Fun with Fields
A Dynamics CRM Customization Training Guide

v2.1

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Chapter 1 Creating Dynamics CRM Fields

There are a wide variety of field types within the Dynamics CRM system and it is sometimes easy to overlook some of the more esoteric types or maybe some of the newer variations added to Dynamics CRM 2015 or 2016.

That is why we created this training guide.

It will walk you step–by–step through the creation of almost every type and variation of a Dynamics CRM data field. Here is the process:

1. We will create two custom entities (Classification and Sample).
2. Working with the Sample entity we will:
    a. Add fields
    b. Add them to the form
    c. Publish the entity
3. We will then create a Sample record and some associated activities to populate the fields we have created so that you can see them in action.

Exercise 1.1 Creating the Classification Entity

Perform these steps to create the Classification entity that will be used to provide a lookup field later in this training guide.

1. Navigate to **Settings**, **Customization**, as shown in Figure 1-1. This will open the Default Solution.

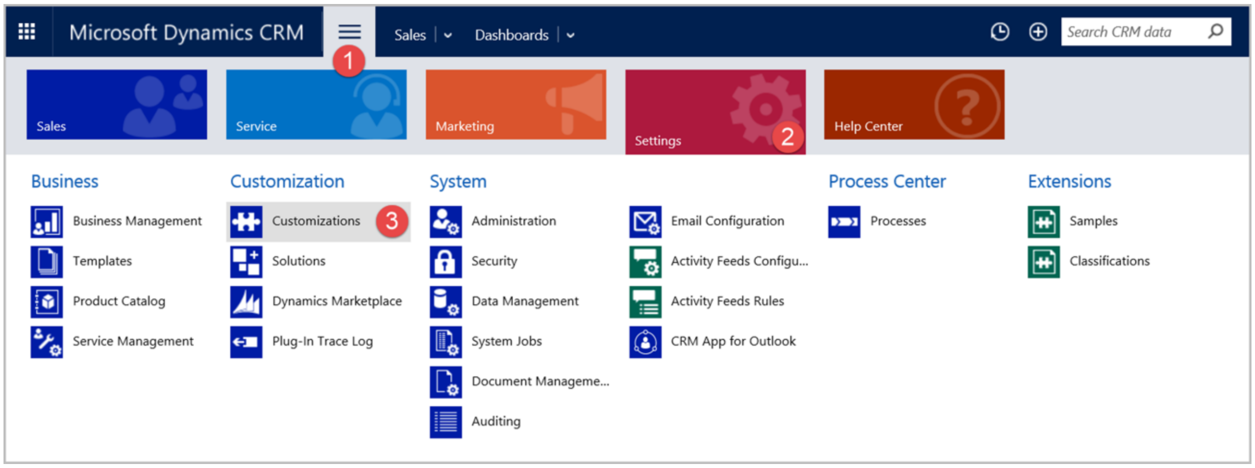

Figure 1-1. Navigating to the Customizations area

2. Click **Customize the System**, as shown in Figure 1-2, to open the Default Solution.

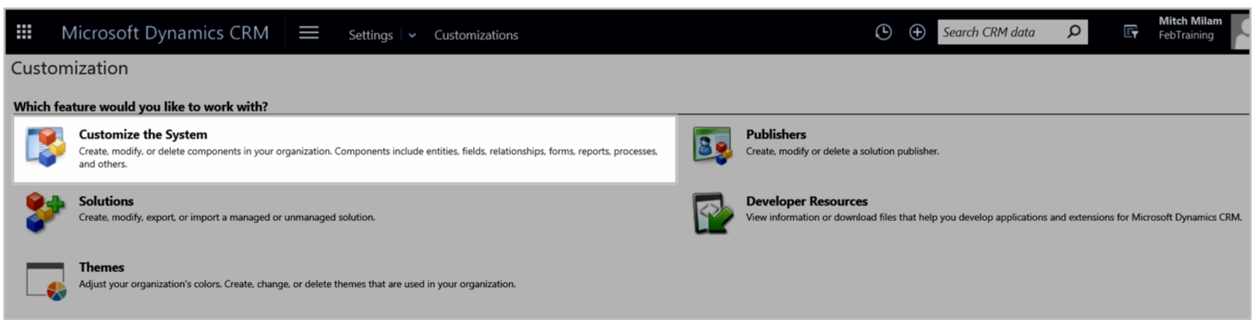

Figure 1-2. Customize the System

3. From the Component list toolbar, click the **New** dropdown-button, then select **Entity**, as you can see in Figure 1-3.

