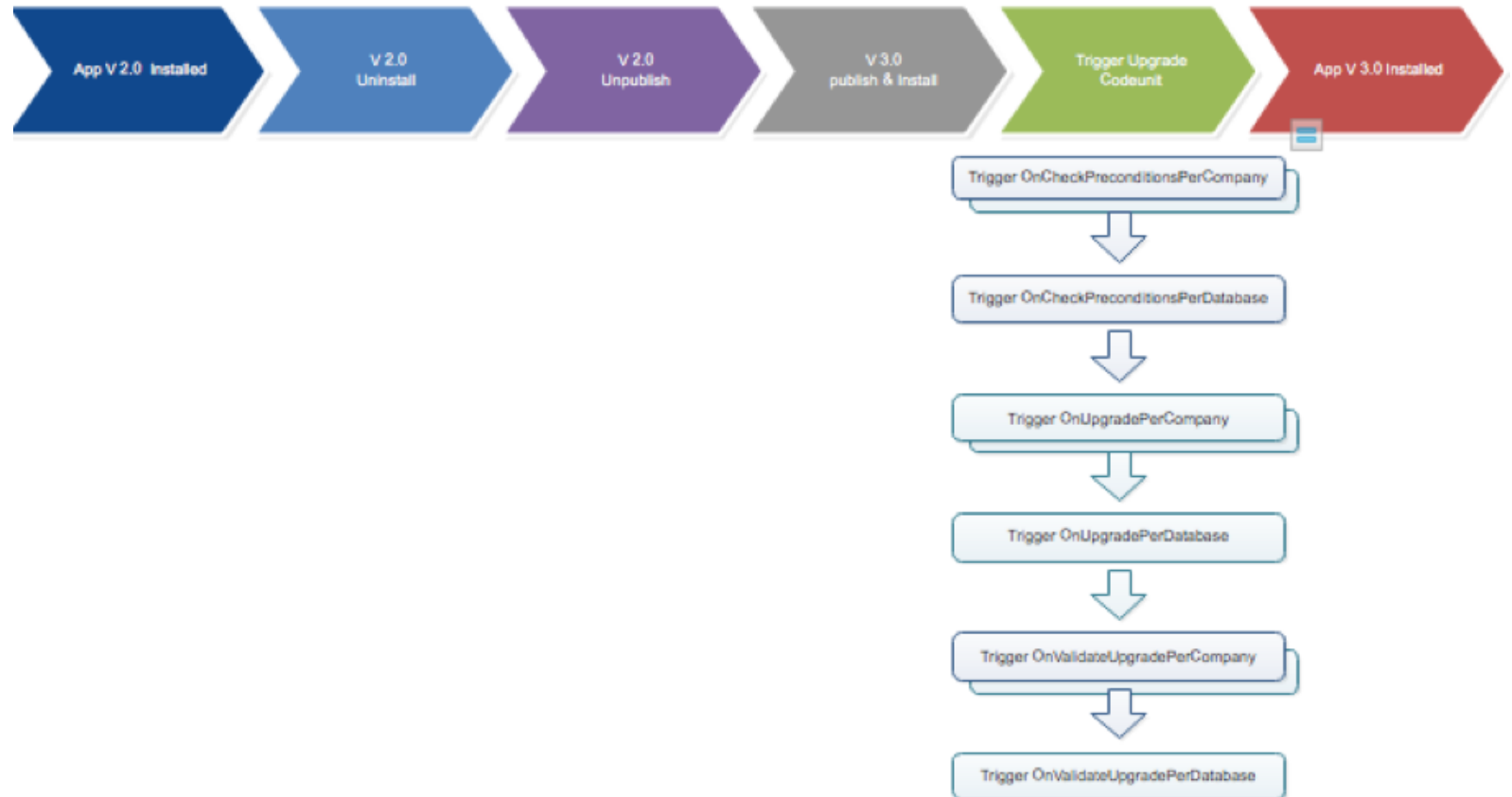
Business Central Upgrade with Un-Publish

[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps. Conclusion](#)

