

MS Dynamics CRM 365

Introduction to Dynamics 365 Solutions



Lesson Objectives

- Dynamics 365 Solutions Overview
- Including Components in Solutions
- Solution Publishers and Versioning
- Solutions Types
- Working with Multiple Solutions
- Export and Import Solutions



Solutions Overview

- Solutions can be used to create, package, deploy, and maintain Dynamics 365 customizations
- Work with a selected set of components instead of everything at once in default solution
- Organize selected components to deploy related changes together
- Exported solution zip file will be smaller
- Keep exported solutions for change management



Solution Components

Schema

- Entity
- Fields
- 1:N / N:N Relationship
- Option sets

Templates

- Email
- Contact
- KB Article
- Mail Merge

Process/Steps/ Code

- Workflows
- Dialogs
- Business Process Flows
- Business Rules
- Actions
- Web Resources
- Plug ins Assemblies
- SDK Message Processing Steps

User Interface

- Forms
- Views
- Charts
- Dashboards
- SiteMap
- Ribbons

Miscellaneous

- Security Roles
- Field Security Profiles
- Connection Roles
- Reports
- Solution Publisher
- System Settings





Reference not Copies

- Each solution created contains a reference to the component
- Multiple solutions on the same organization will NOT have it's own copy of component
- When exporting either solution it will export all changes to the component regardless of the solution they were created in





Solution Versioning

- Version numbers are compared when solutions are imported
 - Newer versions will replace existing versions of the solution
- Version Number
 - Major.minor.build.revision format:2.1.12.3



Solution Publishers

- Solution must have a publisher
 - Use default publisher or create your own
- Prefix used for name of some components
 - Define who is doing the changes, or for which set of requirements
 - No more than eight lower case letters and numbers
 - Managed solutions can only be updated by solutions from the same publisher
- Option value prefix for Option Sets

File Save and Close

Publisher: New Publisher

Information

General

Display Name * Adventure Works Name * adventureworks

Description

Set the prefix name for custom entities and fields

Prefix * adwrks Option Value Prefix * 47,000

Name Preview adwrks_entity



Creating Solutions

- Default solution contains all components of the system (organization)
- Solution Properties
 - Display Name
 - Name
 - Cannot be changed
 - Used for file name of exported solution package
 - Version Number

Solution: Loan Approval

Components

Component Type: All

Managed Properties

| ✓ | Display Name ↑ | Name | Type | State | Customizable | Description |
|---|--|------------------------------|-------------------------------|-----------|--------------|---------------|
| | Account | account | Entity | Managed | True | Business tha |
| | Account Distribution | Account Distribution | Report (Reporting Services... | Managed | True | Identify patt |
| | Account Summary Sub-Report | Account Summary Sub-Re... | Report (Reporting Services... | Managed | True | Sub-report n |
| | Bank Account | wdgfin_bankaccount | Entity | Unmanaged | True | |
| | Budget | budgetstatus | Option Set | Managed | True | Do they have |
| | CEO-Business Manager | CEO-Business Manager | Security Role | Managed | True | |
| | Contact | contact | Entity | Managed | True | Person with i |
| | Customer Service Operations Dashbo... | Customer Service Operatio... | Dashboard | Managed | True | Shows the ke |
| | Customer Service Performance Dash... | Customer Service Perform... | Dashboard | Managed | True | Shows the ke |
| | Customer Service Representative Das... | Customer Service Represe... | Dashboard | Managed | True | Shows the ke |
| | Purchase Timeframe | purchasetimeframe | Option Set | Managed | True | The timefran |
| | Sales Manager | Sales Manager | Security Role | Managed | True | |

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Status: Existing



Creating Solutions

- New and existing components can be created/added directly to the solution
 - New components will use the publisher prefix associated with the solution publisher
 - Existing components will retain their original name
- Required Components
 - Prompt to include dependent items
 - Ignored for system components
- The required items must be included in the solution or already exist in the target organization
 - The solution import will fail if not already present or included



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Entity Assets

- Specify exactly what should be included in solution
- Includes tabs to select specific, forms, views, charts, fields, relationships, messages, Business rules and Hierarchy Settings
- Assets can be added later
- Must be defined for every entity added to the solution