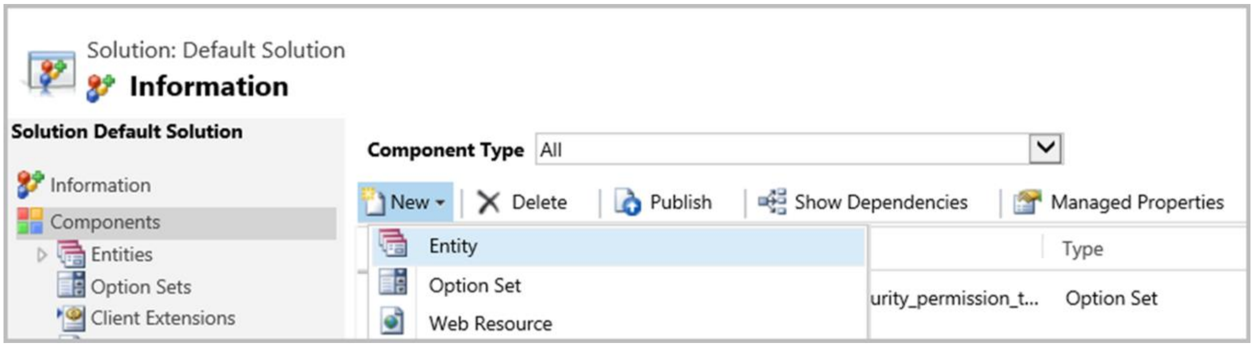

Figure 1-3. Creating a new entity

4. Complete the fields to resemble Figure 1-4.

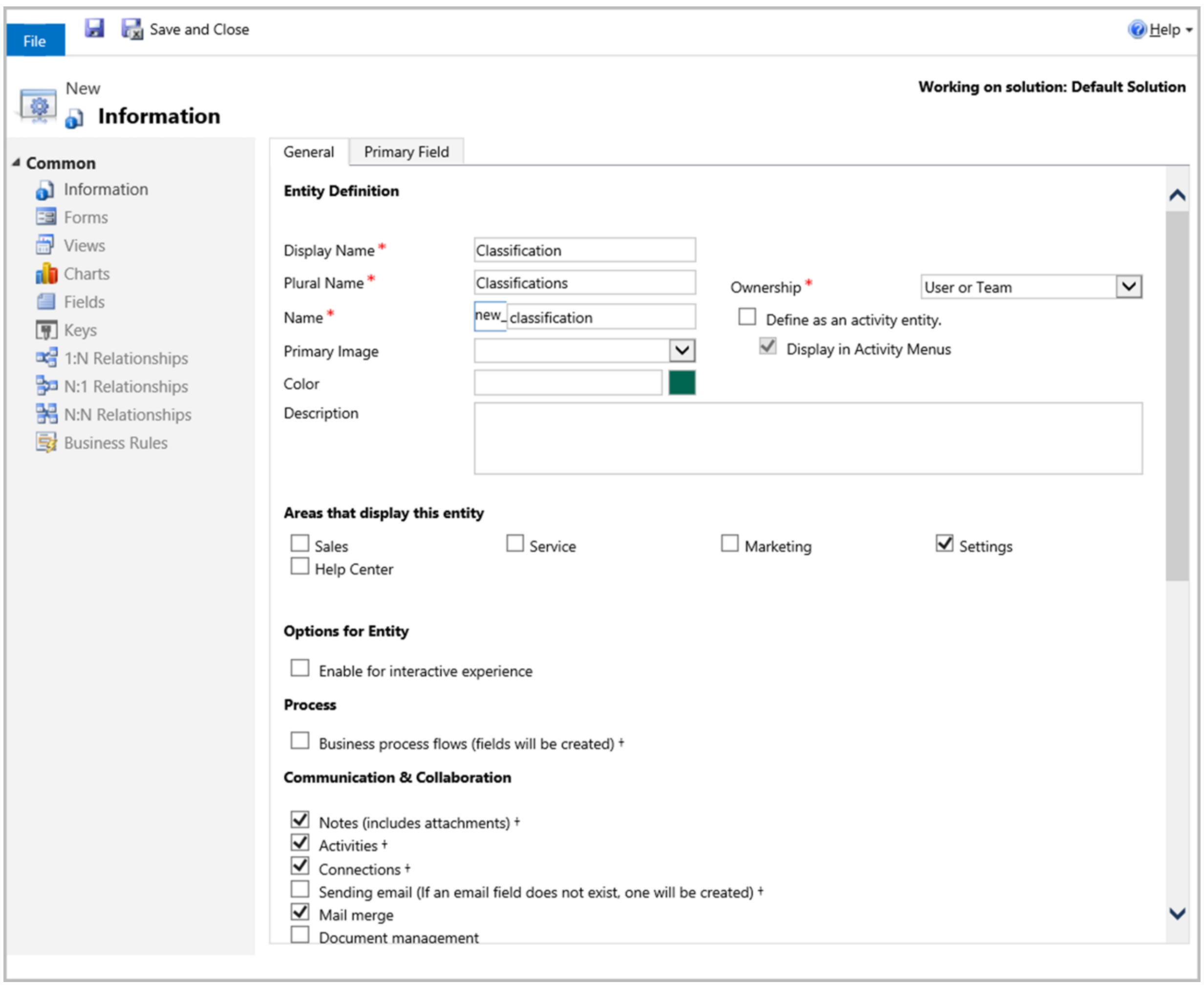

Figure 1-4. Classification entity

5. Click the **Save and Close** button to create the Classification entity.

Exercise 1.2 Creating the Sample Entity

Perform these steps to create the main Sample entity:

1. Click on the Entities node under Components tree, as shown in Figure 1-5.

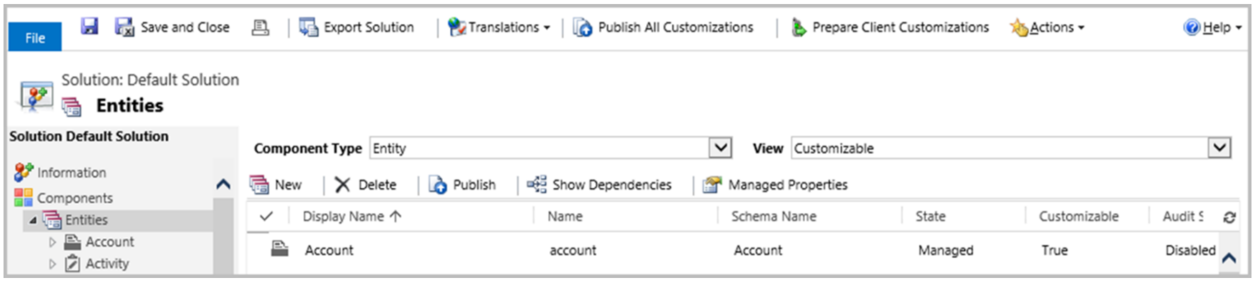

Figure 1-5. The Entities list in the Default Solution

2. From the Entity list toolbar, click the **New** button to display the New Entity dialog.
3. Complete the fields to resemble Figure 1-6.

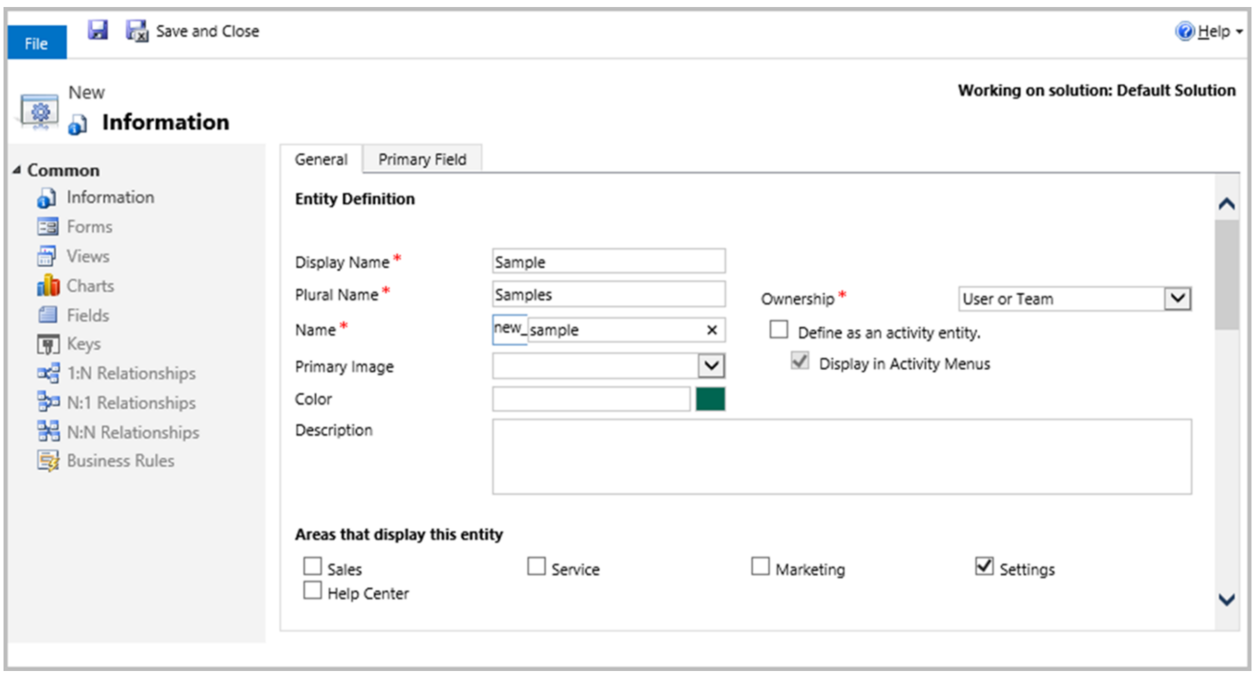

Figure 1-6. Creating the Sample entity

4. Click the **Save** button to create the Sample entity.

Exercise 1.3 Adding Fields to the Sample Entity

In the following exercises we will be creating the following fields:

Field Name	Type	Properties
First Name	Single line of text	Simple
Last Name	Single line of text	Simple
Full Name	Single line of text	Calculated
Email Address 1	Single line of text	Format: Email
Abstract	Single line of text	Format: Text Area
Website	Single line of text	Format: URL
Stock Symbol	Single line of text	Format: Ticker Symbol
Telephone	Single line of text	Format: Phone
Job Title	Option Set	Simple
Level	Option Set	Global Option Set
Active	Two Options	Simple
Needs Callback	Two Options	Calculated
Image	Image	
Age	Whole Number	Simple
Duration	Whole Number	Format: Duration
Time Zone	Whole Number	Format: Time Zone
Language	Whole Number	Format: Language
Employment Days	Whole Number	Calculated
Number of Phone Calls	Whole Number	Rollup
Probability for Hire	Floating Point Number	Simple
Bonus Potential	Decimal Number	Simple
Bonus Percent of Salary	Decimal Number	Calculated
Engagement This Month	Decimal Number	Rollup
Salary	Currency	Simple
Salary Difference	Currency	Calculated
Existing Salary	Currency	Pricing Decimal Precision
Description	Multiple Lines of Text	Simple

Field Name	Type	Properties
Start Date	Date and Time	Simple
End Date	Date and Time	Simple
Next Phone Call	Date and Time	Calculated
Last Phone Call	Date and Time	Rollup
Birthday	Date and Time	Behavior: Date Only
Check–In Date	Date and Time	Behavior: Time–Zone Independent
Classification	Lookup	Simple

Exercise 1.4 Adding Standard Fields to the Sample Entity

In this exercise we will be adding standard field types, and their variations.

1. Click the **Fields** link on the left-hand navigation as shown in Figure 1-7.

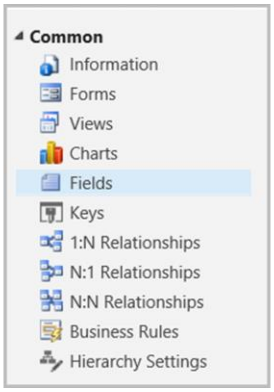

Figure 1-7. Entity Fields link

2. From the Field list toolbar, click the **New** button, as shown in Figure 1-8.

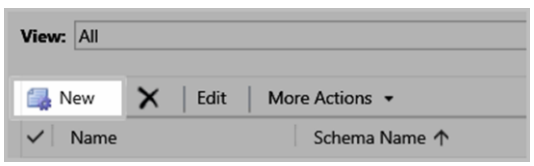

Figure 1-8. New Field button

3. Complete the <u>First Name</u> field properties as shown in Figure 1-9.

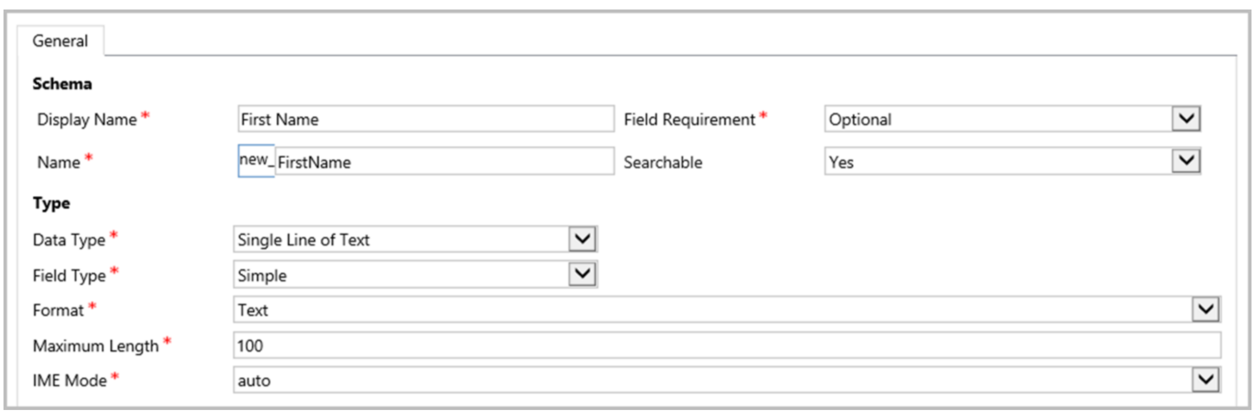

Figure 1-9. First Name field

4. Click the **Save and New** button to create the field and open a new Create Field dialog.

5. Complete the Last Name field properties as shown in Figure 1-10

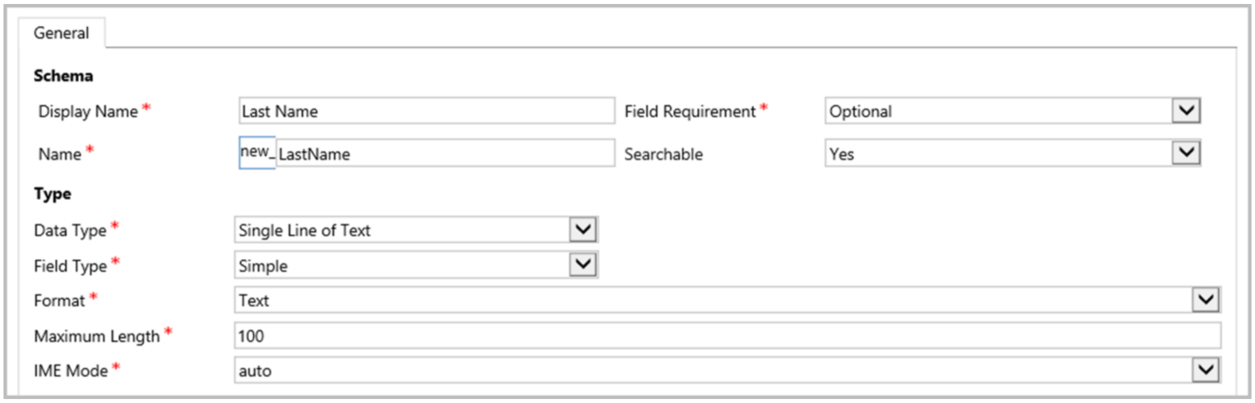

Figure 1-10. Last Name field

6. Click the **Save and New** button to create the field and open a new Create Field dialog.
7. Complete the Email Address 1 field properties as shown in Figure 1-11.

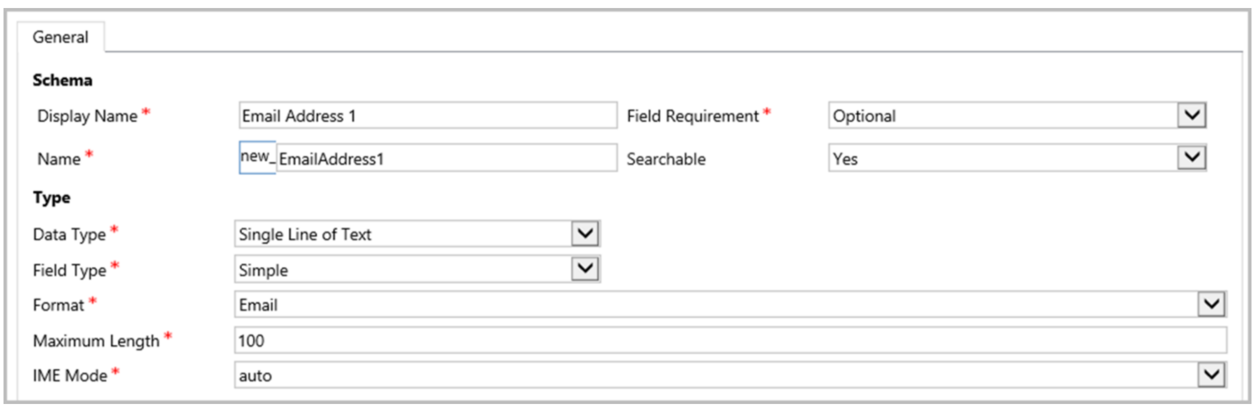

Figure 1-11. Email Address 1 field

8. Click the **Save and New** button to create the field and open a new Create Field dialog.
9. Complete the Abstract field properties as shown in Figure 1-12.

