**Customizing Dynamics 365 for Sales and Service**

*Before you begin*

All of the labs used in this course have been designed to work with Dynamics 365 Online. We recommend that prior to doing the labs that you sign up for a Dynamics 365 Online Trial organization. The Specific steps on how to signup are located below.

*Obtaining a Dynamics 365 Trial*

1. Open a web browser and navigate either search for “Dynamics 365 Online Trial”, or navigate directly to the trial address. *In the United States, the address is* [*https://www.microsoft.com/en-us/dynamics/crm-free-trial-overview.aspx*](https://www.microsoft.com/en-us/dynamics/crm-free-trial-overview.aspx)
2. For purposes of this training, we recommend that you **Do Not Click** the **Try it Free** button:
   1. This is for the Dynamics 365 Concierge Service, in which an agent will guide you through the application and specific Scenarios.
   2. It’s a wonderful service, but your organization will not be set up immediately. For training purposes we want it setup right away.
3. **Locate** and click, **No thanks, I’ll get started on my own**. *(Located about half way down the Page)*
   1. Fill out all of the Registration information and click **Next**.
      1. **Note:** *All this information is required*
4. Next you will be setting up the primary account and organization information for you trial organization. Be sure to take note as you will need this later
   1. Enter a **username** that you want to use as the primary user account for your trial
   2. Enter a **name** that you want to use for you trial organizations name
      1. The name you choose will be validated to determine if it is available
   3. **Create** and **Confirm** a password that you want to use from your Trial Organization
   4. Click **Next**
5. You will need to Prove you are not a robot by entering in a confirmation code that can be either sent to you via a Text or Phone call.
   1. Choose either **Text** or **Call**
   2. Enter your full 10 digit phone number
   3. Click the **Text me** or **Call** me Link
   4. After you receive your Code, enter it into the Verification Code Field
   5. Click **Create my Account**
6. As your Account is being created you will be sent to a screen that will provide you with the following information:
   1. The Office 365 sign-in page: <https://portal.office.com>
   2. Your user ID: Ex. [Someone@name.onmicrosoft.com](mailto:Someone@name.onmicrosoft.com).
7. Once everything completes, click the **You’re ready to go…** link
8. You will need to provide some finial details for your trial organization,
9. Accept the defaults, and click **Finish**
10. You will be presented with a Getting Setup Page.
11. Once complete you will be given the Link to your Dynamics 365 Trail organization.
    1. We recommend bookmarking it as you will be using it often through the rest of the course.

# **Module 2: Introduction to Dynamics 365 Solutions**

# Practice 2.1: Create a Solution

#### Scenario

As a member of the Microsoft Dynamics 365 project team for Adventure Works Cycles, you have to make a series of modifications to the system. The modifications will help the New Product Development (NPD) team manage its processes. You have to create several new entities, add fields to store specific data that is required by the NPD team, and create forms and views that the NPD team can use to work with its new records.

##### Exercise Scenario

Before you start to make changes, you want to create a new Solution to contain your customizations. When you have completed the necessary configuration, you can export these changes as a solution package to import into another Microsoft Dynamics 365 Organization. By doing this, users can test the changes that you created and provide feedback before you deploy to the live production system. You also want to easily identify these changes in the future as having originated from the NPD team. Therefore, you will create a new Publisher to make sure that the new components have an appropriate prefix.

After you create your Solution, you must add some entities that you think might require some customization to meet the business requirements that you received. Make sure that you do not include anything in the Solution that you have not modified, because you do not want your Solution to become larger than is necessary, or include unexpected changes that are made by someone else.

Note Icon **Note:** The Solution that you create in this exercise is used in all remaining labs throughout the course as a container to perform all customizations. We recommend that you keep the Solution window open throughout so that it is easy to switch between your configuration environment and the main navigation window to view and test your changes as you progress. By the end of the course you will have a Solution that contains all the components and changes that you have made in every module.

##### High Level Steps

1. Create a new **Solution** named **“NPD and Feedback.”**
2. Create a Publisher named **NPD and Feedback**, and use the prefix **npd**.
3. Add **Account**, **Contact** and **Campaign** entities to the Solution.
4. Remove the **Campaign** entity from the Solution.
5. Add the **Sales Manager** Security Role to the Solution.