Account - 1 of 1

Select Entity Assets to Include in the solution

☒ Include entity metadata ☐ Add All Assets

Forms Views Charts Fields Keys 1:N N:1 N:N Messages Business Rules Hierarchy Settings

System Forms Active Forms

| ✓ | Name | Form State | Form Type ↑ | State | Customizable | Version | |
|---|--------------------------------|------------|---------------------|---------|--------------|---------|---|
| | Account Card form | Active | Card | Managed | True | 8.0.0.0 | ↑ |
| | Account | Active | Main | Managed | True | 5.0.0.0 | |
| | Account MainInteractionCentric | Active | Main Interaction... | Managed | True | 8.0.0.0 | |
| | Information | Active | Mobile - Express | Managed | True | 5.0.0.0 | |
| | Account Quick Create | Active | Quick Create | Managed | True | 6.0.0.0 | |
| | Account Hierarchy Tile Form | Active | Quick View Form | Managed | True | 7.0.0.0 | |
| | Social Profiles | Active | Quick View Form | Managed | True | 6.1.0.0 | |
| | Account Reference Panel | Active | Quick View Form | Managed | True | 8.0.0.0 | |
| | Recent Cases and Entitlements | Active | Quick View Form | Managed | True | 8.0.0.0 | ↓ |

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Finish Cancel



Types of Solutions

- **System solution:** Defines the default application behavior
- **Unmanaged solutions:** Container for unmanaged customizations. All solutions start as unmanaged. When deleted all components in the solution remain.(Must be removed individually)
- **Managed solutions:** Installed on top of system solution, cannot be modified directly, when deleted all components in the solution are removed unless they are used by other managed solutions
 - Managed solution are created by exporting an unmanaged and selecting to package it as a managed solution
- **Managed Patches:** Updated and fixes that can be pushed out to Managed solutions that allow updated specific components and not having to overwrite the entire contents of an existing solution



Unmanaged Solutions

- Every Dynamics 365 has a default solution which is unmanaged
- Unmanaged solutions can be modified
 - All solutions start as unmanaged
 - You can create multiple unmanaged solutions
- Removing an unmanaged solution only removes the container
 - All included components will remain



Managed Solutions

- An unmanaged solution becomes managed after being exported (as managed) and installed into another organization
- Managed solutions can NOT be modified directly
- Managed solutions cannot be exported
- When removed all components items included are removed

Package TypeHelp

☐ Unmanaged
Use this option if you will not distribute the solution for other people to install. You will be able to modify this solution and can export it as managed in the future.

☒ Managed
Use this option if you will distribute the solution to be installed by other people. A managed solution cannot be directly modified or exported as unmanaged after it is installed.

To learn more about managed and unmanaged solutions, click the Help icon.

Back

Export

Cancel



Multiple Solutions

- Any solution you create is unmanaged and can be modified
- Solutions contain references to existing or new components in the default solution
- Any changes made in one solution are also visible in other solutions in same organization
- More than one customizer can work in their own solution on the same system



Exporting Solutions

- Export solution and all the components in it as a compressed file in .zip format
 - Filename is Solution Name + Version by default
 - Contains XML, XAML, .DLL, images and other files
 - Warning if dependent components are missing
 - Only Published customizations are exported
- Default solution can be exported (unmanaged)
 - Internal developments usually use unmanaged
 - Managed solutions are for distributing customizations, such as ISV add-ons



Importing Solutions

- Upon Import
 - Updates components already in the system
 - Adds any new components not in the system
 - Dependent components must be in the target system, or be included in the solution
 - Solution import will fail if dependent items are missing
- Unmanaged solution cannot be “uninstalled”
 - Writes changes into the default solution
 - Container can be removed, but changes remain in the system
- Managed solution keeps components
 - Solution can be removed to delete all components





Module Review

- Solution can be used to create, package, deploy, and maintain Dynamics 365 customizations
- Solution contain references not copies of each component included
- All solutions start as unmanaged, they don't become managed unless specified during solution export
- Importing a solution will fail if any required components are missing (not included or already present in the target)



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