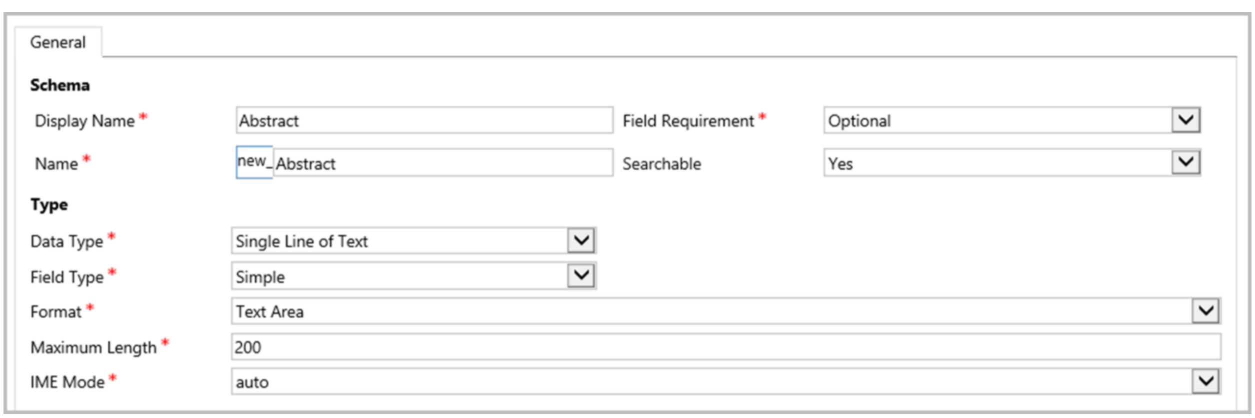

Figure 1-12. Abstract field

10. Click the **Save and New** button to create the field and open a new Create Field dialog.
11. Complete the Website field properties as shown in Figure 1-13.

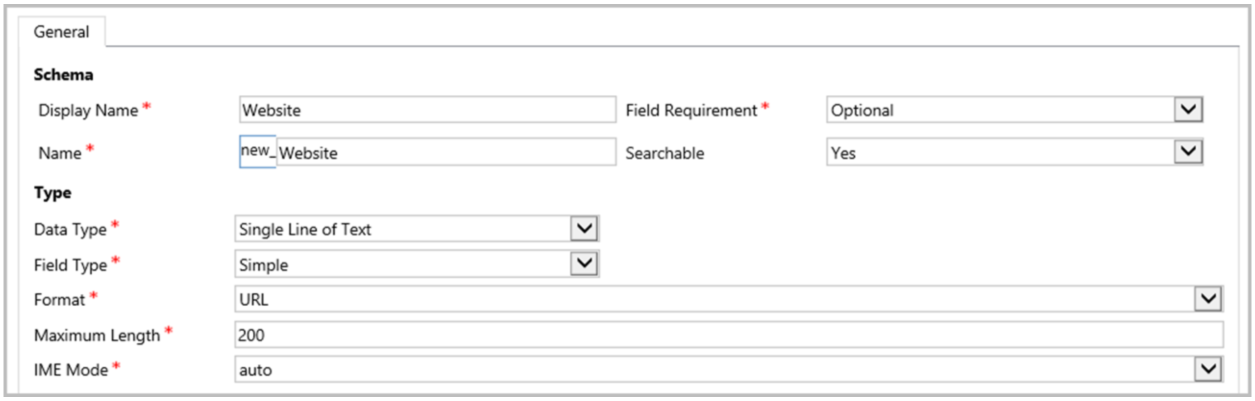

Figure 1-13. Website field

12. Click the **Save and New** button to create the field and open a new Create Field dialog.
13. Complete the Stock Symbol field properties as shown in Figure 1-14

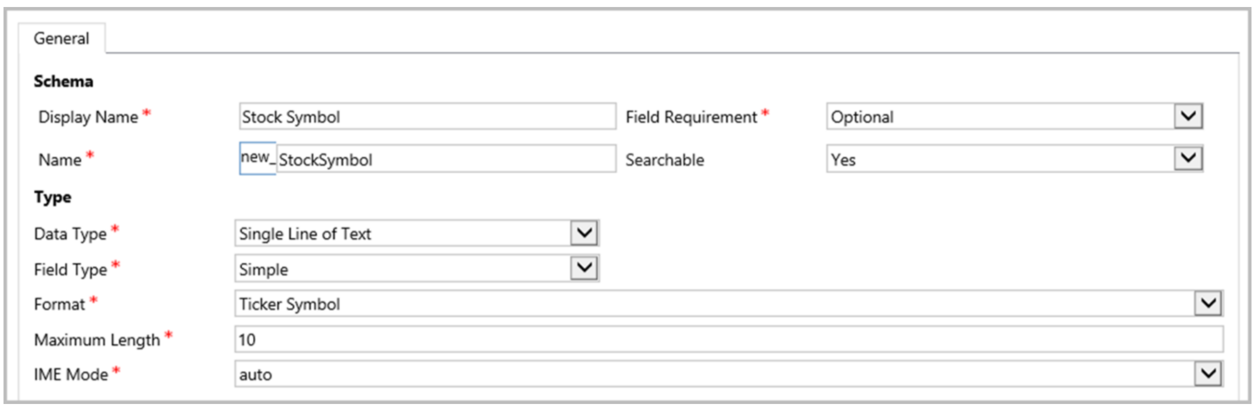

Figure 1-14. Stock Symbol field

14. Click the **Save and New** button to create the field and open a new Create Field dialog.

15. Complete the Telephone field properties as shown in Figure 1-15

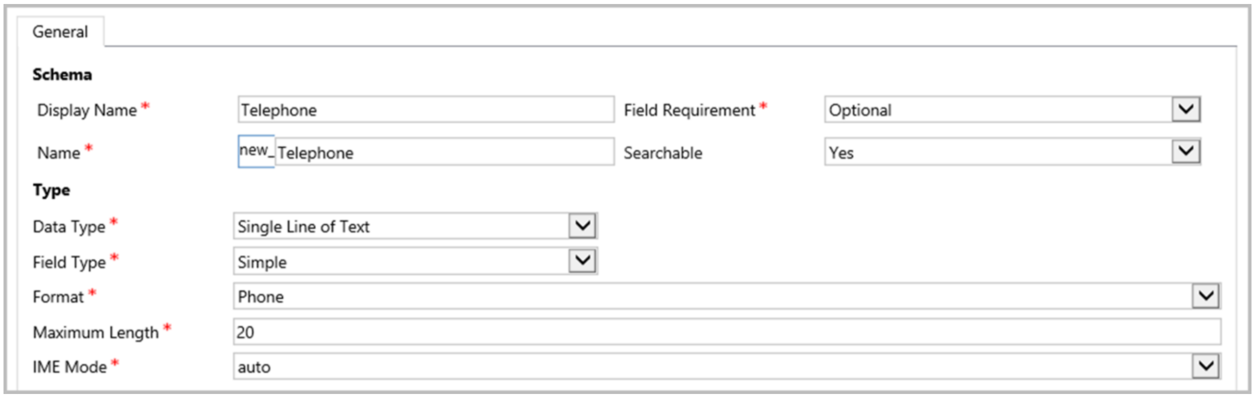

Figure 1-15. Telephone field

16. Click the **Save and New** button to create the field and open a new Create Field dialog.
17. Complete the Job Title field properties as shown in Figure 1-16.