➤ Summary

- Upgrade codeunit was triggered
- Install codeunit was triggered



Business Central Application Lifecycle

[Sources]

[Dmitry Katson](#) - [Demystifying installation process for Business Central Apps. Conclusion](#)

Process	Previous App version is installed	New App version changed	Upgrade Codeunit triggers	Install Codeunit triggers	Supported in Local Sandbox	Supported in Online Sandbox	Supported in Online Production
Publish & Install	-	Yes	-	Yes	Yes	Yes	Yes
Upgrade App	Yes	Yes	Yes	-	Yes	Yes	Yes
Re-Install	Yes	-	-	Yes	Yes	Yes	-
Uninstall & Install	Yes	-	-	Yes	Yes	Yes	Yes
Unpublish & Re-install	Yes	-	-	Yes	Yes	Yes	-
Unpublish & Upgrade	Yes	Yes	Yes	-	Yes	Yes	Yes



COSMO CONSULT

Business-Software für Menschen

Hands On



Business Central

Hands-On

➤ Prerequisites

- Connect to your Workshop VM → use Instructions on your Workshop Boarding Pass
- Use the “**Starter-03**” project of your Workshop Material for “**Application Lifecycle**”

➤ Hand On - Tasks

- Re-Install an App by Development with VS-Code
- Re-Install an App by Uninstall & Install with PowerShell
- Re-Install an App by Uninstall, Unpublish, Publish and Install
- Unpublish and upgrade your App

Business Central

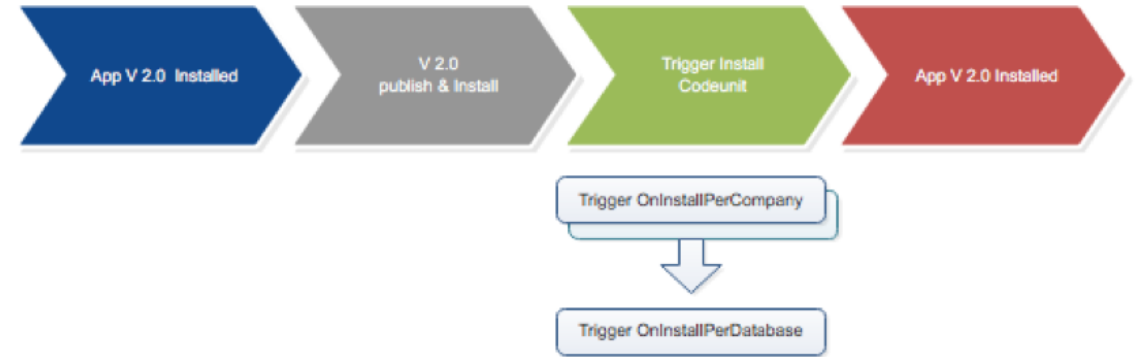
Hands-On / Re-Install an App by Development with VS-Code

➤ Open your Solution

- Check the App Version “2.0.0.0”
- Compile and Deploy

➤ Check the Result

- Use Page “Install Process Details List”



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

Business Central

Hands-On / Re-Install an App by Uninstall & Install with PowerShell

- Open your Solution
 - Check the App Version “2.0.0.0”
 - Uninstall your App with PowerShell
 - Install your App with PowerShell
- Check the Result
 - Use Page “Install Process Details List”



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

Business Central

Hands-On / Re-Install an App by Uninstall, Unpublish, Publish and Install

➤ Open your Solution

- Check the App Version “2.0.0.0”
- Unpublish your App with PowerShell
- Install your App with VS Code [Ctrl + F5]

➤ Check the Result

- Use Page “Install Process Details List”



1/31/2019 12:07 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
1/31/2019 12:07 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 9:31 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:31 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 9:51 AM		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0

Business Central

Hands-On / Unpublish and upgrade your App

- Open your Solution
 - Check the initial App Version "2.0.0.0"
 - Unpublish your App with PowerShell

- Change the Version
 - App.json

```
"description": "This example is used to understand the Application-Lifecycle with Microsoft AL App development",  
"version": "3.0.0.0",  
"privacyStatement": ""
```

