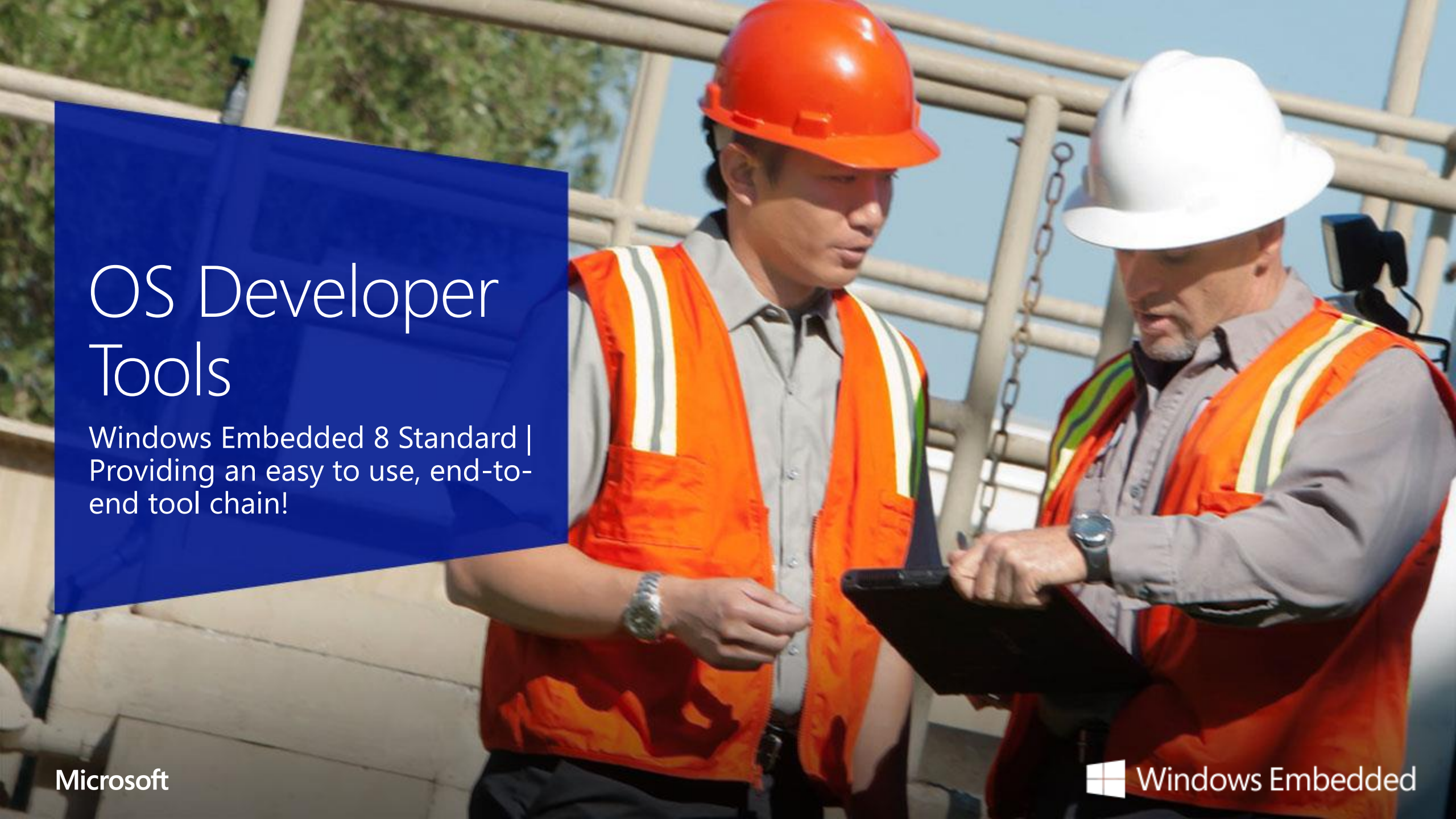


OS Developer Tools

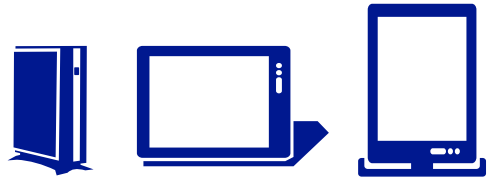
Windows Embedded 8 Standard | Providing an easy to use, end-to-end tool chain!

Microsoft

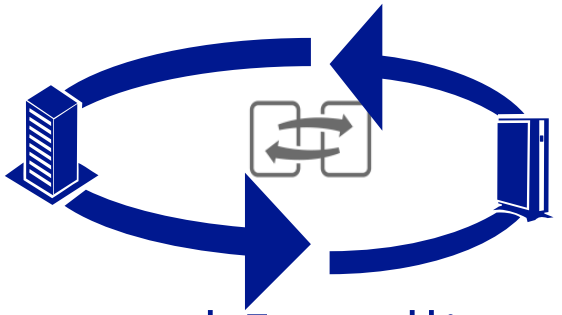
Windows Embedded

Windows Embedded 8 Standard

One Trusted Platform



Differentiated Devices



Extend Intelligent Systems

One Trusted Platform

Windows Embedded OS Developer Tools | Ease of use, flexibility and time-to-market

Microsoft

Windows Embedded

Disclaimer

Features described in this section are not representative of the final feature set that will be available at RTM:

Features per SKU are not finalized, and feature availability may change

Features will continue to evolve until RTM

Tools | Windows Embedded 8 Standard

Create a user experience that simplifies the process of building and deploying a custom OS

Create an end to end experience across ISV, OEM and SV tools to easily share custom packages

Enable easy inclusion of drivers and custom software in OS images

Windows Embedded 8 Standard Tools and Technologies

New Componentization Concept

Modules

OS Creation

Image Builder Wizard (IBW) – Fast Prototyping
Image Configuration Editor (ICE) – Advanced Configuration

Componentization Tool

Module Designer
Create custom modules to deploy your software

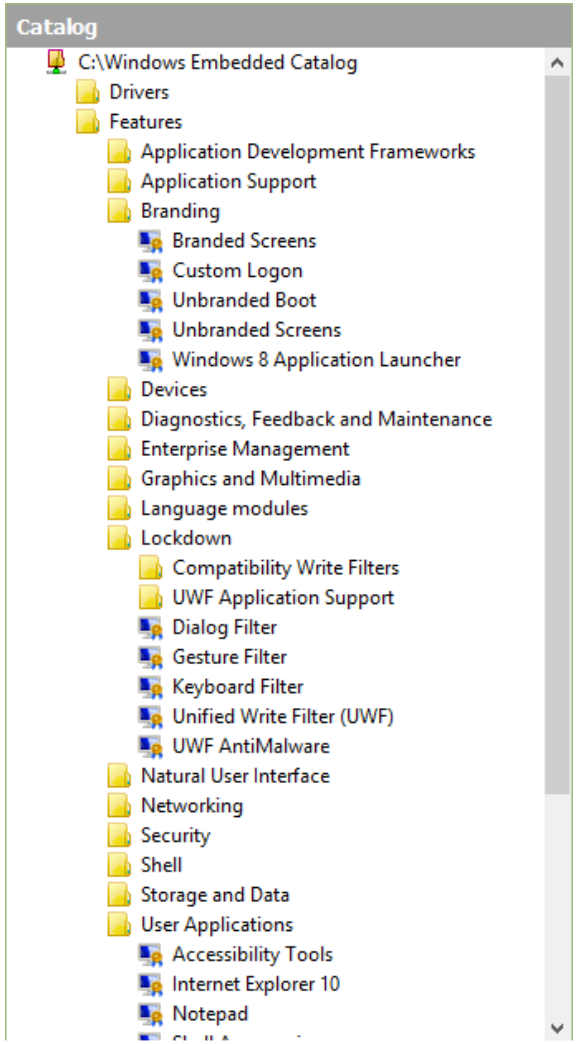
Modular OS

Embedded Specific Modules

Custom Modules

Windows 8 OS Modules

Windows 8 App Modules



Benefits

Customize the OS to meet the device and user experience needs

Reduce OS development with functional feature modules

Make great apps by leveraging Windows 8 Application modules

New Componentization Concept | Basic Considerations

Foundation of Windows Embedded Standard platform

Flexibility

Allows OEMs to pick and choose just required functionality
Create custom modules that seamlessly integrate into build system

Time-to-market

Provide grouped functionality to jumpstart image configurations

Modules open up a new market

Opportunity for ISVs to bring additional value to Windows Embedded Standard

Componentization Concept in Windows Embedded 8 Standard

Modules

New container format
Wrapping / reorganizing Windows packages
Closing the gap between Microsoft and custom / 3rd party components
Are building blocks of OS build system
Custom Modules can be serviced using Microsoft tool chain
Can be signed by OEM –> install / deployment security

New Tool support for custom module creation

Module Designer used to group features / functionality
Create all types of modules
Custom modules for your software
Modules that group together OS features through dependencies

Proven OS Development Tools

Reduce OS development time

Simplified OS configuration

Easy OS installation

Image Builder Wizard (IBW)

Bootable config & setup wizard

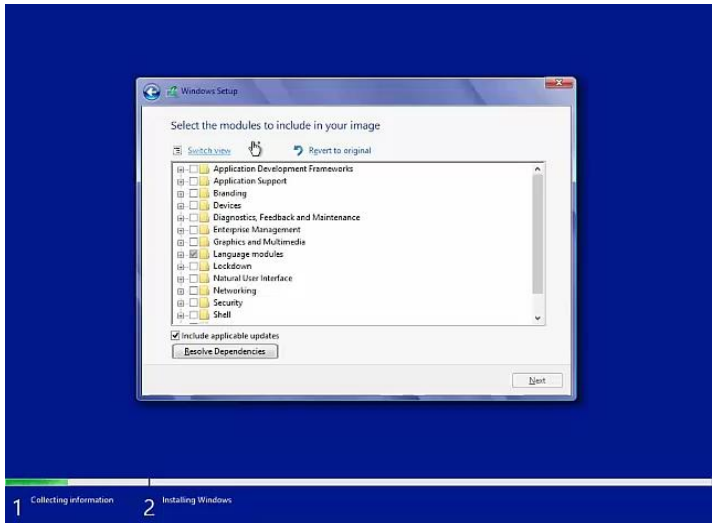
Quick to test OS on target device

Based on Windows client setup

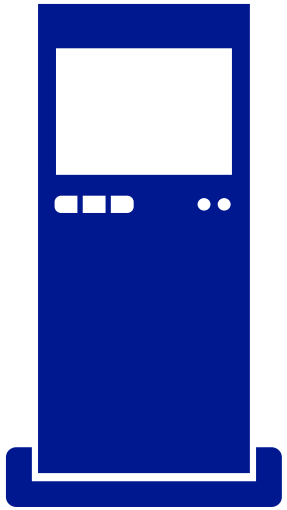
Rapid prototyping

IBW | Quick and easy OS configuration and install

Boot



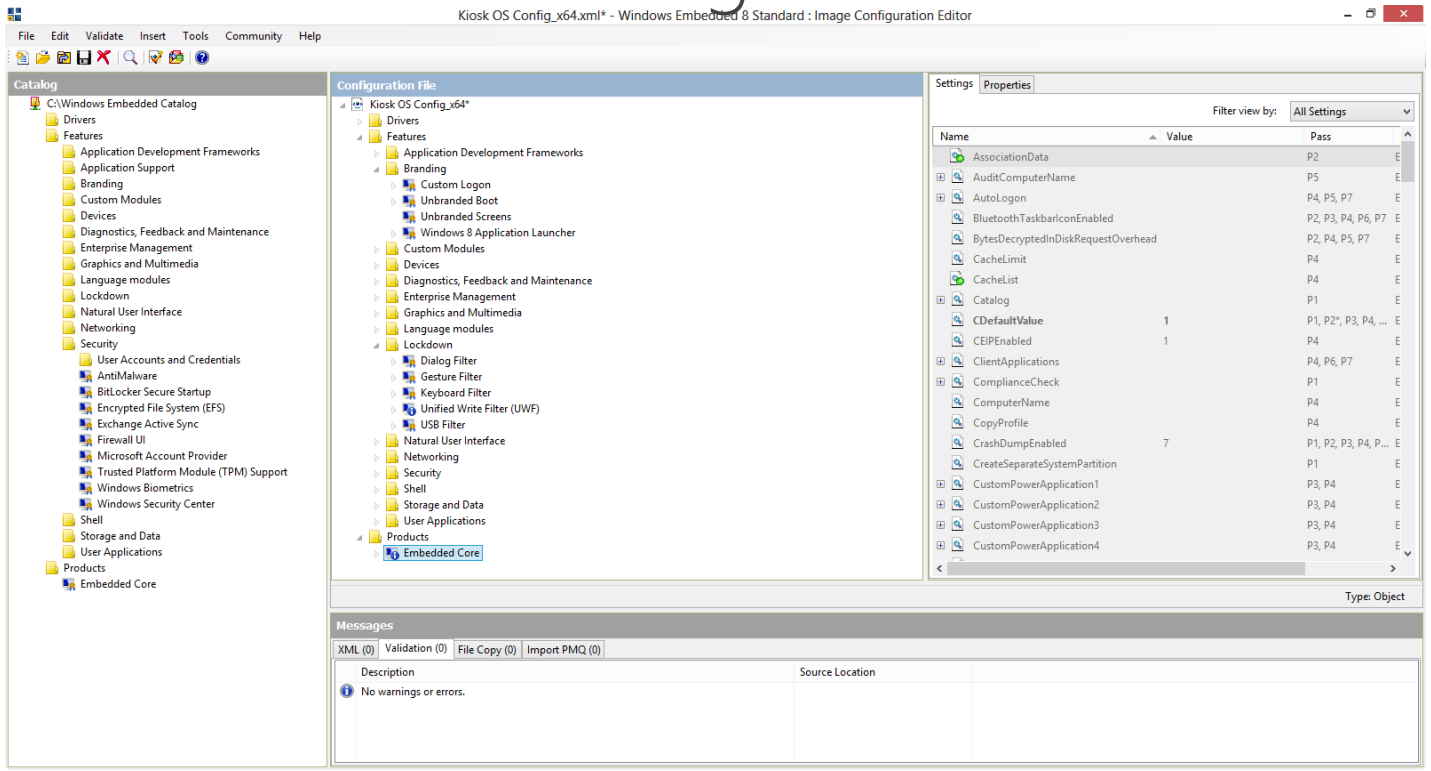
Select Modules



Install

Image Configuration Editor (ICE)