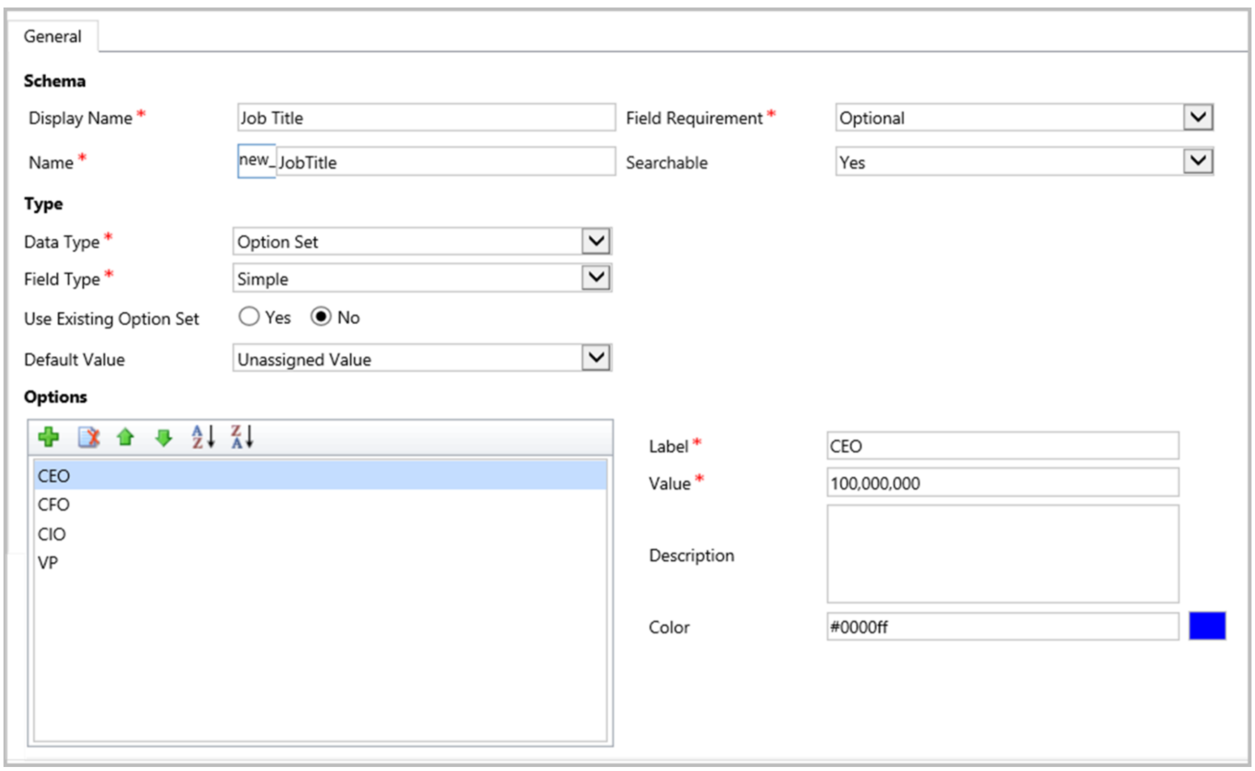

Figure 1-16. Job Title field

18. Click **the A/Z button** to sort alphabetically.

19. Click the **Save and New** button to create the field and open a new Create Field dialog.

20. Complete the Level field properties as shown in

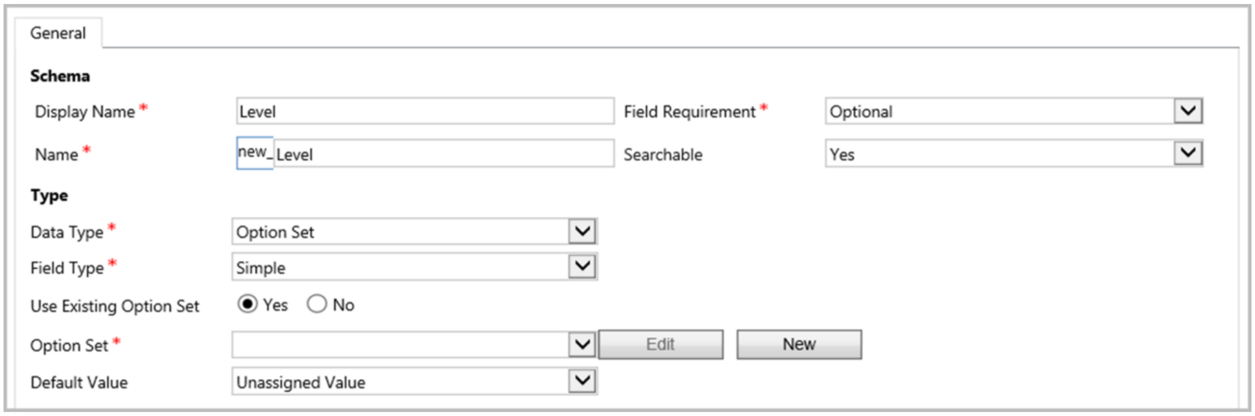

Figure 1-17. Level field

21. Click the **New** button to create a new global option set, as shown in Figure 1-18.

Figure 1-18. New button used to create a new global option set

22. Complete the properties for the Level global option set as shown in Figure 1-19.

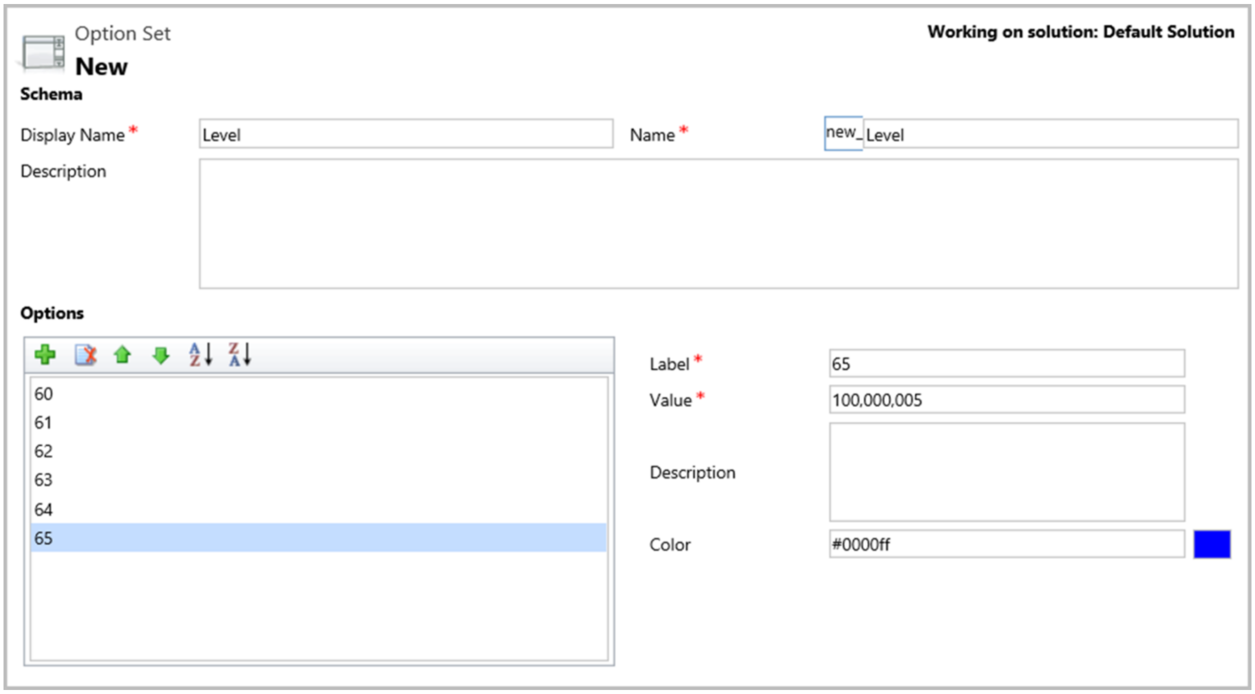

Figure 1-19. Creating the Level global option set

23. When finished, click the **Save and Close** button, and you will be returned to the Level field. As you can see in Figure 1-20, you may select a default value that is specific to the Level field on the Sample entity.