- Deploy your App **3.0.0.0** with VS Code [Ctrl + F5]
- Upgrade NAV App Data with PowerShell
- Check the Result

Business Central

Hands-On / Unpublish and upgrade your App

- Repeat with Powershell
 - Rest App Version to 2.0.0.0
 - Re-Deploy ... by modifying your **launch.json** and **recreate** your App on NST
 - Check the Result

```
"authentication": "UserPassword",  
"startupObjectId": 50110,  
"startupObjectType": "Page",  
"schemaUpdateMode": "Recreate",  
"breakOnError": false,  
"launchBrowser": true
```

- Unpublish your App with PowerShell

- Change the Version

- App.json

```
"description": "This example is used to understand the Application-Lifecycle with Microsoft AL App development",  
"version": "3.0.0.0",  
"privacyStatement": ""
```

- Deploy your App 3.0.0.0 with PowerShell

- Copy file to VM

- Upgrade NAV App Data with PowerShell

Business Central

Hands-On / Unpublish and upgrade your App

➤ Check the Results

- Installation Details
- Customer Card
"The Added Data"

INSTALLATION TIME	COMPANY NAME	TRIGGER	VERSION INSTALLING	VERSION INSTALLED
2/1/2019 1:36 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	1.0.0.0	0.0.0.0
2/1/2019 1:36 PM	My Company	OnInstallAppPerCompany	1.0.0.0	0.0.0.0
2/1/2019 1:36 PM		OnInstallAppPerDatabase	1.0.0.0	0.0.0.0
2/1/2019 1:37 PM	CRONUS USA, Inc.	OnCheckPreconditionsPerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	My Company	OnCheckPreconditionsPerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM		OnCheckPreconditionsPerDatabase	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	CRONUS USA, Inc.	OnUpgradePerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	My Company	OnUpgradePerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM		OnUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	CRONUS USA, Inc.	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	My Company	OnValidateUpgradePerCompany	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM		OnValidateUpgradePerDatabase	2.0.0.0	1.0.0.0
2/1/2019 1:37 PM	CRONUS USA, Inc.	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
2/1/2019 1:37 PM	My Company	OnInstallAppPerCompany	2.0.0.0	2.0.0.0
		OnInstallAppPerDatabase	2.0.0.0	2.0.0.0
		OnCheckPreconditionsPerCompany	3.0.0.0	2.0.0.0
		OnCheckPreconditionsPerCompany	3.0.0.0	2.0.0.0
		OnCheckPreconditionsPerDatabase	3.0.0.0	2.0.0.0
		OnUpgradePerCompany	3.0.0.0	2.0.0.0
		OnUpgradePerCompany	3.0.0.0	2.0.0.0
		OnUpgradePerDatabase	3.0.0.0	2.0.0.0
		OnValidateUpgradePerCompany	3.0.0.0	2.0.0.0
		OnValidateUpgradePerCompany	3.0.0.0	2.0.0.0
		OnValidateUpgradePerDatabase	3.0.0.0	2.0.0.0

General

No. 10000 ...

Credit Limit (\$) 0.00

CFDI Purpose

Name Adatum Corporation

Blocked

CFDI Relation

Balance (\$) 0.00

Total Sales 78,771.10

Balance Due (\$) 0.00

Costs (\$) 40,255.70

Address from Extension

New Address

some value



COSMO CONSULT

Business-Software für Menschen

Microsoft AL

Application Dependancies



Business Central

Application Dependancies

➤ 2 Applications

- Core Application
- Local Application

➤ Local App depends on Core App

- Dependencies stored in **app.json** of Local App
- AppID, Name, Publisher, **Version**