##### Detailed Steps

1. Create a new Solution named **“NPD and Feedback.”**
   1. If necessary open an internet browser and navigate to your trial organization. Ex. [**https://orgname.crm.dynamics.com**](https://orgname.crm.dynamics.com).
   2. In the navigation bar, click on the Main button, and then click **Settings**.
   3. Select **Solutions** under the **Customizations** heading.
   4. In the menu bar, above the list of Solutions, click **New**. The **Solution: New Solution** form will be displayed.
   5. Enter NPD and Feedback as the Display Name.
   6. Enter 1.0.0.0 as the Version Number.
2. Create a Publisher named **NPD and Feedback**, and use the prefix **npd**.
   1. In the **Solution: New Solution** form, in the **Publisher** field, click the **lookup** icon.
   2. Click **Look Up More Records**.
   3. In the **Look Up Record** dialog box, click **New**.
   4. Enter **AWC NPD and Feedback** for the Display Name.
   5. Enter **npd** for the **Prefix** (notice this converts to lowercase letters however you type it).
   6. In the toolbar, click **Save and Close**.
   7. In the **Look Up Record** dialog box, click **Add**.
   8. In the **Solution: New Solution** form, in the toolbar, click **Save**.
3. Add **Account**, **Contact** and **Campaign** entities to the Solution.
   1. In the **Solution: NPD and Feedback** form, in the solution explorer at the left side, click **Entities**.
   2. In the menu bar, at the top of the (empty) list of entities in the Solution, click **Add Existing**.
   3. In the **Select solution components** dialog box, notice that the **Component Type** is filtered to **Entity** only.
   4. Click to the left side of the entities **Account**, **Campaign** and **Contact** to enter a check mark next to each.
   5. Click **OK.**
   6. You should now be prompted to add specific Entity Assets, for each of the Entities that you added to the solution.
   7. Onn the **Select Entity Assets** for the **Account** Entity, check the **Add All Assets** box.
   8. Click **Next**
   9. Check the **Add All Assets** box for the **Campaign** Entity.
   10. Click **Next**
   11. Check the **Add All Assets** box for **Contact** Entity
   12. Click **Finish**
   13. Click the **Save** button to save the solution and leave it open.
4. Remove the **Campaign** entity from the Solution. (Sometimes you may find that you have a component that is no longer needed in a solution. In this case let’s pretend that you realized that you do not need the Campaign entity)
   1. In the **Solution: NPD and Feedback** form, in the component list, select the **Campaign** entity.
   2. In the menu bar, at the top of the component list, click **Remove**.
5. Add the **Salesperson** Security Roles to the Solution.
   1. In the solution explorer pane on the left, click **Security Roles**
   2. On the menu bar at the top of the list of Security Roles in the Solution (none at the moment), click **Add Existing**.
   3. In the **Select solution components** dialog box, select the **Salesperson** role then click **OK**.
   4. Leave the Solution window open for use in later labs.

# **Module 3: Customizing Entities and Fields**

# Practice 3.1: Create Custom Entities

#### Scenario

In this exercise, you will create and test two new entities, Idea and Prototype.

#### Lab Setup

**Important:** Before you perform this lab, it is recommended that you complete Module 2 “Introduction to Solutions”

##### Exercise Scenario

Adventure Works Cycles wants to track suggestions that are made by employees and customers as *Ideas* by using Microsoft Dynamics 365. When an Idea is submitted, the Adventure Works Cycles New Product Development (NPD) team will consider the feasibility of the Idea. Ideas that might be potentially worthwhile are proposed as *Prototypes* for testing and market research.

In this exercise, you will create a custom entity that is named Idea. The properties of the Idea entity should be configured as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Idea** | |  | **Prototype** | |
| **Property** | **Setting** |  | **Property** | **Setting** |
| Display Name | Idea |  | Display Name | Prototype |
| Plural Name | Ideas |  | Plural Name | Prototypes |
| Ownership | User or Team |  | Ownership | User or Team |
| Display Areas | Sales, Service, Marketing |  | Display Areas | Service, Marketing |
| Connections | Not Checked |  | Notes | Enabled |
| Mail Merge | Not Checked |  | Activities | Enabled |
|  |  |  | Connections | Enabled |
|  |  |  | Queues | Enabled |

After you create the entities, The Salesperson Security Role should be modified to grant all privileges to both entities at the user level except for Read and Append To privileges. These should be at the organization level.

#### **Task 1:** Create the Idea and Prototype Entities and Assign Security Role Privileges

##### High Level Steps

1. Create the **Idea** entity in the **NPD and Feedback** Solution by using the requirements in the scenario.
2. Create the **Prototype** entity in the **NPD and Feedback** Solution by using the requirements in the scenario.
3. Configure the **Salesperson** Security Role as described in the exercise scenario.