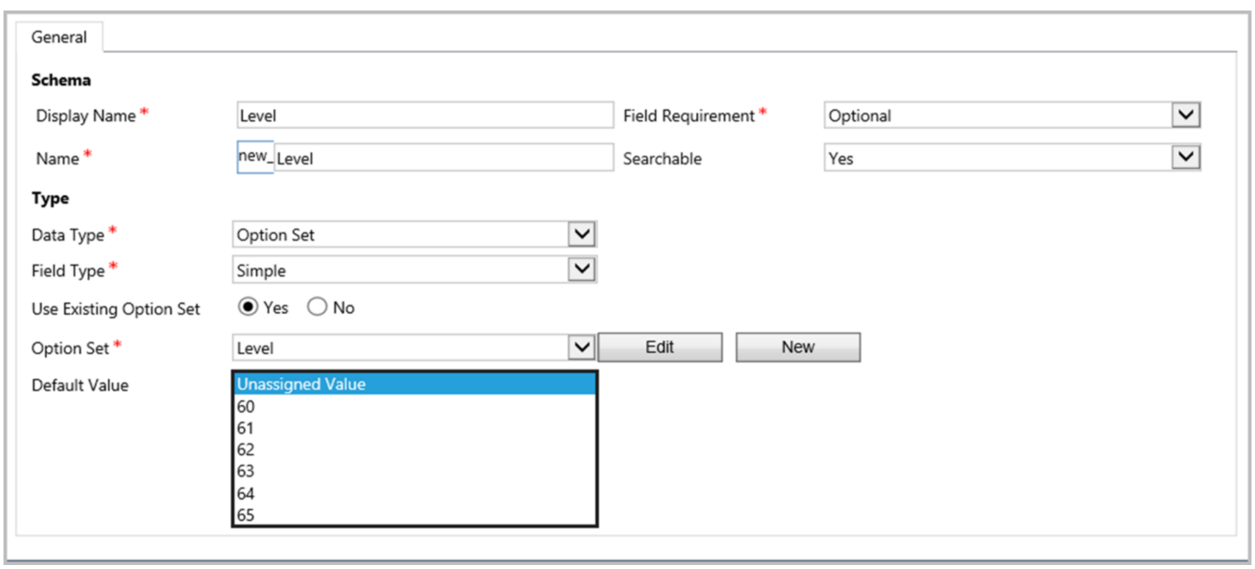

Figure 1-20. Selecting a default value for the Level field

24. Click the **Save and New** button to create the field and open a new Create Field dialog.
25. Complete the Image field properties as shown in Figure 1-21.

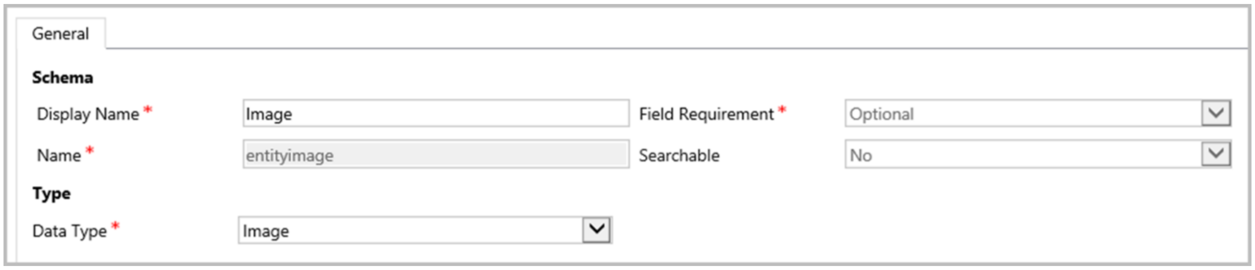

Figure 1-21. Image field

26. Click the **Save and New** button to create the field and open a new Create Field dialog.
27. Complete the Age field properties as shown in Figure 1-22.

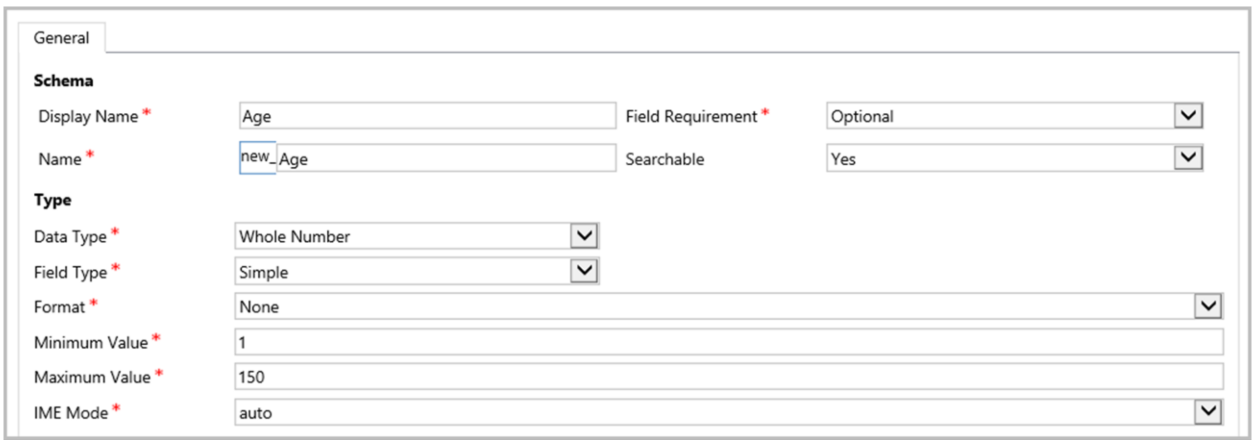

Figure 1-22. Age field

28. Click the **Save and New** button to create the field and open a new Create Field dialog.
29. Complete the Time Zone field properties as shown in Figure 1-23.