Advanced OS Configuration Tool



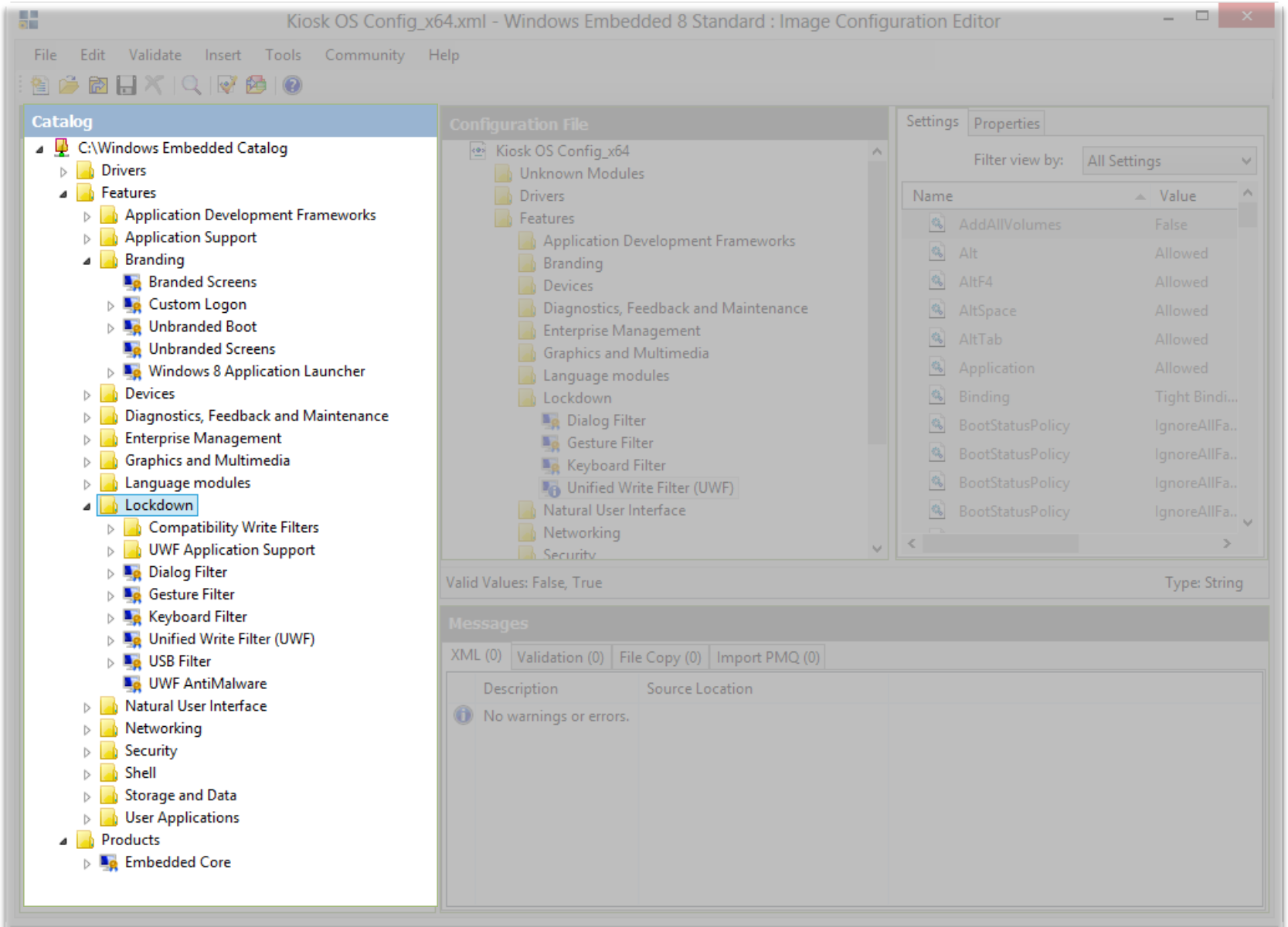
Benefits

Easier OS configuration and manipulation

Save time by reusing configurations

Easy to add 3rd part content

ICE | Catalog

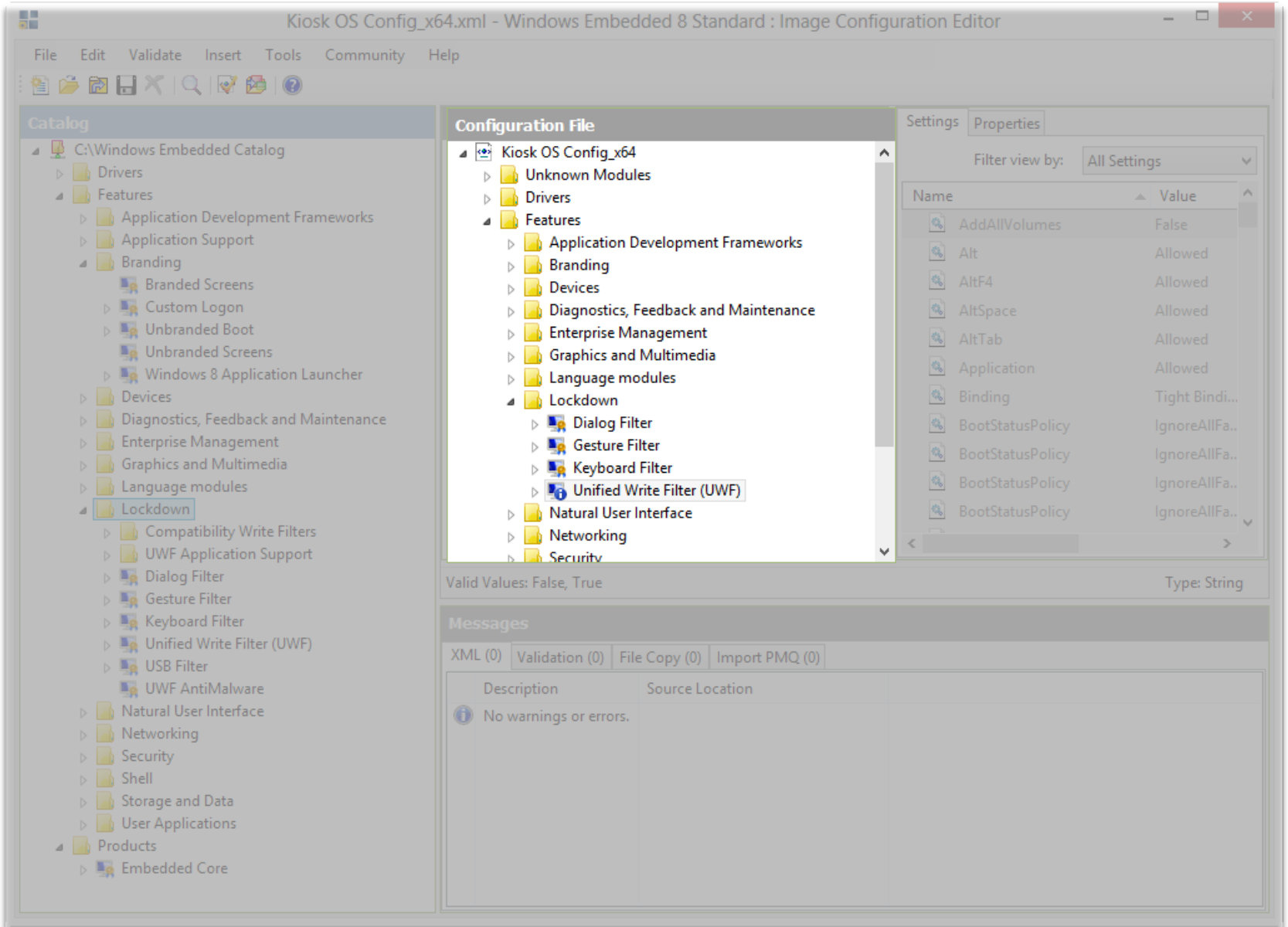


32 & 64bit architecture

Modular

Microsoft & 3rd party software

ICE | Configuration File

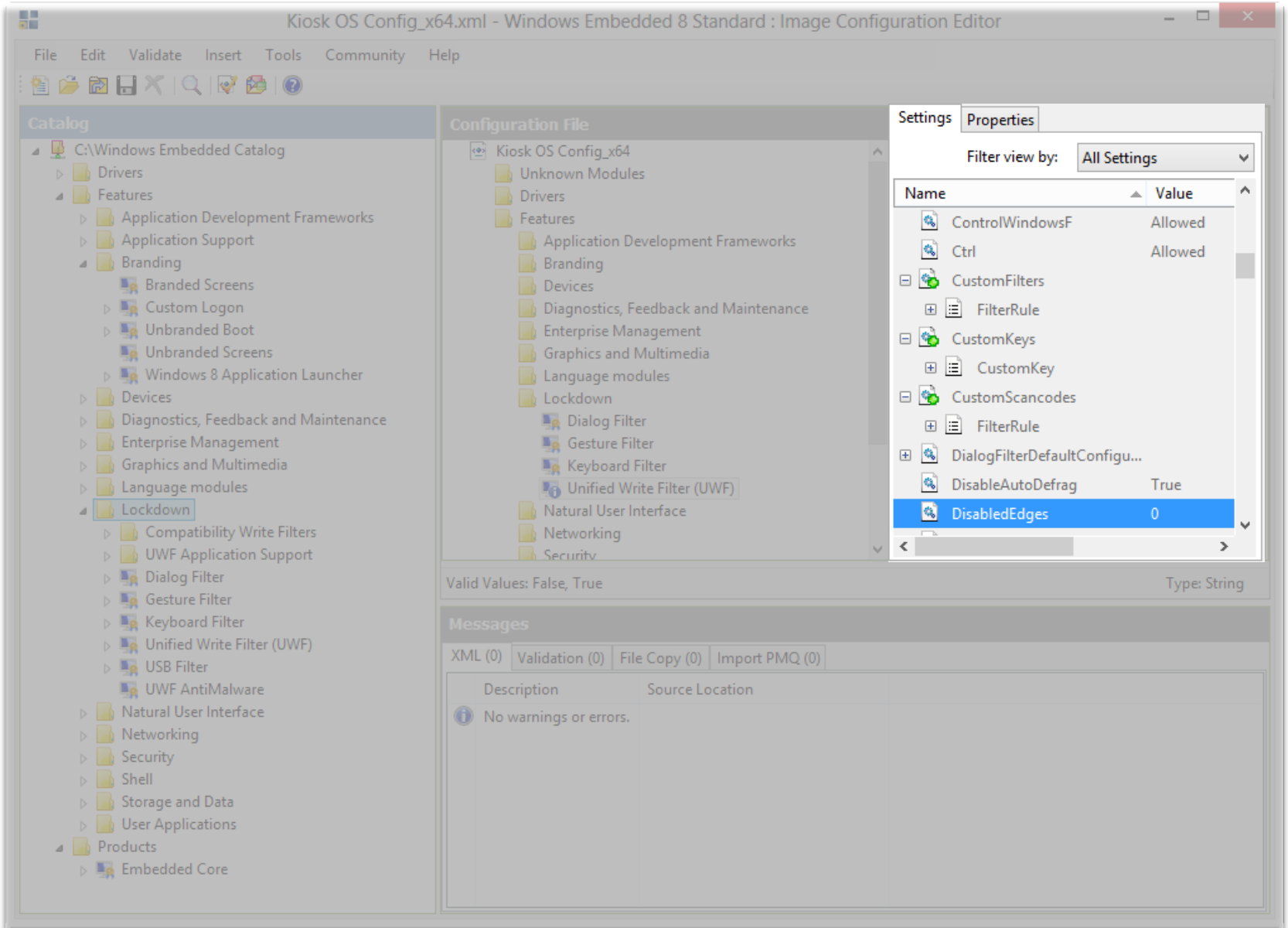


Reuse Configurations

Easy to make updates

Version control

ICE | Settings

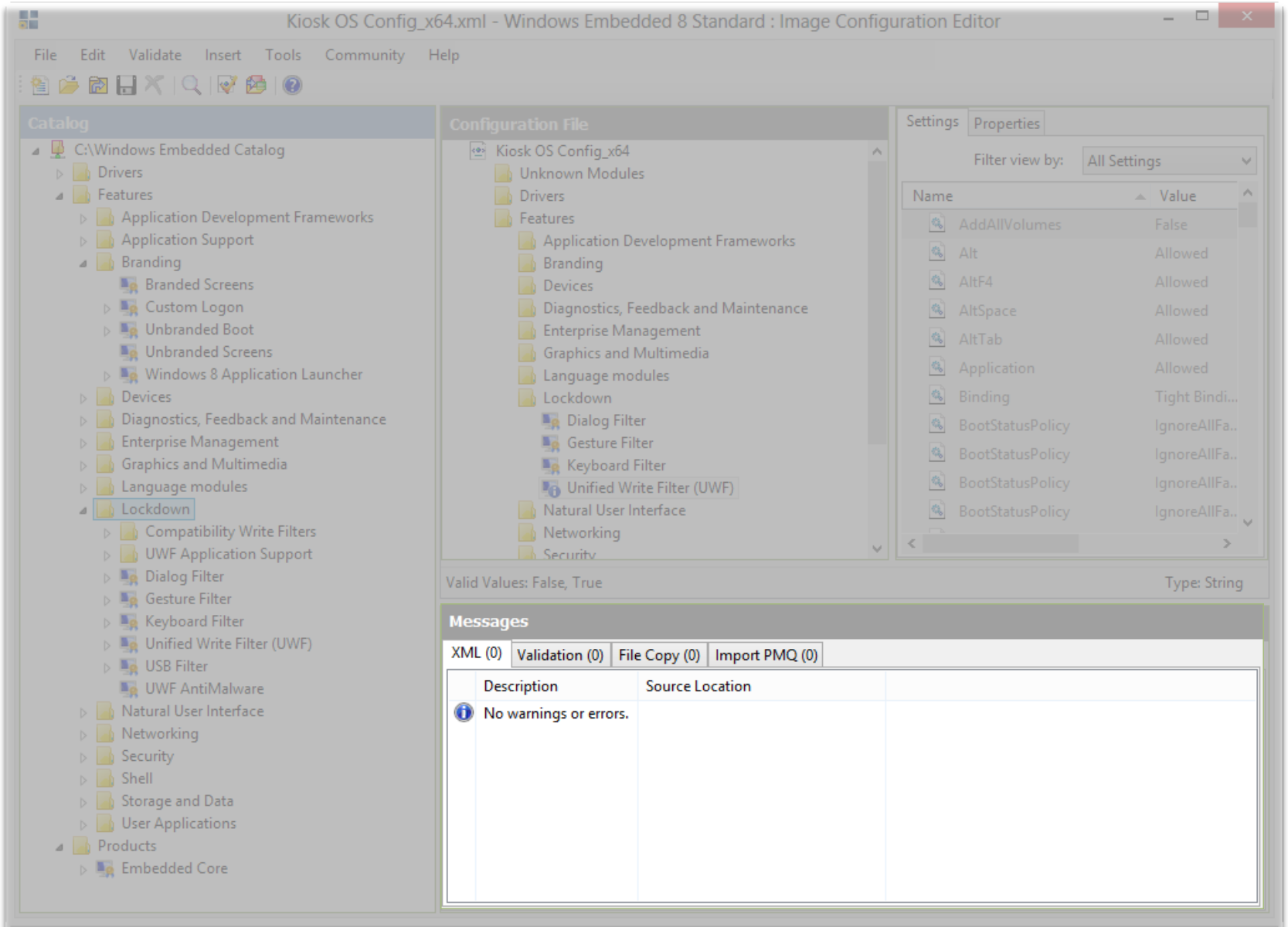


Advanced OS settings

Pre-configure settings

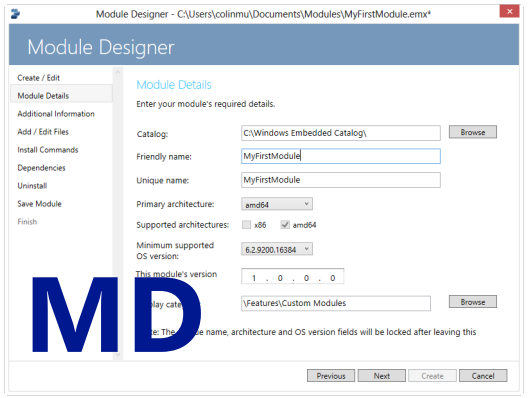
Auto logon

ICE | Validation

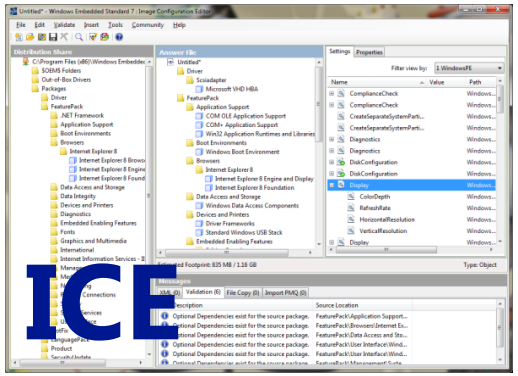


Validate dependencies

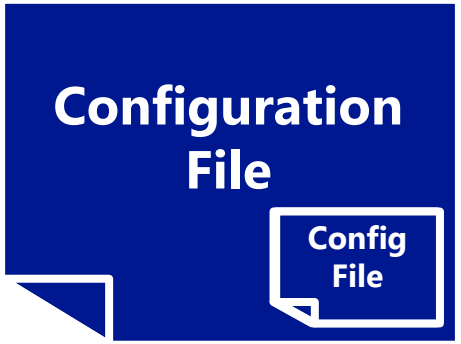
ICE | Advanced OS configuration and config reuse



Custom Module

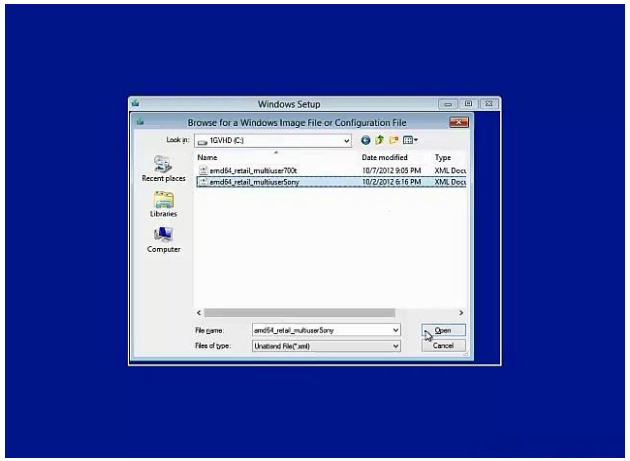


Configure

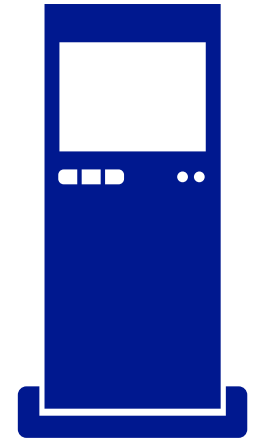


Save

Boot



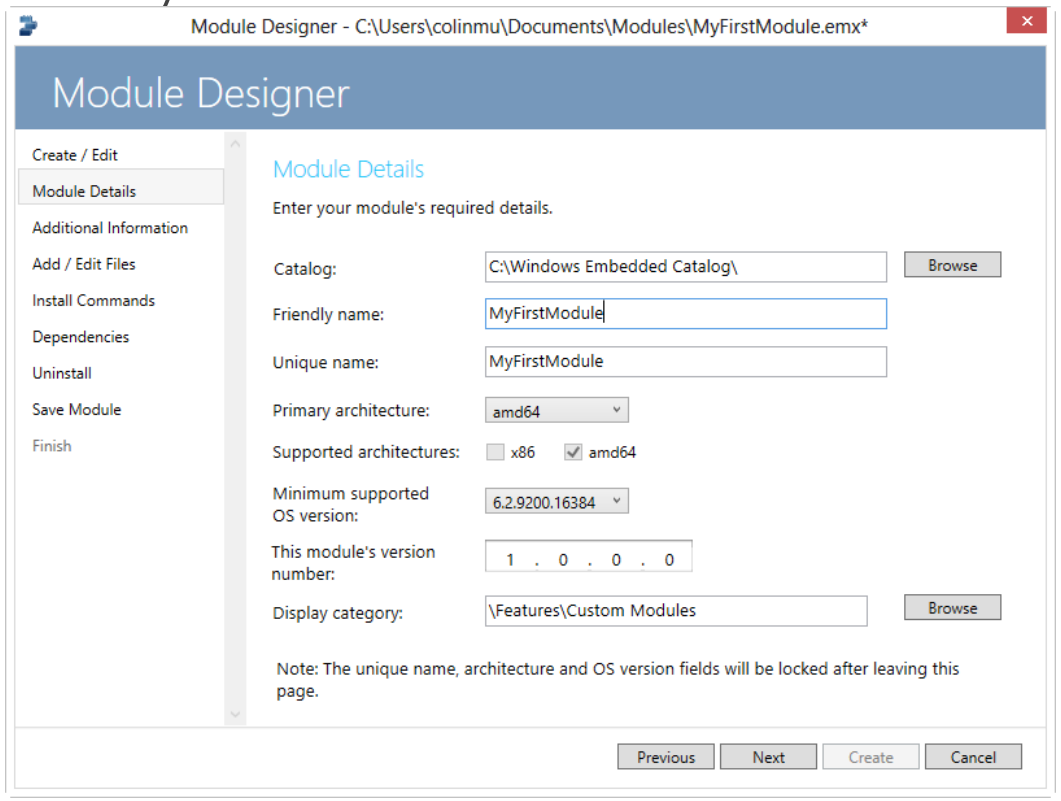
Select



Install

Module Designer