➤ Symbols

- Core is part of Local App symbols

```
{
  "id": "4c2d70bb-8a25-478b-952a-96549db698f5",
  "name": "Core-Application",
  "publisher": "COSMO CONSULT Dresden GmbH",
  "brief": "Application-Dependancies-Demo",
  "description": "This example is used to understand the App",
  "version": "1.0.0.0",
  "dependencies": []
}
```

```
"dependencies": [
  {
    "appId": "4c2d70bb-8a25-478b-952a-96549db698f5",
    "name": "Core-Application",
    "publisher": "COSMO CONSULT Dresden GmbH",
    "version": "1.0.0.0"
  }
],
```

```
[2019-02-01 14:33:01.47] Sending request to https://bc-spring-us.westeurope.cloudapp.azure.com:7049/NAV/dev/packages?publisher=Microsoft&appName=Application&versionText=13.0.0.0
[2019-02-01 14:33:01.47] Sending request to https://bc-spring-us.westeurope.cloudapp.azure.com:7049/NAV/dev/packages?publisher=Microsoft&appName=System&versionText=13.0.0.0
[2019-02-01 14:33:01.47] Sending request to https://bc-spring-us.westeurope.cloudapp.azure.com:7049/NAV/dev/packages?publisher=COSMO CONSULT Dresden GmbH&appName=Core-Application&versionText=1.0.0.0
```

Business Central

Application Dependencies / Core Application 1.0.0.0

> Table

> “App Information [CORE]”

> Page

> “App Information List [CORE]”

> Table Extension

> “Customer Ext. [CORE]” extends
“Customer”

> Page Extension

> “Customer Ext. [CORE]” extends
“Customer Card”

CREATED	APPLICATION NAME	APP VERSION	DATA VERSION
(There is nothing to show in this view)			

10000 · Adatum Corporation

New Document Request Approval Customer More options

CFDI Relation

Address from Extension

New Address some value

[CORE]

Custom Data [CORE]

Attachments

Sell-to Customer Sales History

Business Central

Application Dependencies / Core Application 1.0.0.0

➤ Table Extension

- “App Information [LOCAL]” extends “App Information [CORE]”

➤ Page Extension

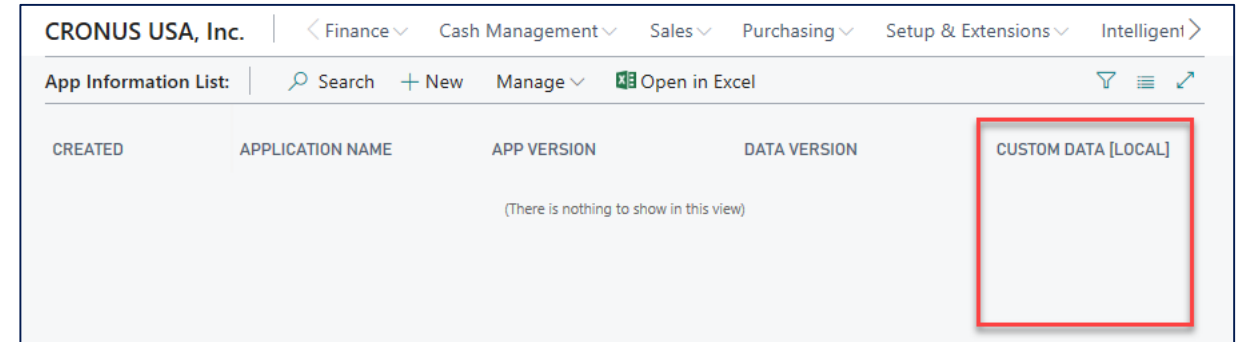
- “App Information List [LOCAL]” extends “App Information List [CORE]”