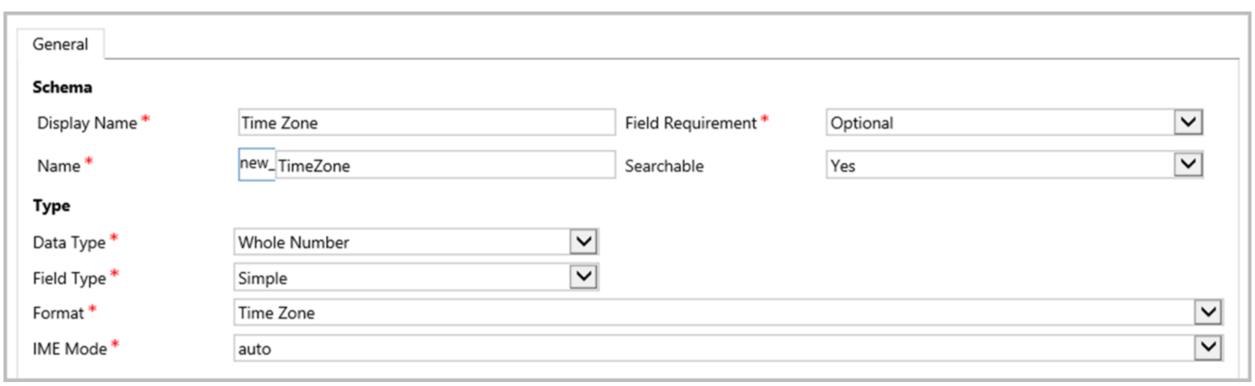

Figure 1-23. Time zone field

30. Click the **Save and New** button to create the field and open a new Create Field dialog.

31. Complete the Language field properties as shown in Figure 1-24.

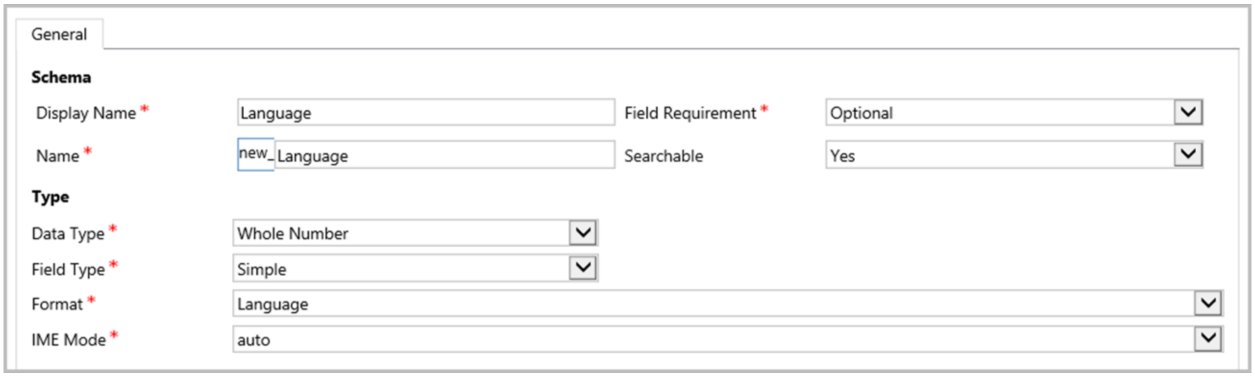

Figure 1-24. Language field

32. Click the **Save and New** button to create the field and open a new Create Field dialog.
33. Complete the Number of Phone Calls field properties as shown in Figure 1-25.

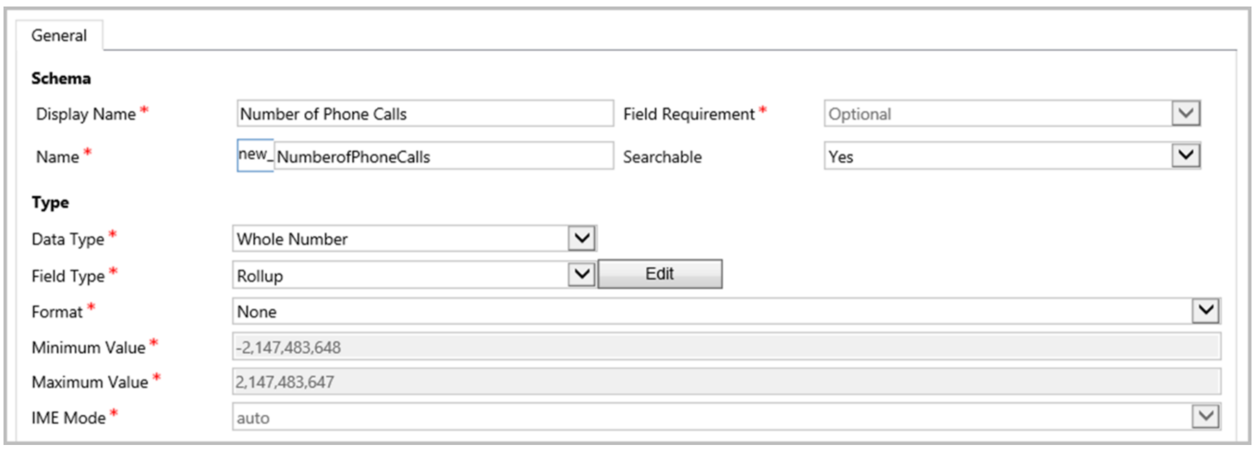

Figure 1-25. Number of Phone Calls field

34. Click the **Edit** button to open the calculated field editor.

35. Create the **Condition** and **Action** steps as shown in Figure 1-26.

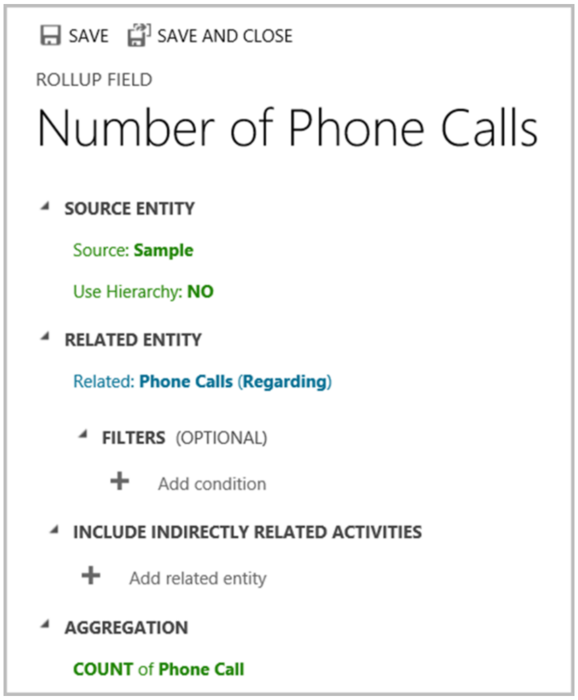

Figure 1-26. Number of Phone Calls calculation

36. Click the **SAVE AND CLOSE** button to save the calculation.
37. Click the **Save and New** button to create the field and open a new Create Field dialog.
38. Complete the Active field properties as shown in Figure 1-27.