Easily create custom Modules

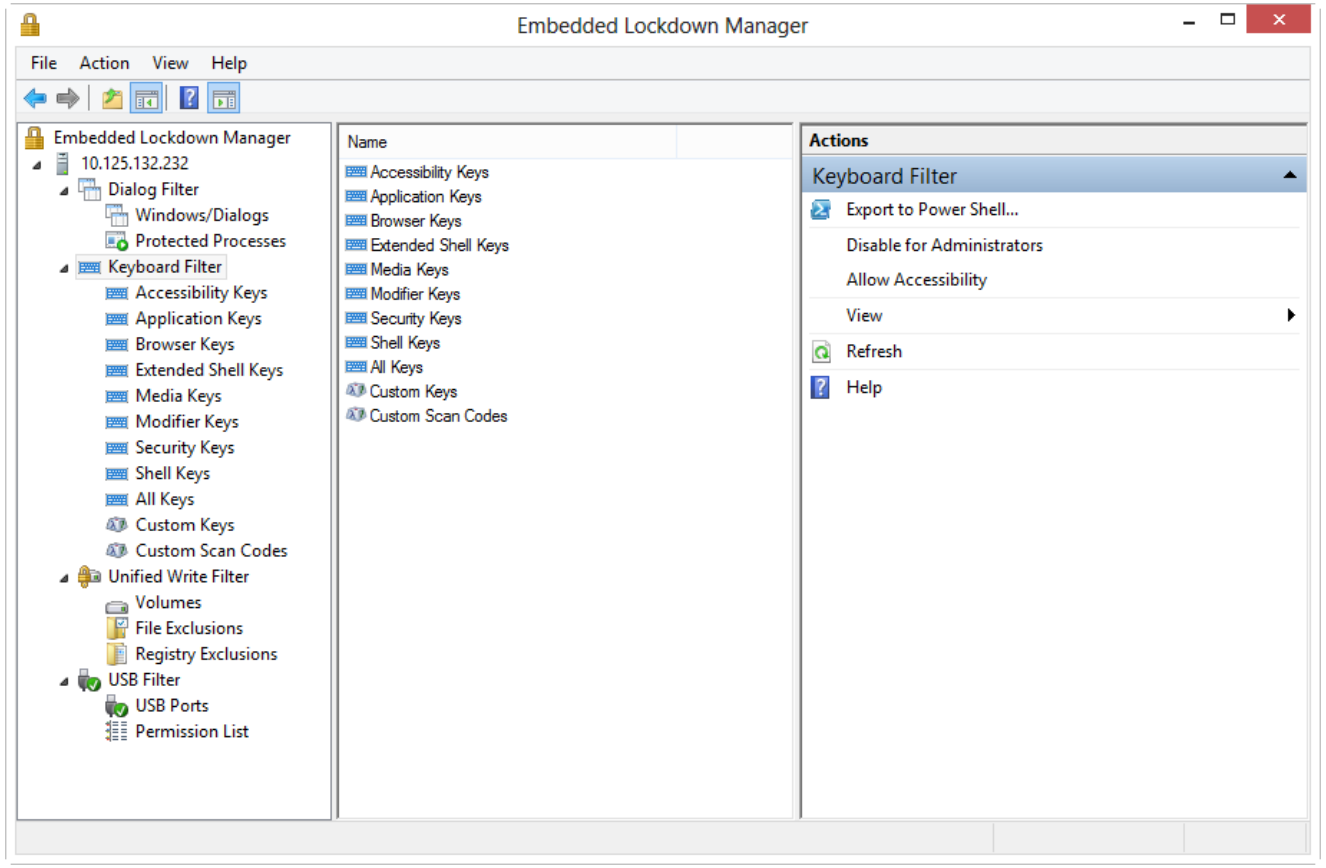


Easily integrate 3rd party software

Distribute modules securely

Save time with module dependency validation

Embedded Lockdown Manager



Remotely configure lockdown on a device

Connect to multiple devices to simplify device lockdown management

Export configuration setting to PowerShell scripts

Extend The Build System

Module Designer

Microsoft

Windows Embedded

Module Designer

New tool for module creation

Create custom modules from custom or 3rd party binaries and drivers

Can be used to author scenario and feature modules

Create modules with dependencies only
Do not include binaries

Different save options provide flexibility

Import modules into Catalog used by ICE
Save modules as complete packages
Example: create a servicing module for field devices
Save module configuration only
E.g. for storing module configuration in a software control system

MD | Easily add custom software to your device

Module Designer (MD)