➤ Table Extension

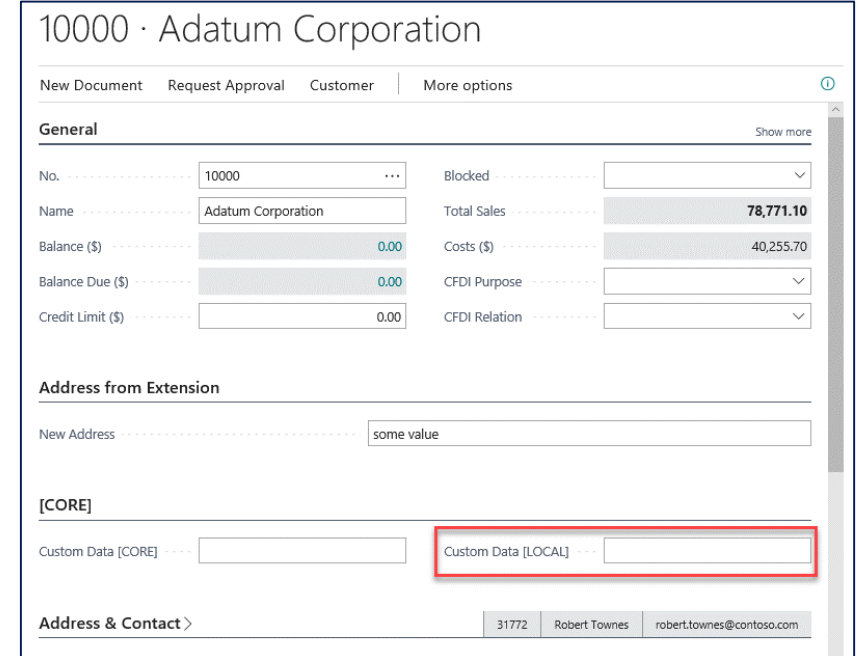
- “Customer Ext. [LOCAL]” extends “Customer Ext. [CORE]”

➤ Page Extension

- “Customer Ext. [LOCAL]” extends “Customer Ext. [CORE]”



CREATED	APPLICATION NAME	APP VERSION	DATA VERSION	CUSTOM DATA [LOCAL]
(There is nothing to show in this view)				



10000 · Adatum Corporation

New Document Request Approval Customer More options

General Show more

No.	10000	Blocked	
Name	Adatum Corporation	Total Sales	78,771.10
Balance (\$)	0.00	Costs (\$)	40,255.70
Balance Due (\$)	0.00	CFDI Purpose	
Credit Limit (\$)	0.00	CFDI Relation	

Address from Extension

New Address some value

[CORE]

Custom Data [CORE]		Custom Data [LOCAL]	
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Address & Contact

31772 Robert Townes robert.townes@contoso.com



COSMO CONSULT

Business-Software für Menschen

Hands On



Business Central

Hands-On

➤ Prerequisites

- Connect to your Workshop VM → use Instructions on your Workshop Boarding Pass
- Use the “**Starter-04**” project of your Workshop Material for “**Application Lifecycle**”

➤ Hand On - Tasks

- Create the CORE App with Table, Table Extension, Page and Page Extension
- Create the LOCAL App with Table Extensions and Page Extensions

Business Central

Hands-On / CORE Application

- Open "...04/01_Core_App" from "Starter"
- Check app.json
 - ID, Version, ...
- Connect to your Business Central and download the symbols
- Tasks
 - Check the CORE App with Table, Table Extension, Page and Page Extension
- Compile and Publish the App
- Check in Page "Extension Management"

Business Central

Hands-On / LOCAL Application

- Open "...04/02_Local_App" from "Starter"

- Check and Complete the app.json
 - ID, Version, ...
 - Add a dependency to the CORE App (copy information from app.json)
 - Download Symbols

- Hand On - Tasks
 - Extend Table "*Customer*" and add a Field "*Custom Data [LOCAL]*" (Text 50)
 - Extend Page "*Customer Card*" and display the added Field
 - Extend Table "*App Information [CORE]*" and add a Field "*Custom Data [LOCAL]*" (Text 50)
 - Extend Page "*App Information List [CORE]*" and display the added Field

- Deploy the Local App and check the Results

Business Central

Hands-On / Change the CORE Application

➤ Prerequisites

- Add some Data in “*App Information List [CORE]*” and extended “*Customer Card*”

➤ Tasks

- Add a new Field to Table “*App Information [CORE]*”, and include it into “*App Information List [CORE]*”
- Add a new Field to Table “*Customer Ext. [CORE]*”, and include it into “*Customer Card Ext. [CORE]*”
- Write an Upgrade Codeunit
- Upgrade the **CORE App** to Version **2.0.0.0** without any lost of existing data

APPLICATION LIFECYCLE

Q & A