##### Detailed Steps

1. Create the **Idea** entity in the **NPD and Feedback** Solution by using the requirements in the scenario.
   1. Switch to the **NPD and Feedback** Solution if you still have the window open. Otherwise navigate to **Settings** > **Solutions** and double-click the Solution to open it.
   2. In the solution explorer, click **Entities**.
   3. On the menu bar at the top of the list of entities, click **New**.
   4. In **Display Name**, enter **Idea**.
   5. In **Plural Name**, enter **Ideas**.
   6. Make sure that the **Ownership** property is set to **User or Team**.
   7. In the **Areas that display this entity** section, select **Sales**, **Service** and **Marketing**.
   8. In the **Communication & Collaboration** section deselect the check boxes for **Connections** and **Mail Merge**.
   9. All other settings should be left at their defaults.
   10. Click **Save and Close**.
2. Create the **Prototype** entity in the **NPD and Feedback** Solution by using the requirements in the scenario.
   1. With the **NPD and Feedback** Solution window still open, in the solution explorer click **Entities**.
   2. On the menu bar at the top of the list of entities, click **New**.
   3. In **Display Name**, enter **Prototype**.
   4. In **Plural Name**, enter **Prototypes**.
   5. Make sure that the **Ownership** property is set to **User or Team**.
   6. In the Areas that display this entity section, select Service and Marketing.
   7. In the **Communication & Collaboration** ensure that **Notes**, **Activities**, **Connections** and **Queues** are enabled.
   8. All other settings should be left at the defaults.
   9. Click **Save and Close**.
3. Configure the **Salesperson** Security Role as described in the exercise scenario.
   1. In the solution explorer, click **Security Roles**.
   2. Double-click the **Salesperson** Security Role to open it.
   3. Click the **Custom Entities** tab.
   4. Click directly on the **Idea** entity name until all privileges are set to User level.
   5. Click the **Read** privilege for **Idea** until it is set to Organization level.
   6. Click on the **Prototype** entity name until all privileges are set to User level.
   7. Click the **Read** privilege for **Prototype** until it is set to Organization level.
   8. Click the **Append To** privilege for **Prototype** until it is set to Organization level
   9. Click **Save and Close**.
   10. On the Command Bar on the Solution, click **Publish All Customizations**
   11. Leave the Solution window open for later labs.

# Practice 3.2: Create a Custom Activity Entity

#### Scenario

Adventure Works Cycles wants to record structured feedback from employees and customers about various processes and interactions, such as placing an order, contacting support or attending an event. By creating a custom activity entity named *Feedback* this can be associated with any record that supports activities, instead of having to create several specific relationships to individual entities.

#### Lab Setup

**Important:** Before you perform this lab, you must have created the Idea and Prototype entities that were created in the previous exercise. Without them you will encounter problems. It is also highly recommended that you have completed all previous labs as well.

##### Exercise Scenario

In this exercise, you will create and test a custom activity entity named Feedback.

You will test the entity by creating new Feedback activities for the record named “Test prototype” that you created in the earlier exercise.

#### **Task 1:** Create the Feedback Entity

##### High Level Steps

1. Create the **Feedback** entity as a custom activity in the **NPD and Feedback** Solution.
2. All **Data Services** and **Outlook & Mobile** options should be disabled.
3. Test the Feedback Entity.

##### Detailed Steps

1. Create the **Feedback** entity as a custom activity in the **NPD and Feedback** Solution.
   1. Switch to the **NPD and Feedback** Solution by using the Windows taskbar.
   2. In the solution explorer click **Entities**.
   3. On the menu bar at the top of the list of entities, click **New**.
   4. In the **Display Name** field, enter **Feedback**.
   5. In the **Plural Name** field, enter **Feedback**.
   6. **IMPORTANT:** (*If you skip this, the Activity Entity will not function correctly)****.***  Select the check boxes **Define as an activity entity** and **Display in Activity Menus**.
      1. Notice that **Ownership** is set to **User or Team** and cannot be changed.
   7. In **Data Services** and **Outlook & Mobile** sections clear any options that are checked (the **Offline capability for CRM for Outlook** cannot be cleared.)
   8. Click **Save and Close** to close the new entity form.
   9. Click **Publish All Customizations**
   10. Keep the Solution window open for later labs.
2. Test the Feedback Custom Activity.
   1. Switch back to your CRM organization
   2. Navigate to the Prototype entity by selecting **Main** > **Service** > **Prototypes**
   3. If you have a prototype record, **Double-click** the record to open it.
      1. *If you do not have a Prototype Record:*
      2. On the **Active Prototypes** view, click the **New** button.
      3. In the **Name** field, enter **Test Prototype**.
      4. Click **Save**, to save the record and keep it open.
   4. In the Activities pane in the middle of the form, select the word **ACTIVITES** if not already selected
   5. Click the **Add more activities** button **(…)**, Select **Feedback**. (You can also do this from the command bar by clicking the **Ellipsis** button > **Other Activities** > **Feedback**.)
   6. Enter **Feedback 1** into the **Subject** field.
   7. On the command bar click **Save**.
   8. To return to the Prototype form, in the **Regarding** field, click the link to the **Test prototype** record.
   9. In the Activities pane in the middle of the form, confirm that the new Feedback1 record is shown..
   10. In the Activities pane in the middle of the form, click the **Add more activities** button again, and then click **Feedback**.
   11. Enter **Feedback 2** into the **Subject** field.
   12. On the command bar click **Save**, and then click **Mark Complete**.
   13. Confirm that the completed Feedback record is shown on the Prototype in the Activities area of the social pane. **Note**: *the completed activity has a gray background.*