Easily integrate custom software into OS

Copy files, execute commands, install drivers, modify registry

Module Designer | Features

Step-by-step Tool to create modules from binaries as well as meta data

Automatically import drivers using .inf file

UI enables fast and easy editing of existing modules

Module Designer is used to create scenario modules

Scenario modules are modules having dependencies only

All types of modules can be signed using certificates

e.g. using Signtool.exe from Visual Studio

Embedded Provider for DISM checks signatures during install

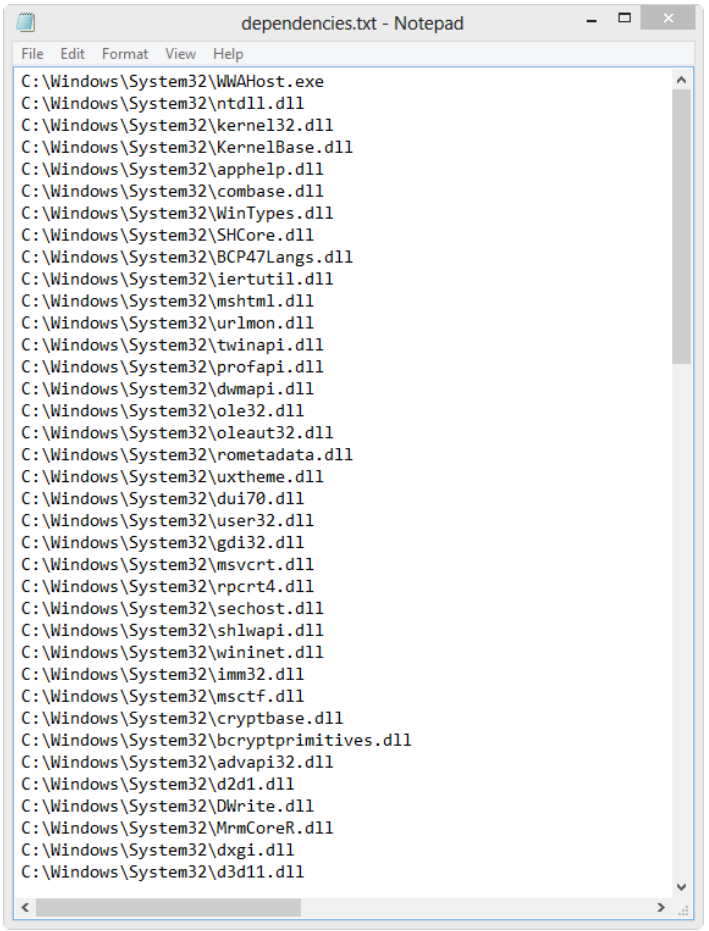
Service / maintain images on-/offline
Enable secure module installation!

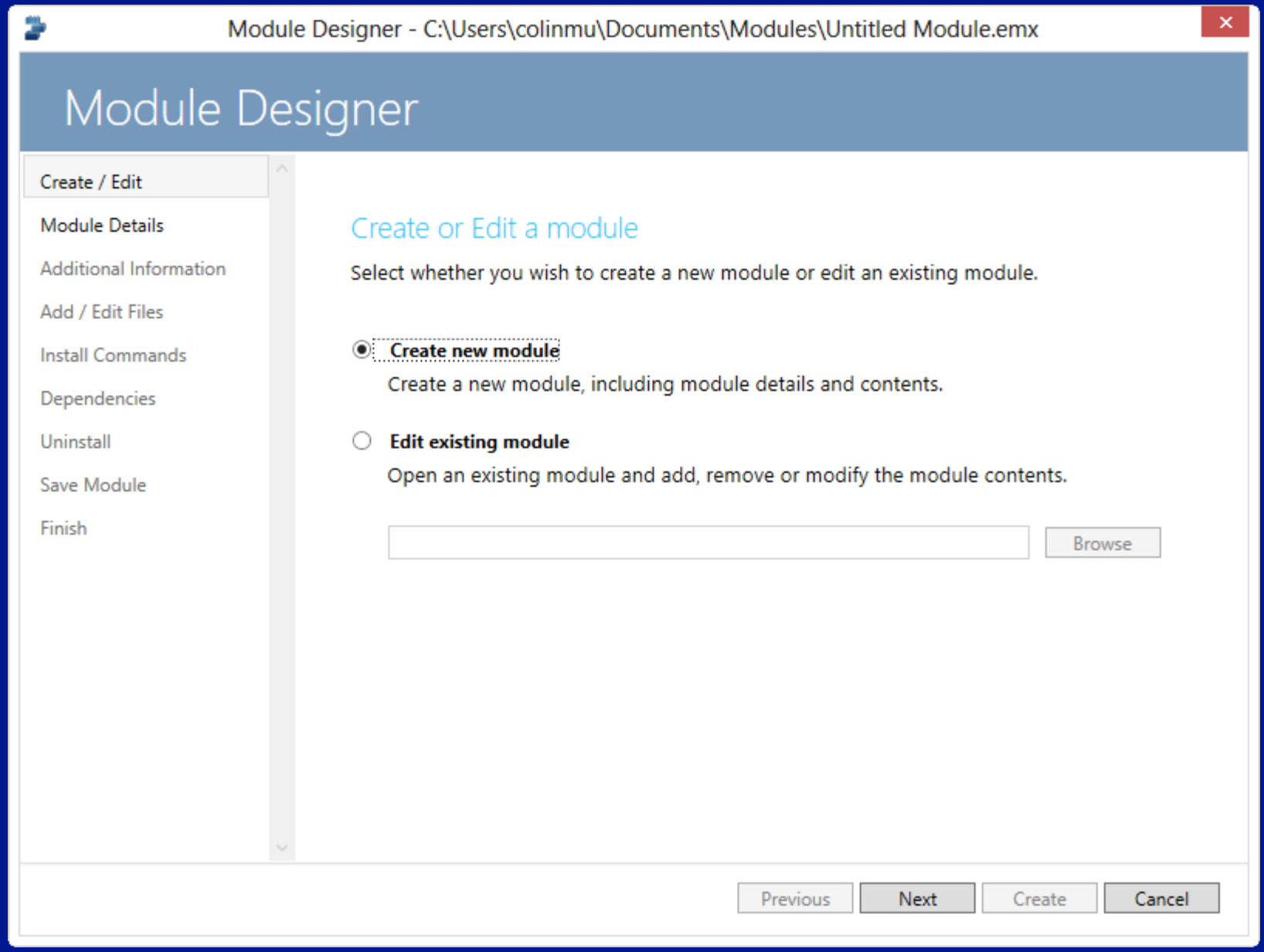
Dependency Analyzer

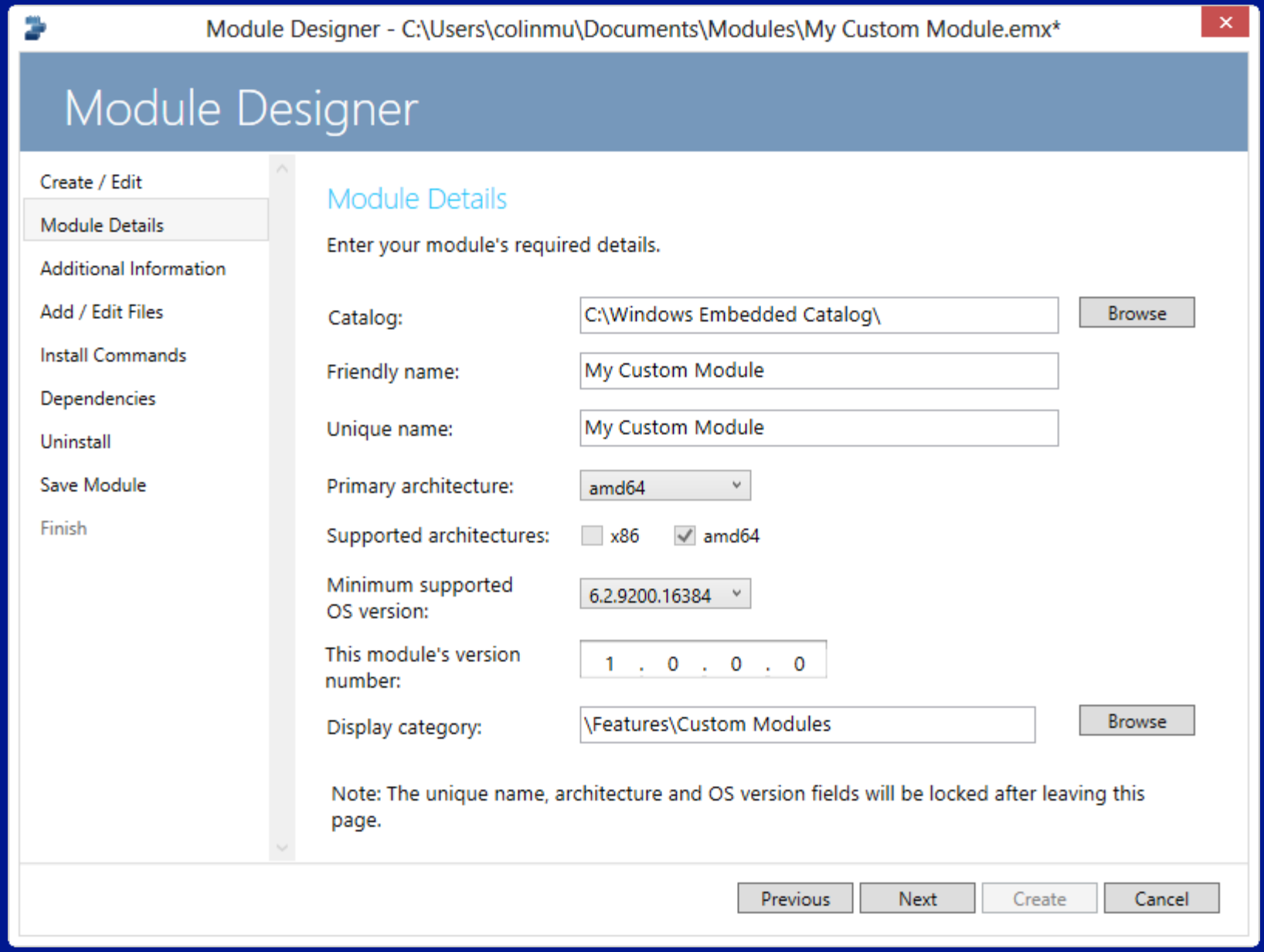
New command line tool to identify dependencies for your application

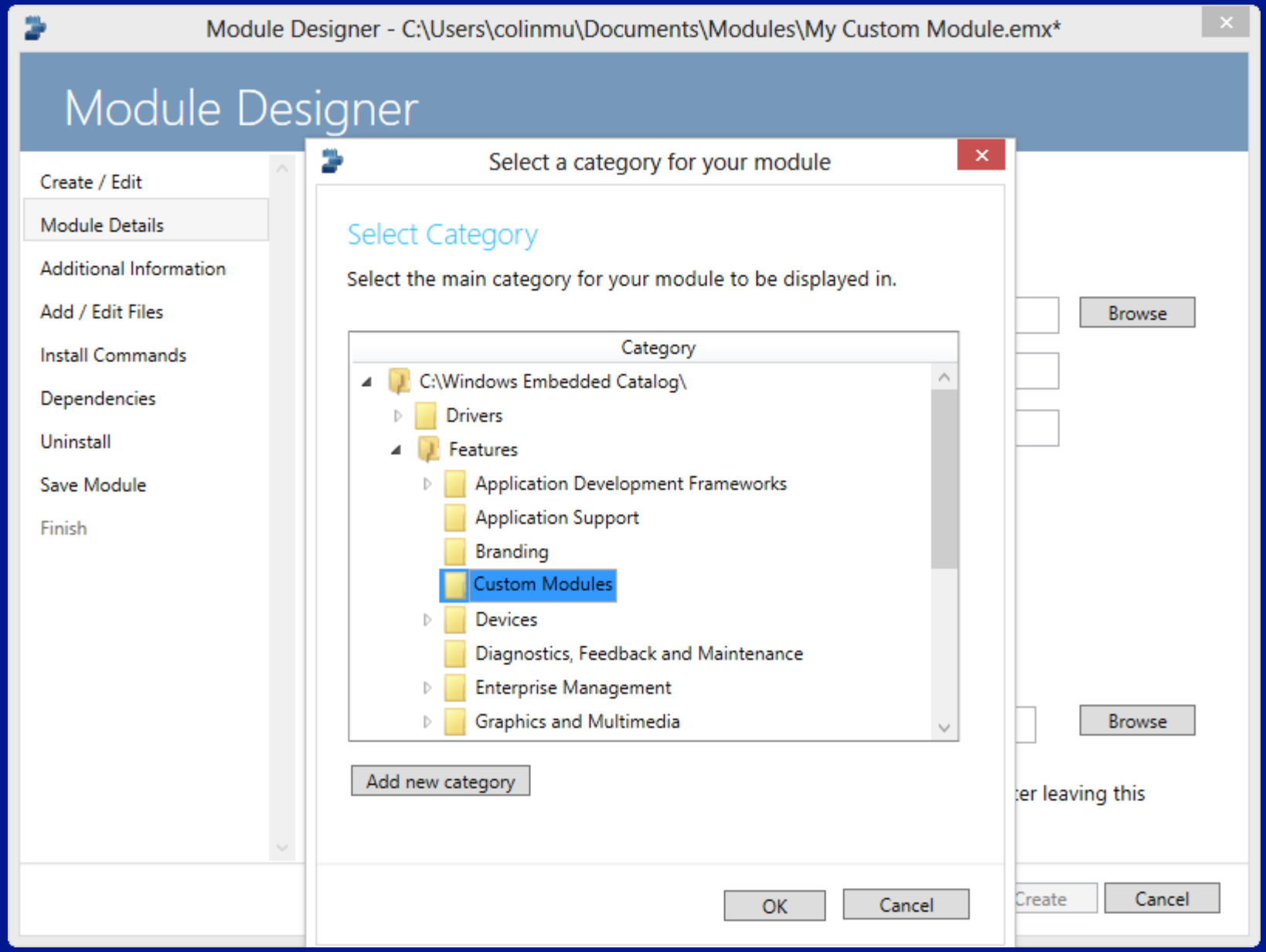
Specify path to application or Process ID

