

# Model Driven Apps - Plugins

Wednesday, February 2, 2022 9:59 PM

[Use plug-ins to extend business processes \(Microsoft Dataverse\) - Power Apps | Microsoft Docs](#)  
[Creating a Dynamics CRM Plugin from Scratch - Carl de Souza](#)  
[Create Plugin from Scratch – D365 – Basic Funda \(wordpress.com\)](#)

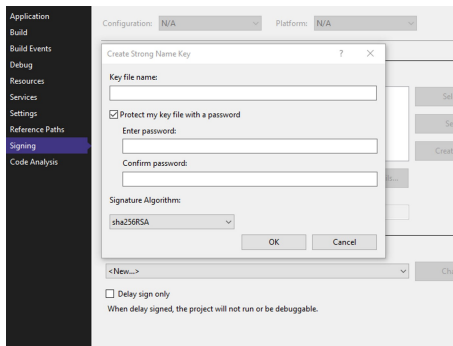
(Updated 2020) The Complete Common Data Service (Dynamics 365/ Power Apps) Developer Course from Ex-Microsoft employee. By Satish Reddy

## What is a Plugin

- A class library or assembly with custom code that runs on server events.
- You can run Plugin code on common events like Create, Update, Delete, Assign etc of specific record type.
- Ex: On entering revenue field of contact record, you want to perform complex tax related calculations automatically.

## Build a Plugin

1. Create a .NET Framework Class library project in Visual Studio ( .NET Framework 4.6.2)
2. Add the **Microsoft.CrmSdk.CoreAssemblies** NuGet package to the project
3. Implement the **IPlugin** interface on classes that will be registered as steps.
4. Add your code to the **Execute** method required by the interface
5. Sign & build the assembly



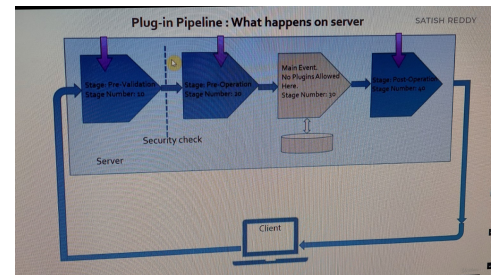
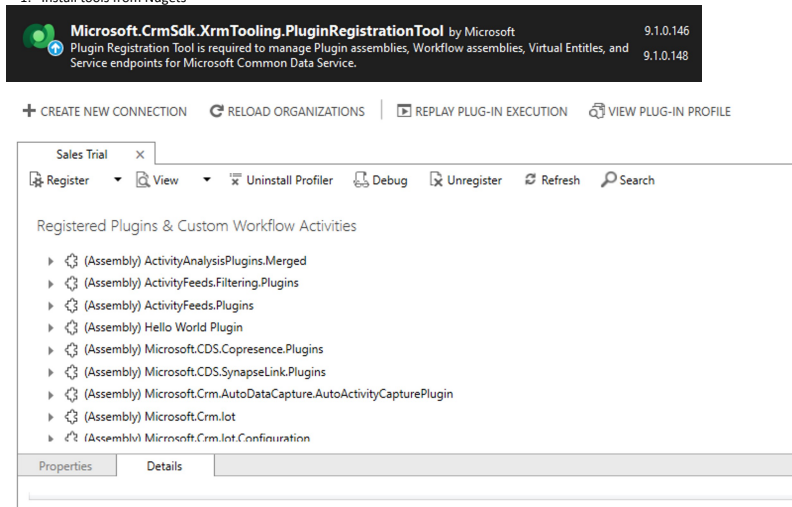
using Microsoft.Xrm.Sdk;  
using Microsoft.Xrm.Sdk.Query;

```
namespace CRMOpptyPlugin
{
    0 references
    public class opptyplugin : IPlugin
    {
        0 references
        public void Execute(IServiceProvider serviceProvider)
        {
        }
    }
}
```

The classes in the assembly that can be registered to a step must implement the IPlugin interface. This interface exposes a single method: Execute. When an event occurs that has a class registered to it, contextual data is passed to the Execute method.

## Registration tool

1. Install tools from Nugets



### PreValidation

- For the initial operation, this stage will occur before the main system operation.
- This provides an opportunity to include logic to cancel the operation before the database transaction.

### PreOperation

- Occurs before the main system operation and within the database transaction.
- If you want to change any values for an entity included in the message, you should do it here.

PostOperation Occurs after the main system operation and within the database transaction.

### PostOperation

- Occurs after the main system operation and within the database transaction.
- Use this stage to modify any properties of the message before it is returned to the caller.

### Messages

Are events on which a plugin is triggered

Ex (Create, Retrieve, RetrieveMultiple, Update, Delete, Associate, and Disassociate )

- Steps to enable debugging
  - Install profiler (Only once)
  - Start profiling on step
  - Trigger step
  - Download log file
  - Stop profiling
  - Set breakpoint in Visual Studio
  - Attach to process, Plugin Registration Tool
  - Click debug on plugin reg tool
  - Supply .dll file and Error log file
  - Start execution
  - Can now click through steps of your program until you find bug