# Practice 3.3: Create Custom Fields

##### Exercise Scenario

In the last Exercise you created a custom entity called Idea. Adventure Works Cycles require additional fields to be added to the entity as follows:

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Additional requirements |
| Detailed Description | Multiple lines of text | Business Required |
| Target Market Size | Whole number | Business Recommended  Minimum value 0  Maximum value 1,000,000,000 |

Your task is to create these two fields within the Idea entity. In the module *Customizing Forms* you will add the fields to the form.

##### High Level Steps

1. Access the Idea entity within the Solution.
2. Add the **Detailed Description** field according to the scenario.
3. Add the **Target Market Size** field according to the scenario.

##### Detailed Steps

1. Access the Idea entity within the Solution.
   1. If your NPD and Feedback solutions is not open, using the navigation bar, click the **Main** Button > **Settings** > **Solutions.**
   2. Open the **NPD and Feedback** Solution
   3. Click Entities.
   4. Expand the **Idea** entity.
2. Add the **Detailed Description** field according to the scenario.
   1. Within the **Idea** entity click **Fields**.
   2. On the toolbar click **New**.
   3. Complete the **New Field** form as follows:
      1. In the **Display Name** field enter **Detailed Description**.
      2. Set the **Field Requirement** property to **Business Required**.
      3. In the **Description** field enter the text: **The detailed description of the idea**.
      4. Set the **Data Type** field to read Multiple Lines of Text.
   4. Click **Save and Close**
3. Add the **Target Market Size** field according to the scenario.
   1. Within the **Idea** entity click **Fields**.
   2. On the toolbar click **New**.
   3. Complete the **New Field** form as follows:
      1. In the **Display Name** field enter **Target Market Size**.
      2. Set the **Field Requirement** property to **Business Recommended**.
      3. In the **Description** field enter the text: **The size of the target market**.
      4. Set the **Data** **Type** field to read **Whole Number**.
      5. Set the **Minimum Value** to **0**.
      6. Set the **Maximum Value** to **1,000,000,000**.
   4. Click **Save and Close**.

Don’t worry about adding the fields to the form or publishing your customizations. We will be adding additional fields in the next module, so we will wait until we have more information to display.

# **Module 4: Additional Field Customizations**

# Practice 4.1: Create and Modify a Global Option Set

#### Lab Setup

**Important:** Before you perform this lab, you must have completed all of labs in Module 2 “Intro to Solutions” and Module 3 “Customizing Entities and Fields”. You will be building on the Idea and Prototype entities that were created in the previous exercise. Without them you will encounter problems. It is also highly recommended that you have completed all previous labs as well. You can install the NPDandFeedback\_1\_5\_0\_1.zip solution that was included in your course materials. It contains all of the customizations made prior to this module.

#### Scenario

Adventure Works Cycles wants to be able to track the satisfaction of their customers. Initially they only require to have this information on the feedback entity but eventually they may want to capture this on other entities. They require a new Option Set field called Satisfaction Rating to be created on the Feedback form.

The field should be configured as follows:

|  |  |
| --- | --- |
| Field Name | Requirements |
| Rating | Business Required  Use a Global Option Set called “Rating”.  Option Set values:   * Very Happy * Happy * Neutral * Unhappy * Very Unhappy   **Default value:** Neutral. |

You are required to perform the following tasks:

1. Create the Global Option Set.
2. Create the Satisfaction Rating field within the Feedback entity.
3. Add the Satisfaction Rating field to the form.
4. Test that the field works as expected.

### 

##### Exercise Scenario

In this exercise you will create a Global Option Set configured as follows:

|  |  |
| --- | --- |
| Display Name | Values |
| Rating | Very Happy  Happy  Neutral  Unhappy  Very Unhappy |

You will then create an Option Set field within the Feedback entity configured as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Display Name | Field Requirement | Option Set | Default Value |
| Rating | Business Required | Ratings | Neutral |

Once complete, you will add the Satisfaction Rating field to the Feedback form then test its behavior.

#### **Task 1:** Create a Global Option Set Called Ratings

##### High Level Steps

1. Create a new **Global Option Set** called **Ratings**.
2. Create a **Satisfaction Rating** Option Set field on the **Feedback** Entity.