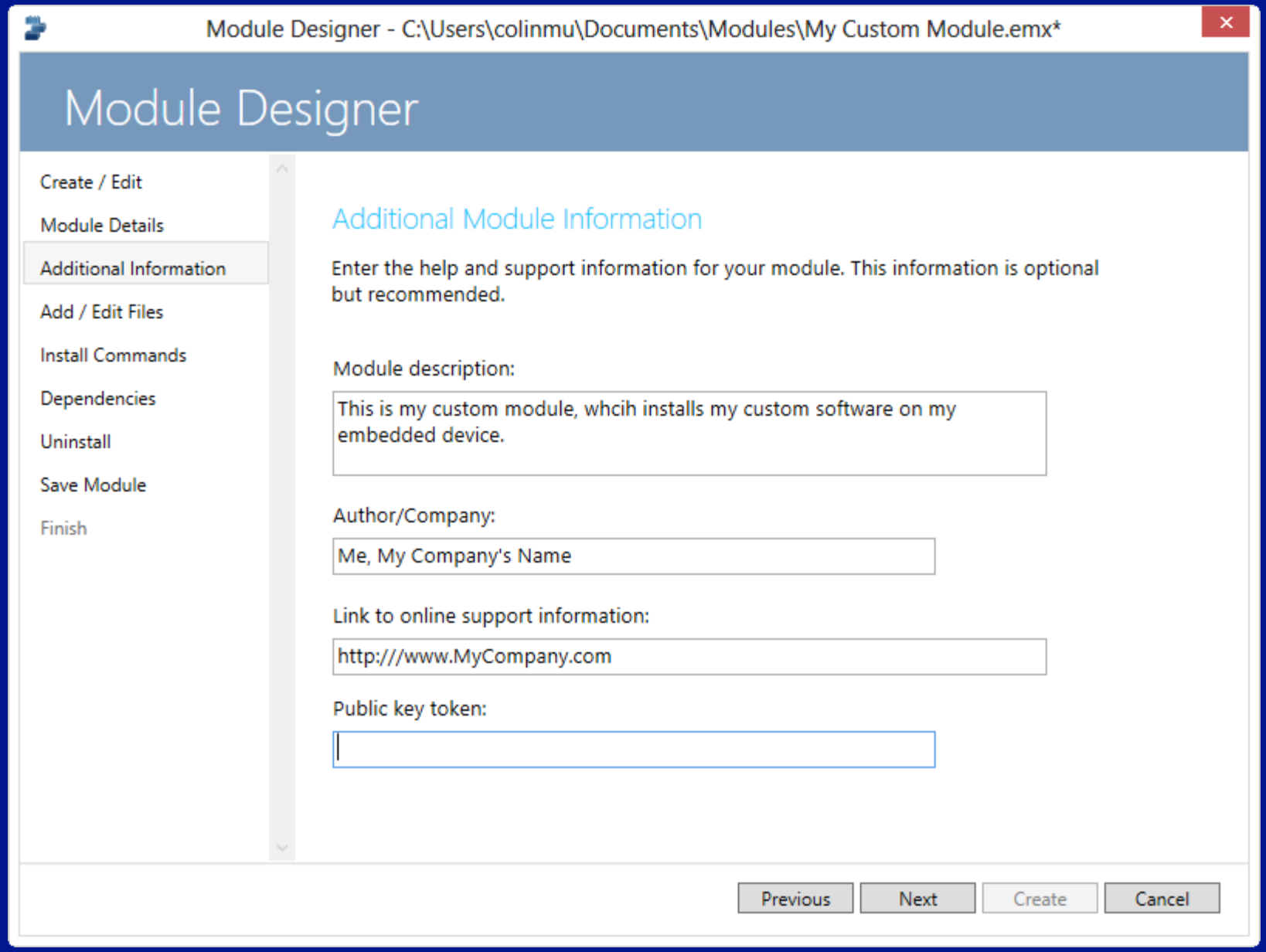
Creates dependency list that can be imported into Module Designer

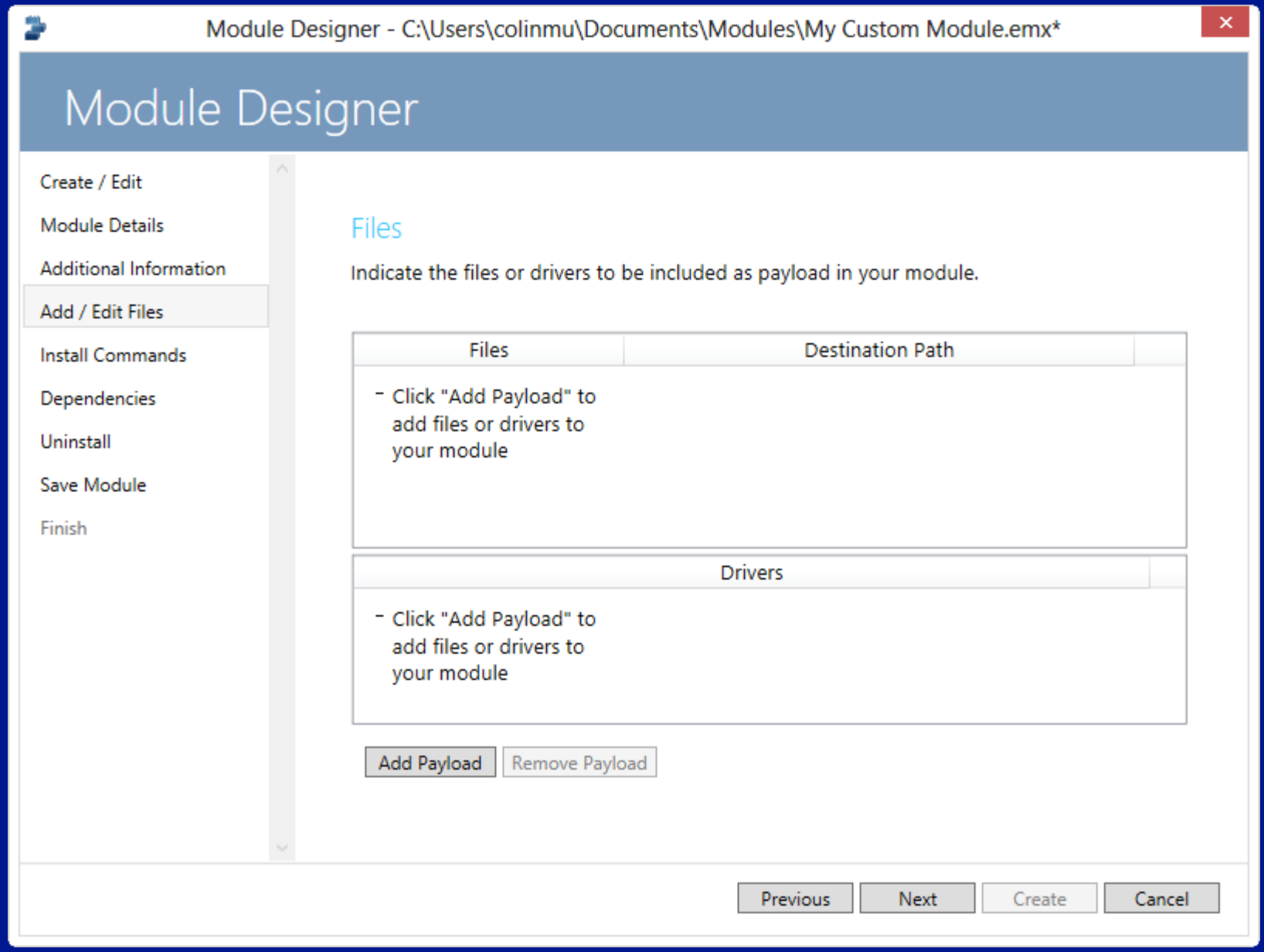


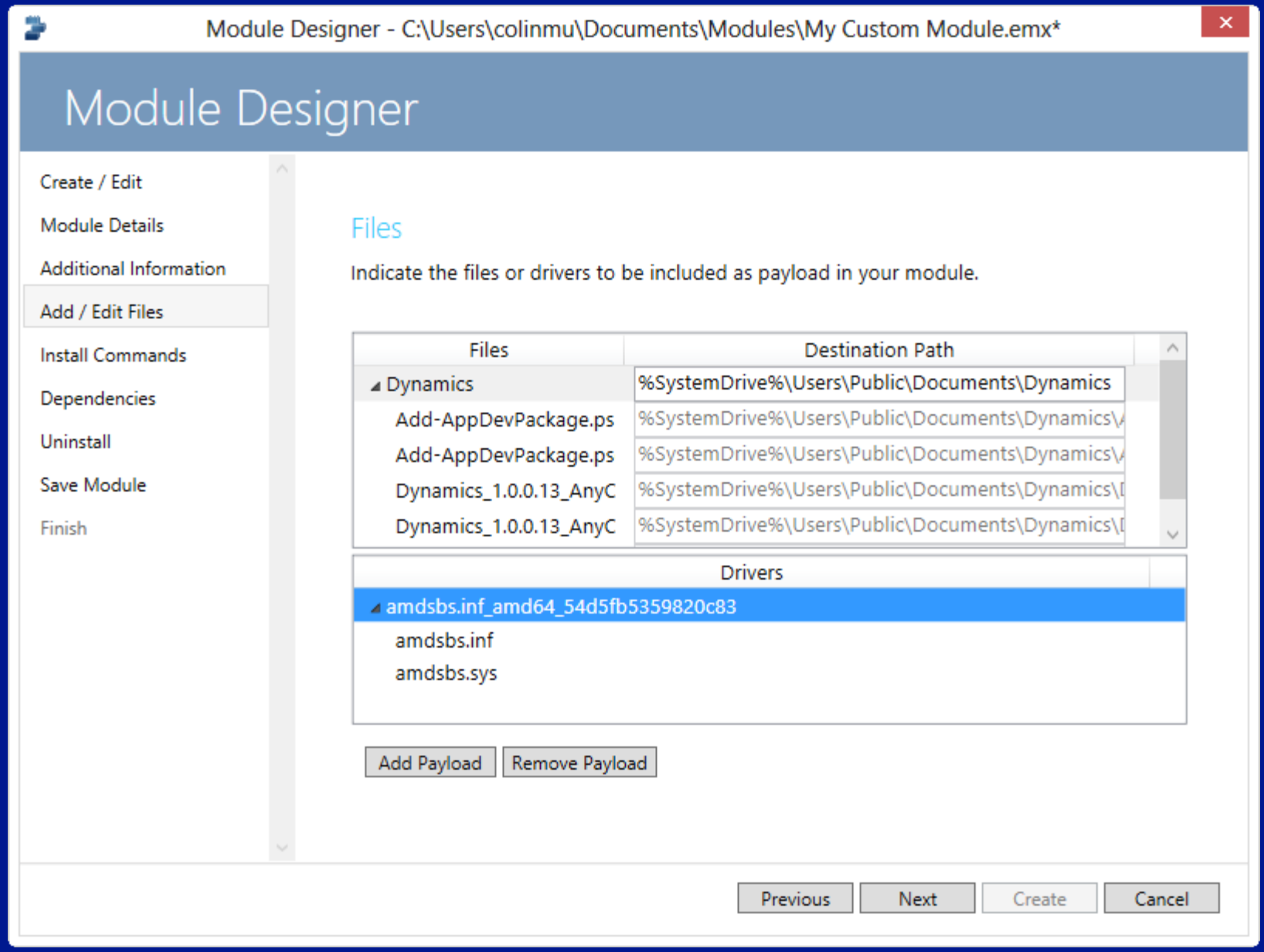

Module Designer - C:\Users\colinmu\Documents\Modules\Untitled Module.emx
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Create or Edit a module
Select whether you wish to create a new module or edit an existing module.
Create new module
Create a new module, including module details and contents.
Edit existing module
Open an existing module and add, remove or modify the module contents.
Browse
Previous
Next
Create
Cancel

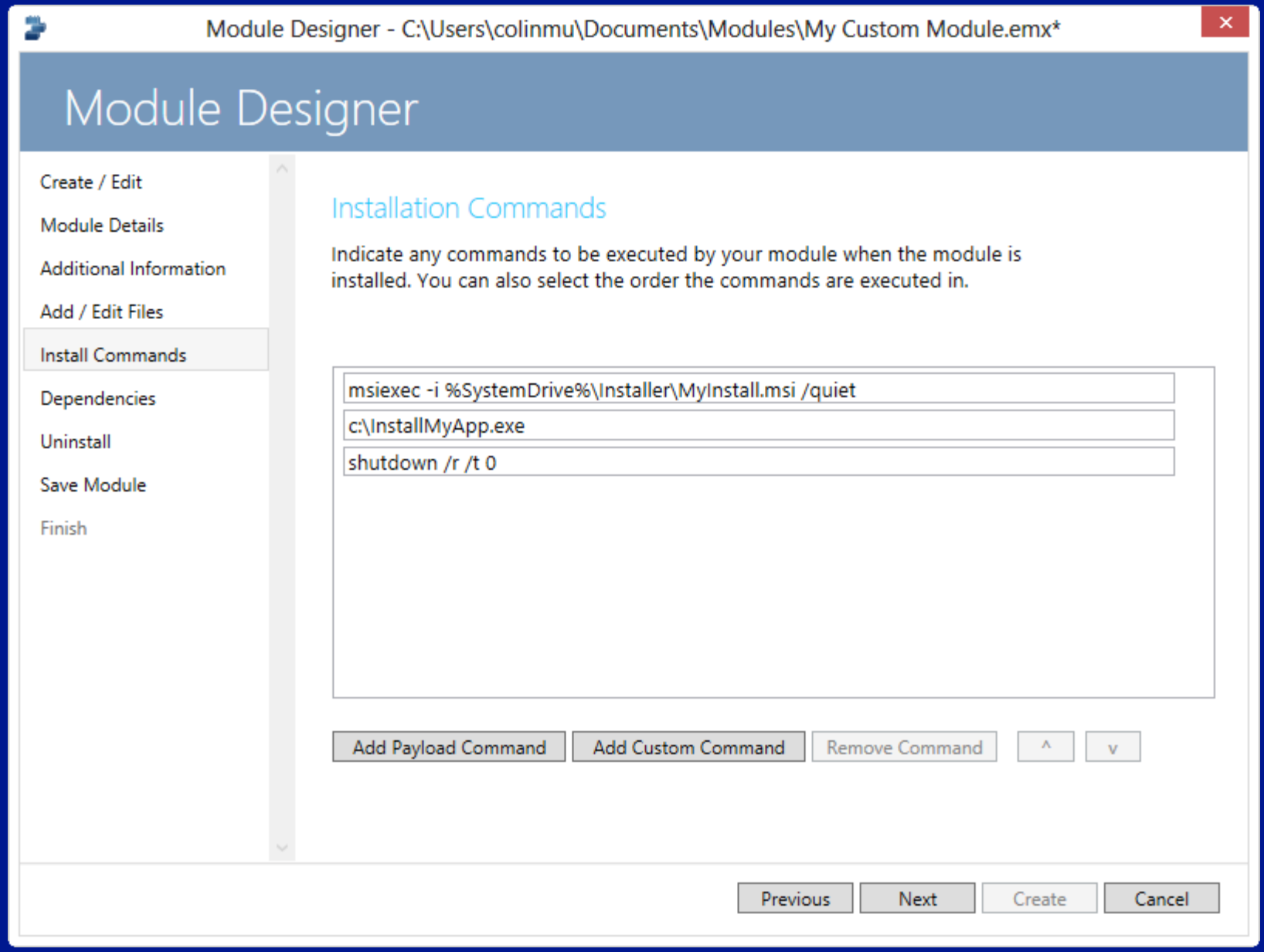

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Module Details
Enter your module's required details.
Catalog:
C:\Windows Embedded Catalog\
Browse
Friendly name:
My Custom Module
Unique name:
My Custom Module
Primary architecture:
amd64
Supported architectures:
x86
amd64
Minimum supported OS version:
6.2.9200.16384
This module's version number:
1 . 0 . 0 . 0
Display category:
\Features\Custom Modules
Browse
Note: The unique name, architecture and OS version fields will be locked after leaving this page.
Previous
Next
Create
Cancel

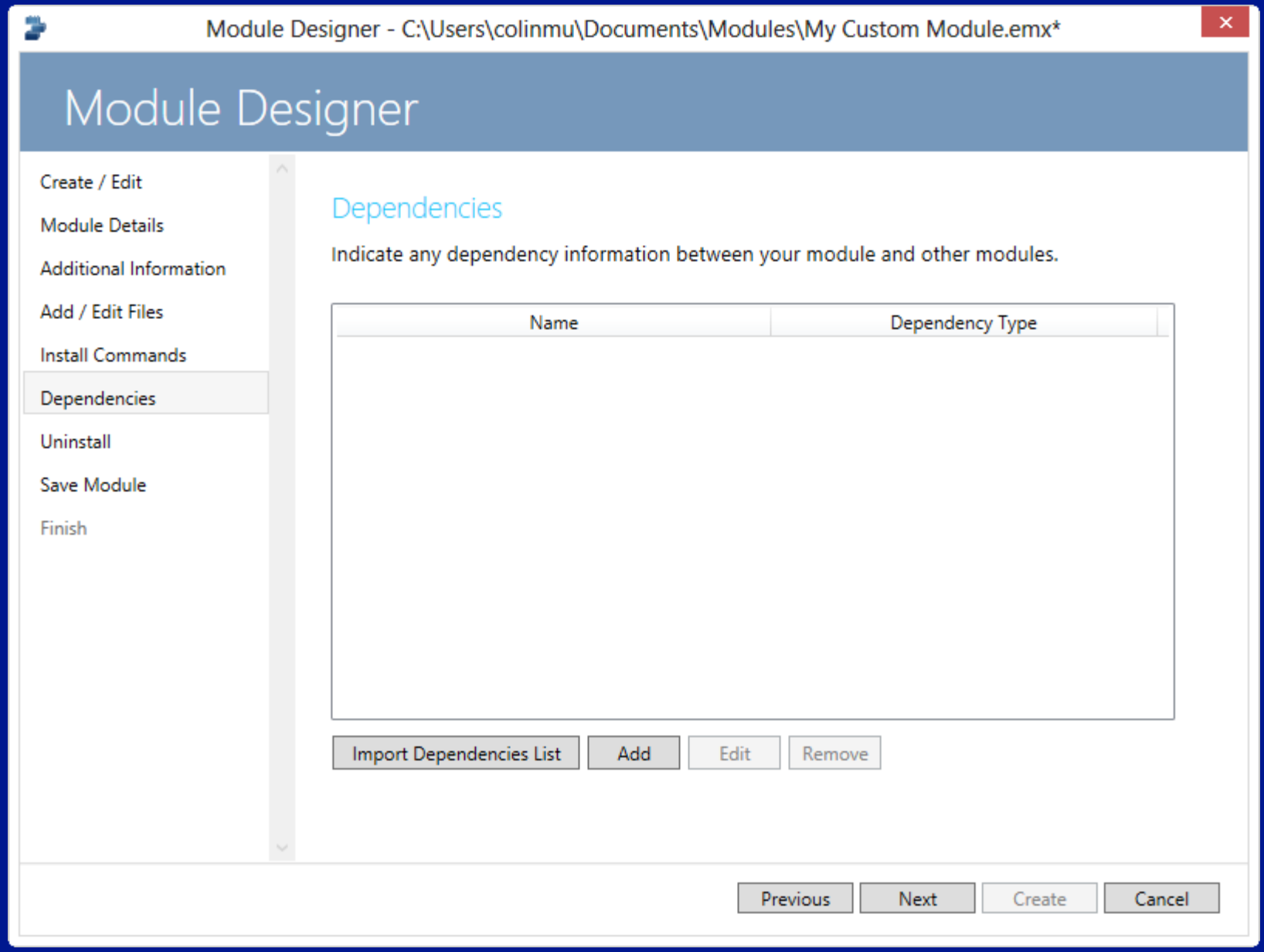

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Select a category for your module
Select Category
Select the main category for your module to be displayed in.
Category
C:\Windows Embedded Catalog\
Drivers
Features
Application Development Frameworks
Application Support
Branding
Custom Modules
Devices
Diagnostics, Feedback and Maintenance
Enterprise Management
Graphics and Multimedia
Add new category
OK
Cancel
Browse
Browse
er leaving this
Create
Cancel

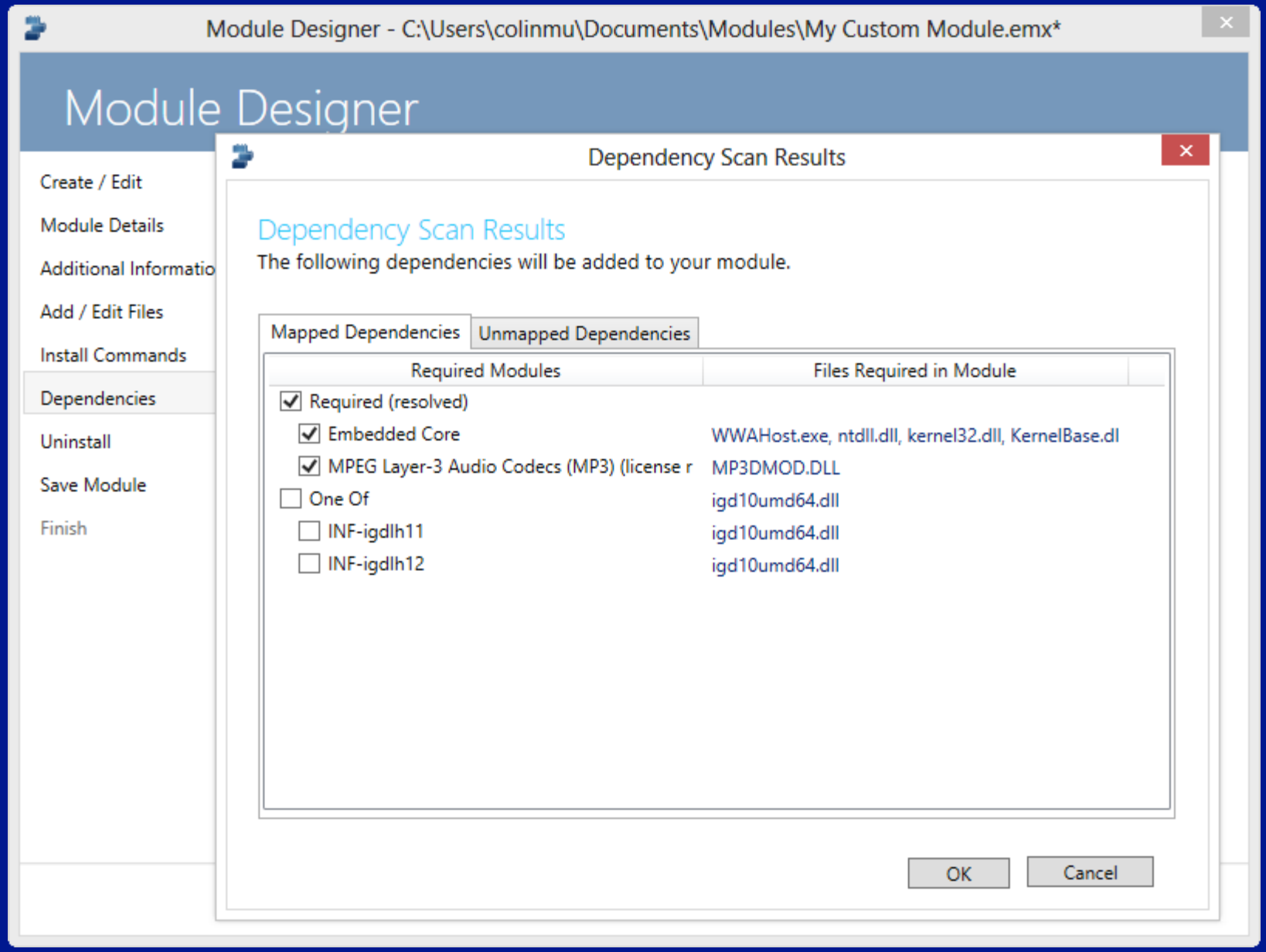

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Additional Module Information
Enter the help and support information for your module. This information is optional but recommended.
Module description:
This is my custom module, whcih installs my custom software on my embedded device.
Author/Company:
Me, My Company's Name
Link to online support information:
http:///www.MyCompany.com
Public key token:
Previous
Next
Create
Cancel

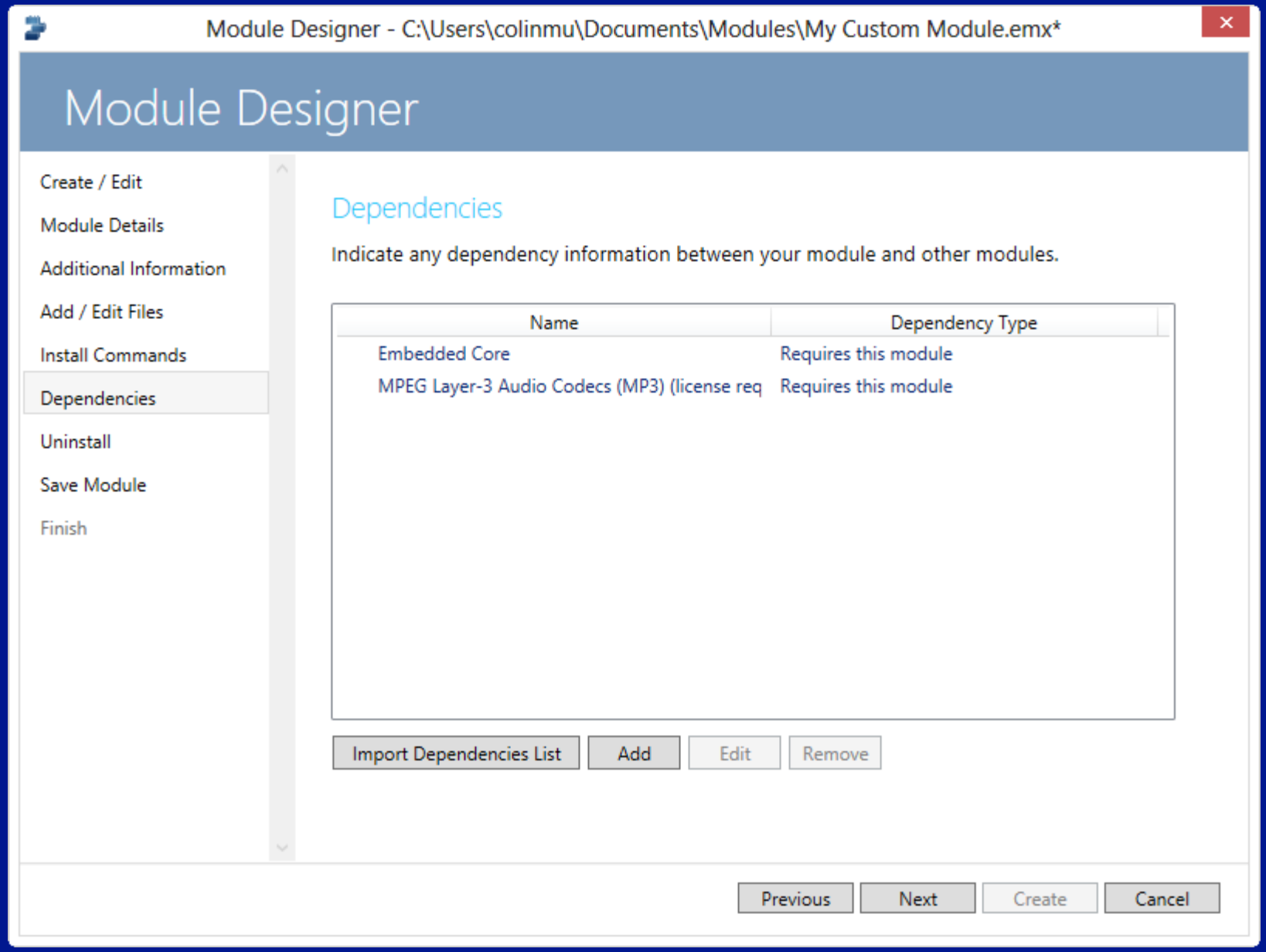

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Files
Indicate the files or drivers to be included as payload in your module.
Files
Destination Path
Click "Add Payload" to add files or drivers to your module
Drivers
Click "Add Payload" to add files or drivers to your module
Add Payload
Remove Payload
Previous
Next
Create
Cancel