##### Detailed Steps

1. Create a new Global Option Set called Ratings.
   1. In CRM Open the **NPD and Feedback** Solution by clicking the **Main** button > Settings > Solution
   2. Click Option Sets.
   3. On the toolbar click **New**.
   4. Enter **Ratings** into the **Display Name** field.
   5. In the **Description** field enter Customer Satisfaction Ratings.
   6. In the **Options** field click the **Add** button *(Green Plus Sign)*.
   7. In the **Label** field enter **Very** **Happy**.
   8. Click the **Add** button.
   9. In the **Label** field enter **Happy**.
   10. Click the **Add** button.
   11. In the **Label** field enter **Neutral**.
   12. Click the **Add** button.
   13. In the **Label** field enter **Unhappy**.
   14. Click the **Add** button.
   15. In the **Label** field enter **Very Unhappy**.
   16. Click **Save and Close**.
2. Add a new Option Set Field to the Feedback entity.
   1. In the **NPD and Feedback** Solution, expand **Entities**.
   2. Expand the **Feedback** entity.
   3. Click **Fields**.
   4. On the toolbar click **New**.
   5. In the New Field form, enter **Satisfaction Rating** into the **Display Name** field.
   6. Set the **Field Requirement** to **Business Required**.
   7. In the **Data** **Type** field select **Option Set**.
   8. In the **Use Existing Option Set** field select **Yes**.
   9. In the **Option Set** field select **Ratings**.
   10. In the **Default Value** field select **Neutral**.
   11. Click **Save and Close**.

# Practice 4.2: Create a Calculated and Rollup fields

##### Exercise Scenario

It is important for Adventure Works Cycles to be able to see how many feedbacks have been submitted for a specific prototype. In addition some feedbacks may have costs associated with them. Adventure Works, wants to potentially be able to compare cost with budget on a specific prototype.

##### High Level Steps

1. Create a **Rollup Field** that counts the total number of feedbacks for a Prototype.
2. Add a **Cost** field to the **Feedback** Entity
3. Add a **Budget** Field to the **Prototype** Entity
4. Create a **Total Cost** Rollup field on the Prototype entity to **Sum** the **Cost field** of all attached Feedbacks.

##### Detailed Steps

1. Create the Total Feedbacks Rollup Field.
   1. In CRM Open the **NPD and Feedback** Solution by clicking the **Main** button > Settings > Solution
   2. Expand Entities > select **Prototype** entity
   3. Click Fields.
   4. On the toolbar click **New**.
   5. Enter **Total Feedbacks** into the **Display Name** field.
   6. Change the **Data Type** to **Whole Number**.
   7. Select **Rollup** for **Field Type**.
   8. Click **Edit**. *(Note that this will save the field automatically)*
   9. The Total Feedbacks Rollup Field window will display.
   10. Leave the **Source** as **Prototype** and **Use Hierarchy** as **No**.
   11. Under **Related Entity**, click **Add Related Entity**
   12. Choose **Feedbacks (Regarding)**.
   13. Click the **Checkmark button** to accept the Condition.
   14. Under **Aggregation**, click **Add Aggregation**.
   15. For **Aggregate Function**, select **Count**.
   16. **Aggregated Related Entity** field will default to **Feedback**.
   17. Click the **Checkmark button** to accept the Aggregation.
   18. Click **Save and Close** to close the Rollup Field editor.
   19. Click **Save and Close** to close the Total Feedbacks Rollup Field
2. Add a Cost field for the Feedback Entity
   1. In the **NPD and Feedback** Solution, expand **Entities**.
   2. Expand the **Feedback** entity.
   3. Click **Fields**.
   4. On the toolbar click **New**.
   5. In the **Display Name** field, enter **Cost**.
   6. Currency
   7. Click **Save and Close**
3. Add a Budget field on the Prototype Entity
   1. In the **NPD and Feedback** Solution, expand **Entities**.
   2. Expand the **Prototype** entity.
   3. Click **Fields**.
   4. On the toolbar click **New**.
   5. In the **Display Name** field, enter **Budget**.
   6. Currency
   7. Click **Save and Close**
4. Create a Total Cost Rollup field on the Prototype entity
   1. In the **NPD and Feedback** Solution, expand **Entities**.
   2. Expand the **Prototype** entity.
   3. Click **Fields**.
   4. On the toolbar click **New**.
   5. In the New Field form, enter **Total Cost** into the **Display Name** field.
   6. In the **Data** **Type** field select **Currency**.
   7. Set the **Field Type** to **Rollup**.
   8. Click **Edit**. *(Note that this will save the field automatically)*
   9. The Total Cost Rollup Field window will display.
   10. Leave the **Source** as **Prototype** and **Use Hierarchy** as **No**.
   11. Under **Related Entity**, click **Add Related Entity**
   12. Choose **Feedbacks (Regarding)**.
   13. Click the **Checkmark button** to accept the Condition.
   14. Under **Aggregation**, click **Add Aggregation**.
   15. For **Aggregate Function**, select **Sum**.
   16. **Aggregated Related Entity** field will default to **Feedback (Cost)**.
   17. Click the **Checkmark button** to accept the Aggregation.
   18. Click **Save and Close** to close the Rollup Field editor.
   19. Click **Save and Close** to close the Total Feedbacks Rollup Field

# Practice 4.3: Configure Field Security

#### Scenario

Ben Burton, the Marketing Manager at Adventure Works Cycles, wants to track the budget allocated to a Prototype. This will depend on the expected market size, estimated feasibility of developing the prototype into a finished product and other factors.

You must create a new field named Budget, and apply Field Security to it. You must configure Field Security Profiles to control access to this to meet the business requirements. All users who work in the Product Development Team need to be able to view the value of the **Budget** field so they can make sure expenditure remains within the limit that has been set. Only Sales Managers must be able to change the value.

#### Lab Setup

Before you perform this lab, you must have created the Budget field on the Prototype entity from the previous exercise.

##### High Level Steps

* + - 1. Enable **Field Security** for the **Budget** field of the **Prototype** entity in the **NPD and Feedback** Solution.
      2. Create and configure a Field Security Profile to allow Read access to the **Budget** field for the **Product Development** Team.
      3. Create and configure a Field Security Profile to allow Update access to the **Budget** field for a new Team named **Sales Managers**.

##### Detailed Steps

Enable **Field Security** for the **Budget** field of the **Prototype** entity in the **NPD and Feedback** Solution.

Switch to the **NPD and Feedback** Solution if it is still open. Otherwise Click the **Main** button > **Settings** > **Solutions** and double-click the **NPD and Feedback** Solution to open it.

In the solution explorer, expand **Entities.**

Expand the **Prototype** entity.

Click Fields.

In the list of fields for the Prototype entity, double-click to open the **Budget** field.

In **Field Security**, select **Enable**.

On the toolbar, click **Save and Close**.

Select the Prototype Entity

Click the **Publish** Button

Create and configure a Field Security Profile to allow Read access to the **Budget** field for the **Product Development** Team.

In the **NPD and Feedback** Solution, at the bottom of the solution explorer, click **Field Security Profiles**.

In the menu bar, click **New**.

In the New Field Security Profile form, in Name, enter **NPD Budget Read Access**.

On the toolbar, click **Save**.

In the navigation pane to the left of the window, click **Teams**.

In the menu bar, click **Add**.

In the **Look Up Records** dialog box, click new and create a Team with the name of the **Product Development**.

Save the Team

In the **Product Development** Team form, in the **Team members** section, click **+** (Add User record).

In the lookup control that is displayed, select **Ben Burton (Or any User that you want if Ben does not exist)**.

Close the **Product Development** Team window.

With the **Product Development** team record selected, click **Select**, and then click **Add**.

In the navigation pane, click **Field Permissions**. A list of all fields in the system that have field security enabled is displayed.

Double-click the **Budget** field, or select it and then click **Edit**.

In **Allow Read**, select **Yes**. Leave the other options as **No**.

Click OK.

On the toolbar, click **Save and Close**.

Create and configure a Field Security Profile to allow Update access to the **Budget** field for a new Team named **NPD Managers**.

In the **NPD and Feedback** Solution, using solution explorer, navigate to **Field Security Profiles** if necessary.

In the **Field Security Profiles** menu bar, click **New**.

In the New Field Security Profile form, in Name, enter **NPD Managers Budget Update Access**.

On the toolbar, click **Save**.

In the navigation pane to the left of the window, click **Teams**.

In the menu bar, click **Add**.

In the **Look Up Records** dialog box, at the lower left click **New**.

In the New Development Team form, in Name enter NPD Managers.

In Administrator, select your User Account.

On the command bar, click **Save**.

In the **Look Up Records** dialog box, click the name of the **NPD Managers** Team to open the Team record.

In the **NPD Managers** Team form, in the **Team members** section, click **+** (Add User record).

In the lookup control that is displayed, select **Ben Burton (Or any user if Ben does not exist)**.

In the **Team members** section, click **+** (Add User record).

In the lookup control that is displayed, select **Ben Burton (Or any user if Ben does not exist)**.

Close the **NPD Managers** Team window.

In the **Look Up Records** dialog box, click **Add**.

In the navigation pane, click **Field Permissions**. A list of all fields in the system that have field security enabled is displayed.

Double-click the **Budget** field, or select it and then click **Edit**.

Set **Allow Read**, **Allow Update**, and **Allow Create** to **Yes**.