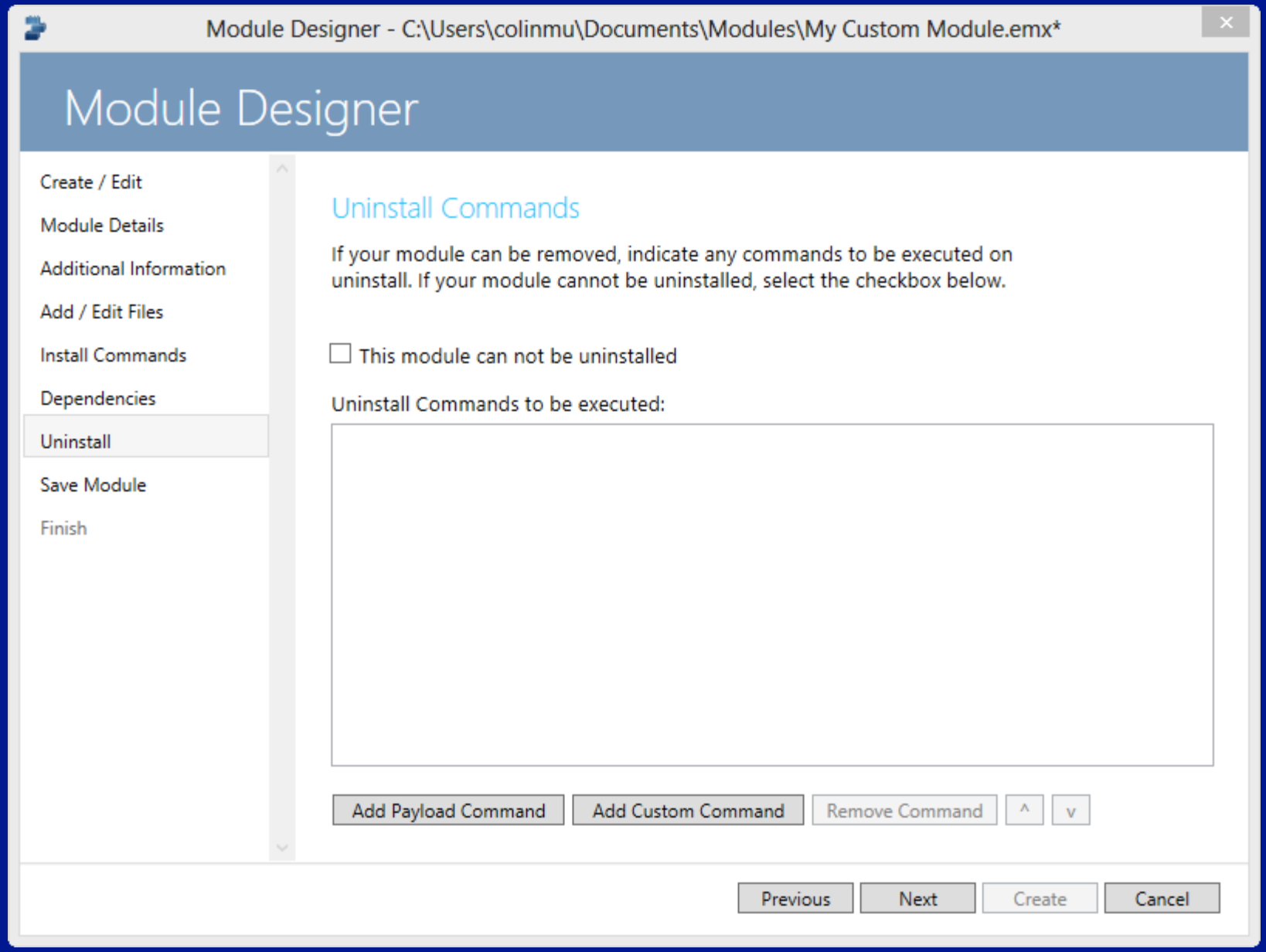

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Files
Indicate the files or drivers to be included as payload in your module.
Files
Destination Path
Dynamics
%SystemDrive%\Users\Public\Documents\Dynamics
Add-AppDevPackage.ps
%SystemDrive%\Users\Public\Documents\Dynamics\
Add-AppDevPackage.ps
%SystemDrive%\Users\Public\Documents\Dynamics\
Dynamics_1.0.0.13_AnyC
%SystemDrive%\Users\Public\Documents\Dynamics\
Dynamics_1.0.0.13_AnyC
%SystemDrive%\Users\Public\Documents\Dynamics\
Drivers
amdsbs.inf_amd64_54d5fb5359820c83
amdsbs.inf
amdsbs.sys
Add Payload
Remove Payload
Previous
Next
Create
Cancel

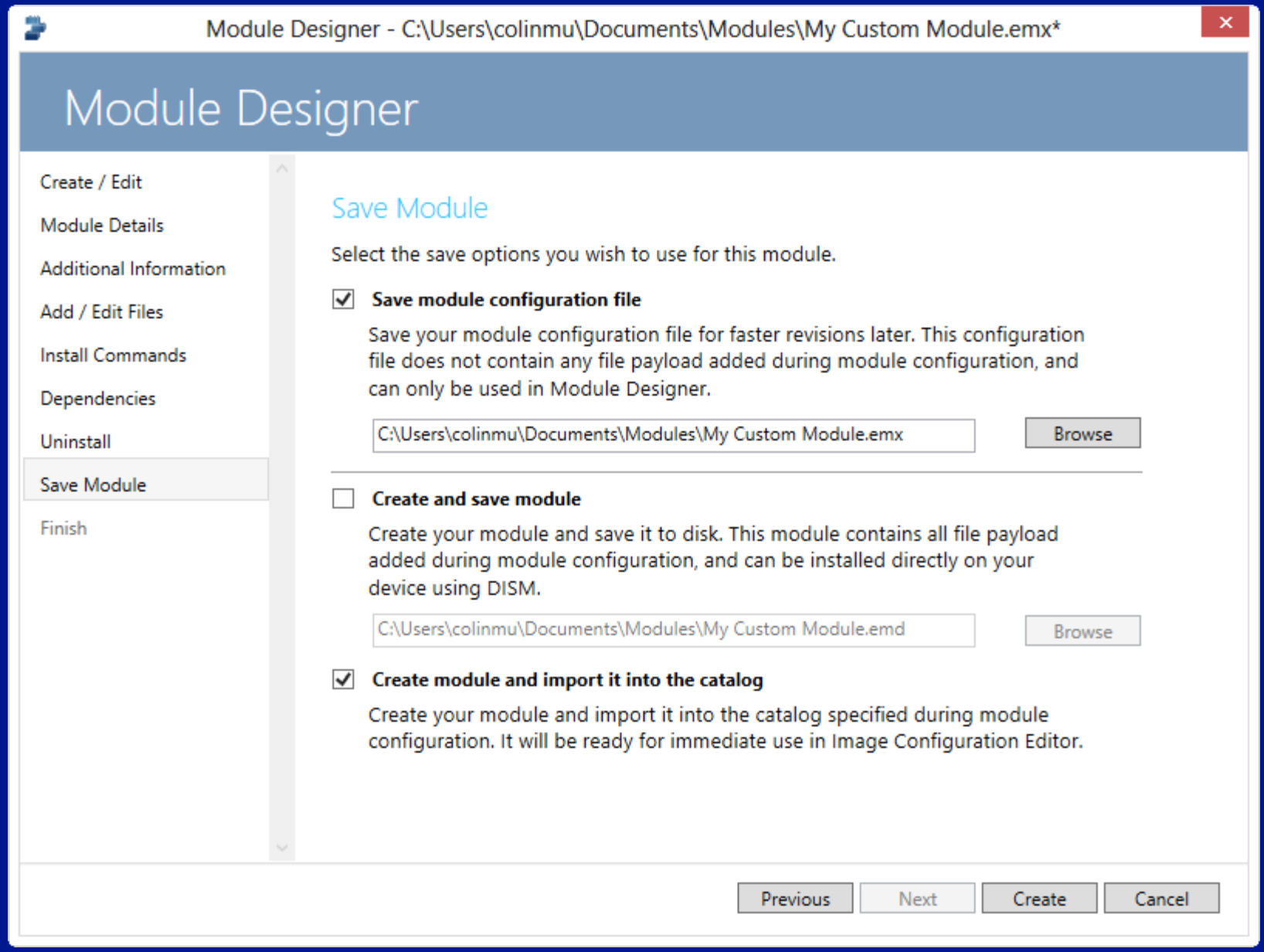

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Installation Commands
Indicate any commands to be executed by your module when the module is installed. You can also select the order the commands are executed in.
msiexec -i %SystemDrive%\Installer\MyInstall.msi /quiet
c:\InstallMyApp.exe
shutdown /r /t 0
Add Payload Command
Add Custom Command
Remove Command
^
v
Previous
Next
Create
Cancel

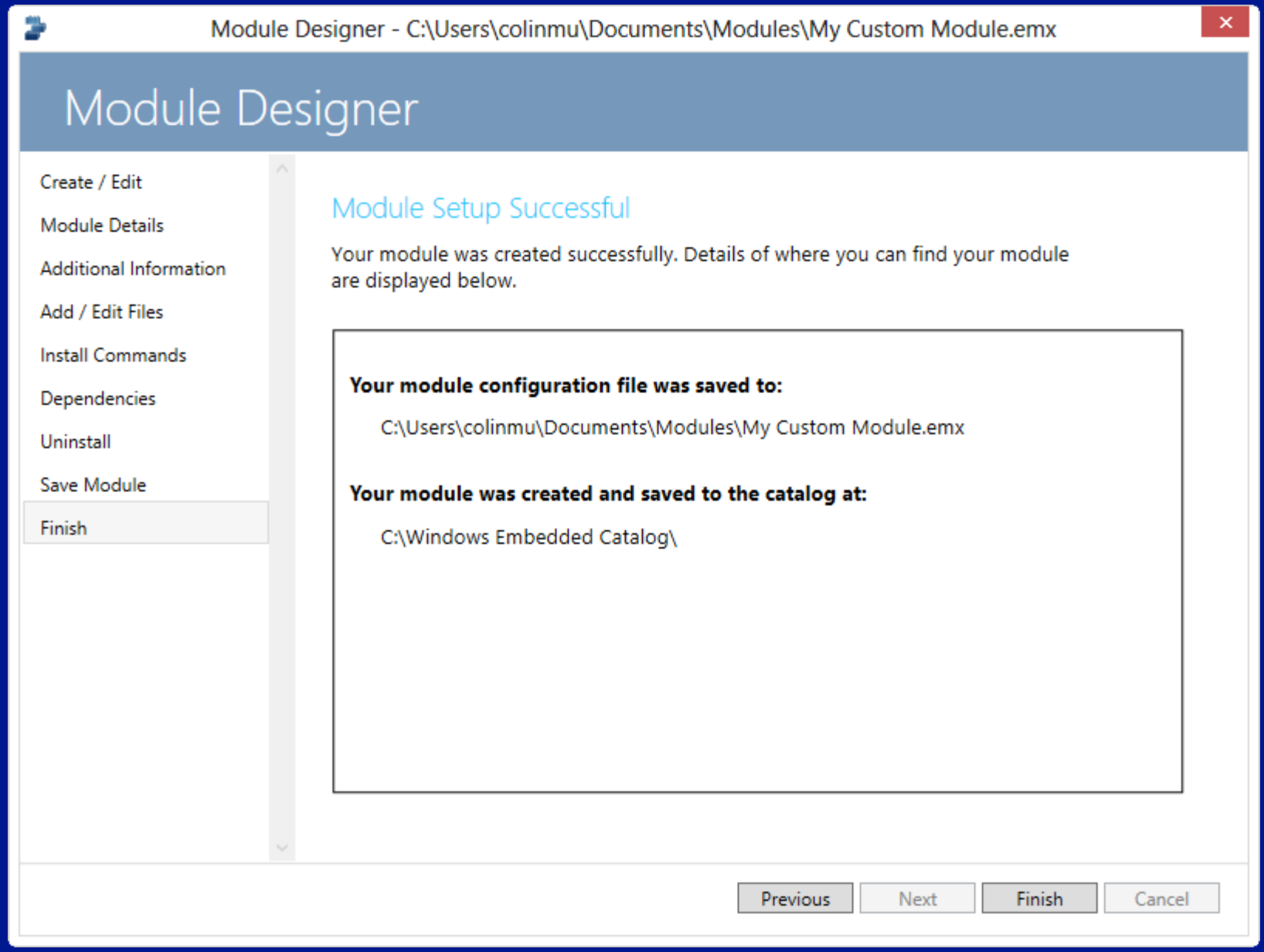

Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Dependencies
Indicate any dependency information between your module and other modules.
Name
Dependency Type
Import Dependencies List
Add
Edit
Remove
Previous
Next
Create
Cancel


Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Informatio
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Dependency Scan Results
Dependency Scan Results
The following dependencies will be added to your module.
Mapped Dependencies
Unmapped Dependencies
Required Modules
Files Required in Module
Required (resolved)
Embedded Core
WWAHost.exe, ntdll.dll, kernel32.dll, KernelBase.dl
MPEG Layer-3 Audio Codecs (MP3) (license r
MP3DMOD.DLL
One Of
igd10umd64.dll
INF-igdlh11
igd10umd64.dll
INF-igdlh12
igd10umd64.dll
OK
Cancel


Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Dependencies
Indicate any dependency information between your module and other modules.
Name
Dependency Type
Embedded Core
Requires this module
MPEG Layer-3 Audio Codecs (MP3) (license req
Requires this module
Import Dependencies List
Add
Edit
Remove
Previous
Next
Create
Cancel


Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Uninstall Commands
If your module can be removed, indicate any commands to be executed on uninstall. If your module cannot be uninstalled, select the checkbox below.
This module can not be uninstalled
Uninstall Commands to be executed:
Add Payload Command
Add Custom Command
Remove Command
^
v
Previous
Next
Create
Cancel


Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx*
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Save Module
Select the save options you wish to use for this module.
Save module configuration file
Save your module configuration file for faster revisions later. This configuration file does not contain any file payload added during module configuration, and can only be used in Module Designer.
C:\Users\colinmu\Documents\Modules\My Custom Module.emx
Browse
Create and save module
Create your module and save it to disk. This module contains all file payload added during module configuration, and can be installed directly on your device using DISM.
C:\Users\colinmu\Documents\Modules\My Custom Module.emd
Browse
Create module and import it into the catalog
Create your module and import it into the catalog specified during module configuration. It will be ready for immediate use in Image Configuration Editor.
Previous
Next
Create
Cancel


Module Designer - C:\Users\colinmu\Documents\Modules\My Custom Module.emx
Module Designer
Create / Edit
Module Details
Additional Information
Add / Edit Files
Install Commands
Dependencies
Uninstall
Save Module
Finish
Module Setup Successful
Your module was created successfully. Details of where you can find your module are displayed below.
Your module configuration file was saved to:
C:\Users\colinmu\Documents\Modules\My Custom Module.emx
Your module was created and saved to the catalog at:
C:\Windows Embedded Catalog\
Previous
Next
Finish
Cancel

Module Designer walkthrough | Summary

Choose to edit or create module

Provide module meta-data: processor architecture, version, catalog category, name, details

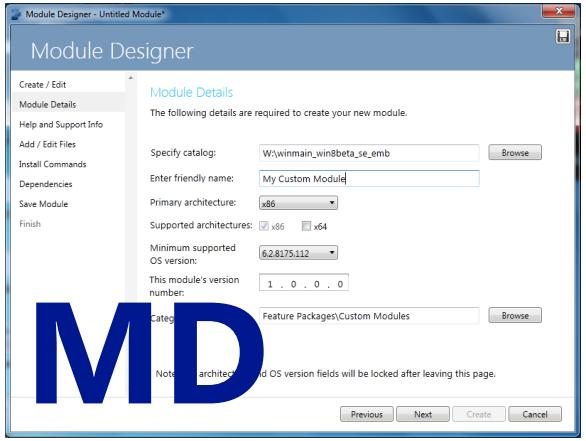
Add / edit files and binaries

Provide sequential list of installation commands

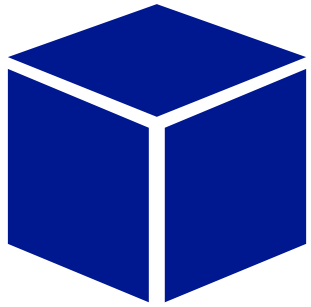
Specify dependencies / dependency rules

Save and/or import module to file system or catalog

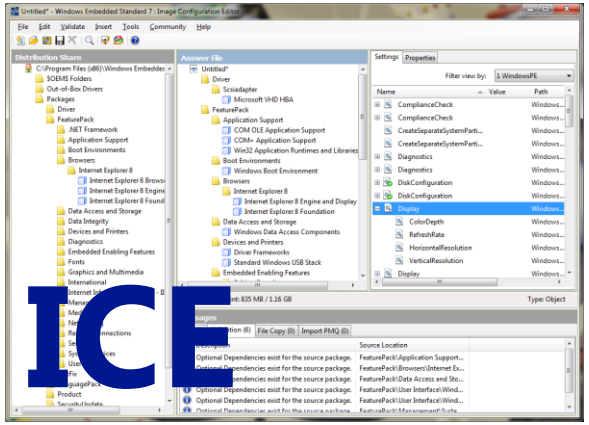
MD | Easily add custom software to your device



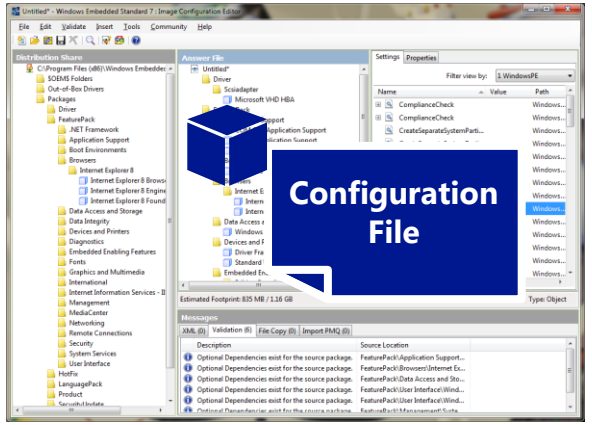
Configure



Save



Import



Select

Install

Module Designer | Special features

Drivers, providing a driver information file (.inf), can be imported automatically

Multiple drivers supported in a module

Ability to provide rich descriptions and help links (meta data)

Flexible save options

Configuration only
Complete module (bundled)
Combined save and import into catalog

Deprecated Technologies

The following features / terms, still available in Windows Embedded 8 Standard, should not be used any more

OEM Folders
Out-of-Box Drivers
Distribution share
Answer Files

Instead use

Modules
Module Designer
Feature Modules
Catalog
Configuration Files

Market Opportunity for ISVs

ISVs are able to

Create Modules containing software offerings for Windows Embedded Standard

Easy integration into build / servicing tools from customer perspective

Create Feature or Scenario Modules for different usages

Making sure that required infrastructure for a feature is in the image

Distribute modules securely to customers

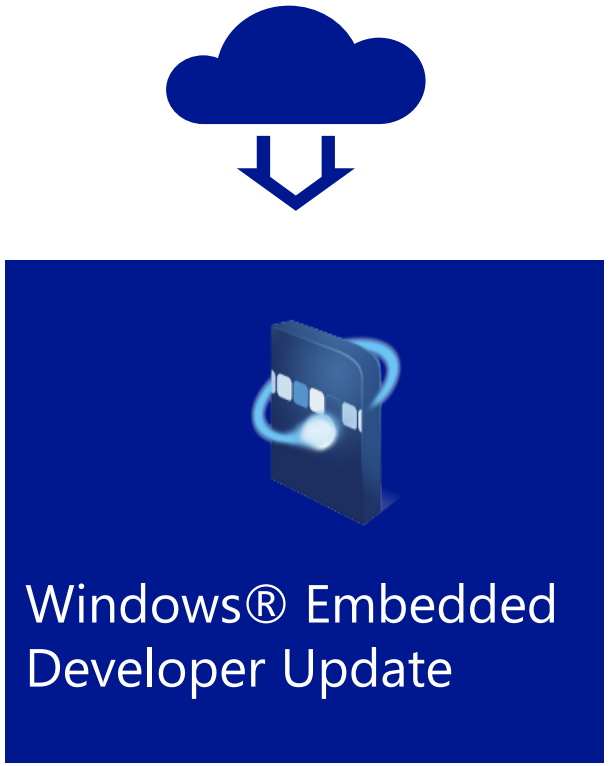
Sign modules


Windows
Embedded
Developer Update
WEDU
Microsoft
Windows Embedded

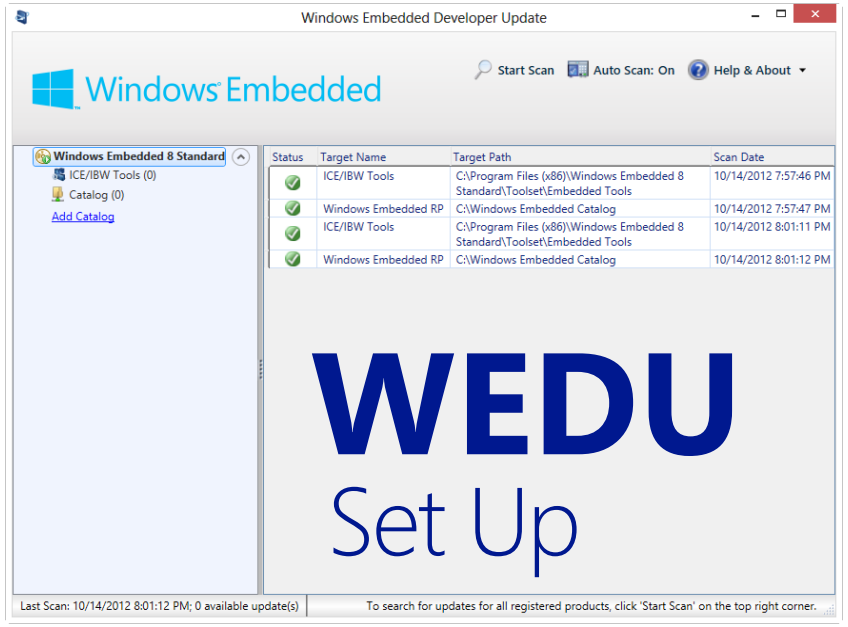
WEDU | Easily keep build up-to-date devices

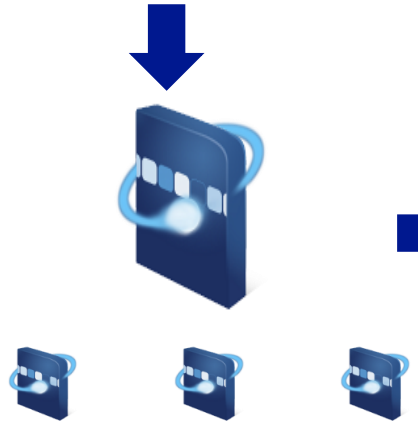
Windows Embedded Developer Update (WEDU)

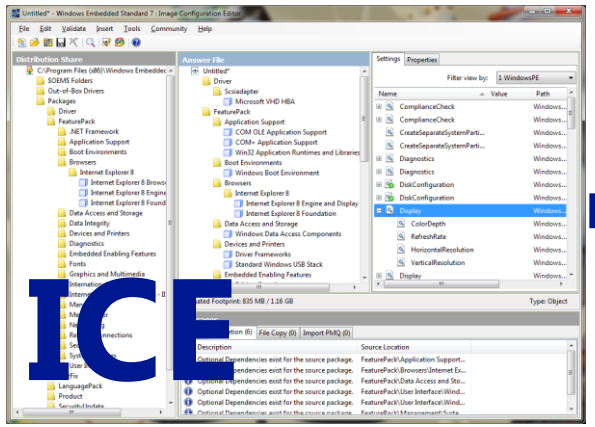
Delivers new features and updates to WES toolset and OS

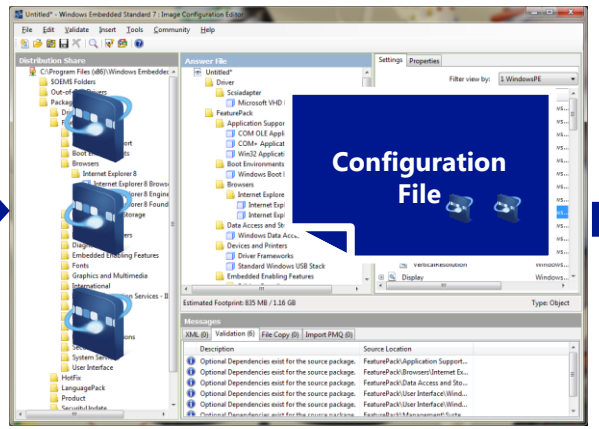


WEDU | Easily keep build up-to-date devices









Download

Configure

Detect

Install

Summary

Catalog - Windows Embedded 8 Standard new componentization concept

Consistent integration of custom and 3rd party content into the build system
Seamless integration into Windows servicing infrastructure
Take ease of use and flexibility to a new level
Getting rid of OEM folders
Streamlining installation experience
Open up a new component market for ISVs

Module Designer

Open up build system for custom / 3rd party modules
Easy integration of drivers
Starts new market for ISVs

ICE / IBW

Proven, successful functionality – mainly unchanged

WEDU

Easy to keep an up to date build system

Microsoft