Click OK. On the toolbar, click **Save and Close**.

# **Module 5: Relationships**

# Practice 5.1: Create a 1:N Relationship

##### Exercise Scenario

You must create a 1:N relationship between the Idea and Prototype entities and modify it to meet the requirements of the NPD team. To prevent Prototype records being created without an Idea record, you will create a lookup field on Prototype named “Originating Idea”, make this Business Required and add it to the Prototype form.

To make sure that Prototypes are assigned correctly when an Idea is assigned, you will configure the relationship behavior to configurable cascading and change the assign rule to Cascade User-Owned.

To prevent Ideas being deleted if they have related Prototypes, change the delete rule to Restrict.

You must create some records and test your configuration changes.

#### Lab Setup

Before you perform this lab, it is recommended that you have completed all the previous labs. You will need the Idea and Prototype entities in order to complete this lab.

#### Create a 1:N Relationship

##### High Level Steps

1. Create a 1:N relationship between the Idea and Prototype entities.

##### Detailed Steps

1. Create a 1:N relationship between the Idea and Prototype Entities.
   1. If necessary open the **NPD and Feedback** Solution, by clicking the Main button > **Settings** > **Solutions** and double-click the Solution to open it.
   2. In the solution explorer, expand **Entities**, and then expand **Idea**.
   3. Under the **Idea** entity, click **1:N Relationships**.
   4. On the action bar, click **New 1-to-Many Relationship**.
   5. In the Relationship form, in the **Related Entity** list select **Prototype**.
   6. In **Name**, Highlight npd\_ **before Idea** and press **delete**.
   7. Highlight \_npd **before Prototype** and press **delete**.
   8. The Name should read npd\_**idea\_prototype**. (This includes the Publisher Prefex)
   9. In the Lookup Field section, enter **Originating Idea** in **Display Name**.
   10. In the Field Requirement list, select **Business Required**.
   11. In the **Type of Behavior** list, select **Configurable Cascading**.
   12. In the **Assign** list, select **Cascade User‑Owned**.
   13. In the **Delete** list, select **Restrict**.
   14. On the toolbar, click **Save and Close**.

# Practice 5.2: Create a N:N Relationship

##### Exercise Scenario

When ideas are submitted, Adventure Works Cycles need to identify competitors who are already in that area of the market, to help assess the feasibility of competing effectively against them. By tracking Ideas against Competitors, this will help steer product development in the most viable direction, for example whether innovation, price, quality or other factors are more likely to make a new product successful.

You must create a many-to-many relationship between the Idea entity you created in the “*Customizing Entities”* module and the built-in Competitor entity, and test that it works correctly.

#### Create a N:N Relationship

##### High Level Steps

1. Create a N:N relationship between the **Idea** and **Competitor** entities.

##### Detailed Steps

1. Create a N:N relationship between the **Idea** and **Competitor** entities.
   1. Ensure you still have **NPD and Feedback** solution open.
   2. In the solution explorer, expand **Entities** then expand **Idea**.
   3. Under the **Idea** entity click **N:N Relationships**.
   4. On the action bar, click New Many-to-Many Relationship.
   5. In the New Relationship form, in the Current Entity section (Idea), set the **Display Option** to **Use Plural Name**.
   6. In the **Other Entity** section, in the **Entity Name** list select **Competitor**.
   7. In the Other Entity section, in the Display Option list select Use Plural Name.
   8. On the toolbar, click **Save and Close** to return to the Solution.
   9. Leave the **NPD and Feedback** Solution window open for later labs.
2. Link an **Idea** to an existing **Competitor**.
   1. Switch to the main navigation window.
   2. Navigate to **Sales** > **Competitors**.
   3. On the command bar, click **New**.
   4. In the New Competitor record, in Name enter Wingtip Toys.
   5. On the command bar, click **Save**.
   6. Navigate to **Marketing** > **Ideas**.
   7. Click **New**
   8. Enter **New range of helmets** in the **Name** field.
   9. Click **Save**
   10. On the navigation bar, click or point to the drop-down arrow to the right of **New range of helmets** then click **Competitors**.
   11. Below the view label **Competitor Associated View**, on the command bar, click **Add Existing Competitor**.
   12. In the lookup entry which appears in the list, enter **Wingtip** and press the Tab key.
3. Link an **Idea** to a new **Competitor**.
   1. With the **New range of helmets** Idea still open, click **Add Existing Competitor**. A lookup control is displayed in the list.
   2. Click the lookup icon at the right side of the lookup control, and then click **Look Up More Records**.
   3. In the **Look Up Records** dialog box which appears, at the lower left corner click **New**.
   4. On the **New Competitor** form, enter the name **Wide World Importers**, then click **Save**.
   5. In the **Look Up Records** dialog box, click **Add**.
   6. Click **Wide World Importers** in the list of Competitors to open it.
   7. On the navigation bar, click or point to the drop-down arrow to the right of **Wide World Importers** then click **Ideas**.
   8. Verify that **New range of helmets** is shown in the list of associated Ideas, because the N:N relationship is symmetrical.

# Practice 5.3: Customize Relationship Mappings

##### High Level Steps

1. Open the 1:N relationship between Idea and Prototype.
2. Create a mapping between the Owner fields of both entities.
3. Test the field mapping by creating a Prototype from an Idea.

##### Detailed Steps

1. Open the 1:N relationship between Idea and Prototype
   1. If necessary open the **NPD and Feedback** by clicking the **Main** button > **Settings** > **Solutions** and double-click the **NPD and Feedback** Solution to open it.
   2. In the solution explorer, expand **Entities** then expand **Idea**.
   3. Under the **Idea** entity, click **1:N Relationships**
   4. Find the relationship with **Prototype** as the **Related Entity** (you can sort this column by clicking the heading).
   5. Double-click to open the relationship.
2. Create a mapping between the Owner fields of both entities.
   1. In the **Idea to Prototype** relationship form, in the navigation pane, click **Mappings**.
   2. On the menu bar at the top of the list of mappings, click **New**.
   3. In the Source Entity Fields list, select ownerid.
   4. In the Target Entity Fields list, select ownerid.
   5. Click **OK**.
   6. Click **New**.
   7. In the Relationship form, click **Save and Close**.
   8. Leave the **NPD and Feedback** Solution window open for later labs.
3. Test the field mapping by creating a Prototype from an Idea.
   1. Switch to the main application window by using the Windows taskbar.
   2. Navigate to Microsoft Dynamics CRM > Marketing > Ideas.
   3. Open the **New range of helmets** Idea. Note the current owner of the record.
   4. On the navigation bar, click or point to the drop-down arrow to the right of **New range of helmets** then click **Prototypes**.
   5. Below the view label **Prototype Associated View**, on the command bar, click **Add New Prototype**.
   6. In the New Prototype form, in **Name**, enter **Off-road helmet with headlights**.
   7. Verify that the owner of the Prototype record matches the owner of the Idea.
   8. Click **Save**, then close the Prototype record window.

# Practice 5.4: Create a Hierarchical Relationship

##### Scenario

##### There are many times with Adventure Works, has prototypes that actually fall under a specific master prototype. They may have a special helmet design, but may test multiple versions of the prototype with different straps or padding. They want to be able potentially add sub-prototypes under master records in certain cases.

##### High Level Steps

1. Create a New 1:N Self Referential on the Prototype Entity to be used for Hierarchy Data.
2. Define the Hierarchy Setting for the Prototype Entity.

##### Detailed Steps

1. Create a New 1:N Self Referential on the Prototype Entity to be used for Hierarchy Data
   1. If necessary open the **NPD and Feedback** by clicking **Main** button > **Settings** > **Solutions** and double-click the **NPD and Feedback** Solution to open it.
   2. In the solution explorer, expand **Entities** then expand **Prototype**.
   3. Under the **Prototype** entity, click **1:N Relationships**
   4. Find the relationship with **Prototype** as the **Related Entity** (you can sort this column by clicking the heading).
   5. Click the **New 1-to-Many Relationship** button.
   6. The Primary Entity will be set as Prototype. *(You will not be able to change it)*
   7. From the Dropdown menu on **Related Entity**, choose **Prototype**
   8. Edit the relationship name to show **npd\_prototype\_prototype** *(Including the prefix)*
   9. In the **Hierarchical** field, select **Yes**.
   10. Enter **Master Prototype** in the **Display Name** field.
   11. Click **Save and Close**
2. Define the Hierarchy Setting for the Prototype Entity.
   1. In the **NPD and Feedback** Solution, expand the **Prototype** Entity if necessary.
   2. Click **Hierarchy Settings.**
   3. Click the new button
   4. In the **Name** field, enter **Prototype**
   5. Next to **Default Quick View Form**, click **Create New**.
   6. Click the **Form Properties** button
   7. Enter **Basic Prototype** in the **Form Name** field
   8. Click **OK**
   9. Under Field Explorer, double click the following fields to add them to the Form.
      1. **Name**, **Budget**, **Owner**, and **Originating Idea**.
   10. Click **Save and Close**
   11. Verify that **Basic Prototype** is listed in the **Default Quick View Form**
   12. The **Hierarchical Relationship** field will auto-populate with the Hierarchical Relationship you created in the previous task**.**
   13. Click **Save and Close**
   14. Leave the **NPD and Feedback** Solution window open for later labs.