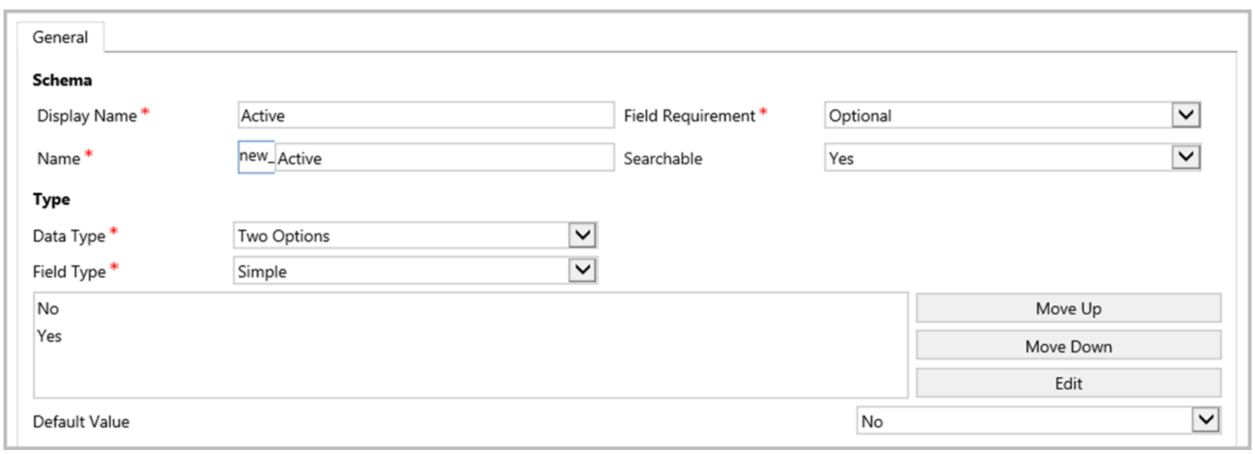

Figure 1-27. Active field

39. Click the **Save and New** button to create the field and open a new Create Field dialog.

40. Complete the Probability of Hire field properties as shown in Figure 1-28.

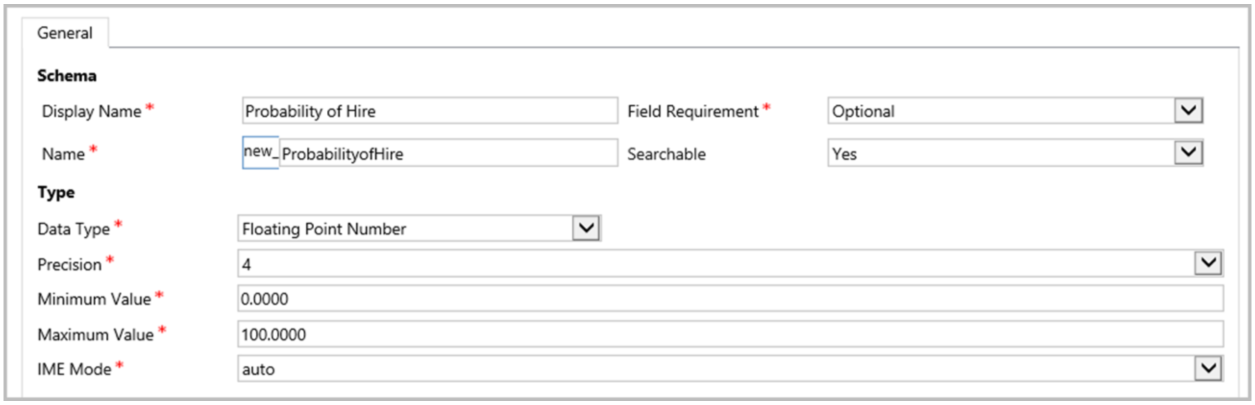

Figure 1-28. Probability of Hire field.

41. Click the **Save and New** button to create the field and open a new Create Field dialog.

42. Complete the Bonus Potential field properties as shown in Figure 1-29.

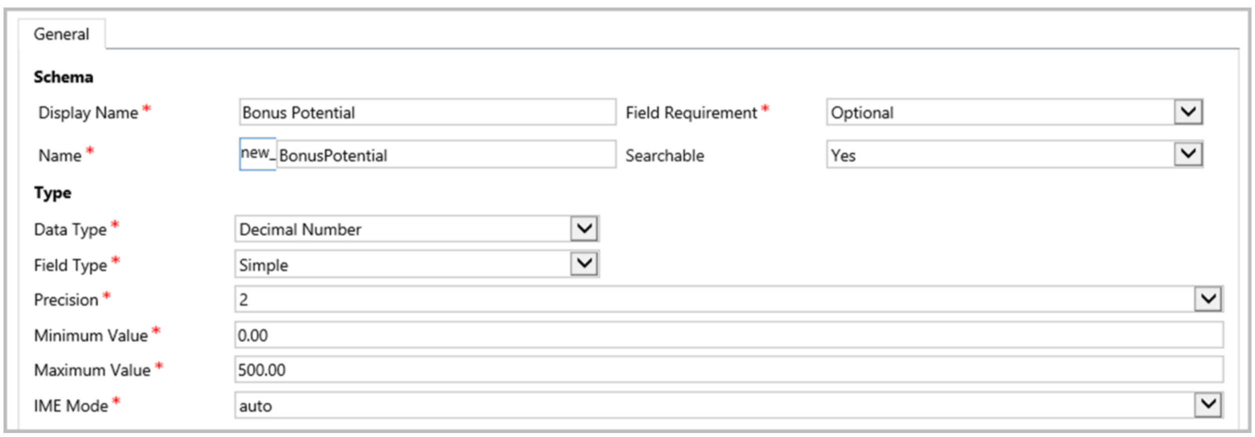

Figure 1-29. Bonus Potential field

43. Click the **Save and New** button to create the field and open a new Create Field dialog.

44. Complete the Salary field properties as shown in Figure 1-30.

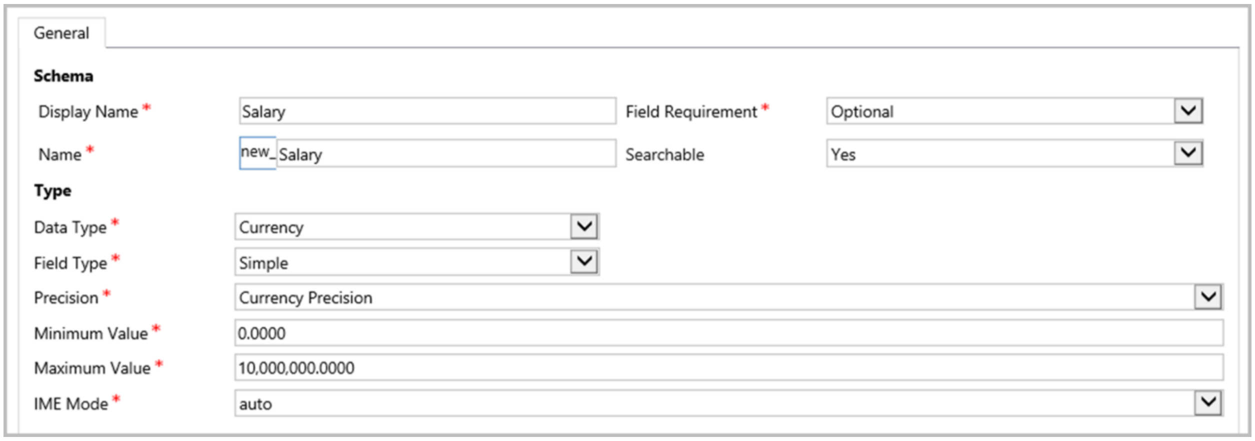

Figure 1-30. Salary field

45. Click the **Save and New** button to create the field and open a new Create Field dialog.

46. Complete the Existing Salary field properties as shown in Figure 1-31.

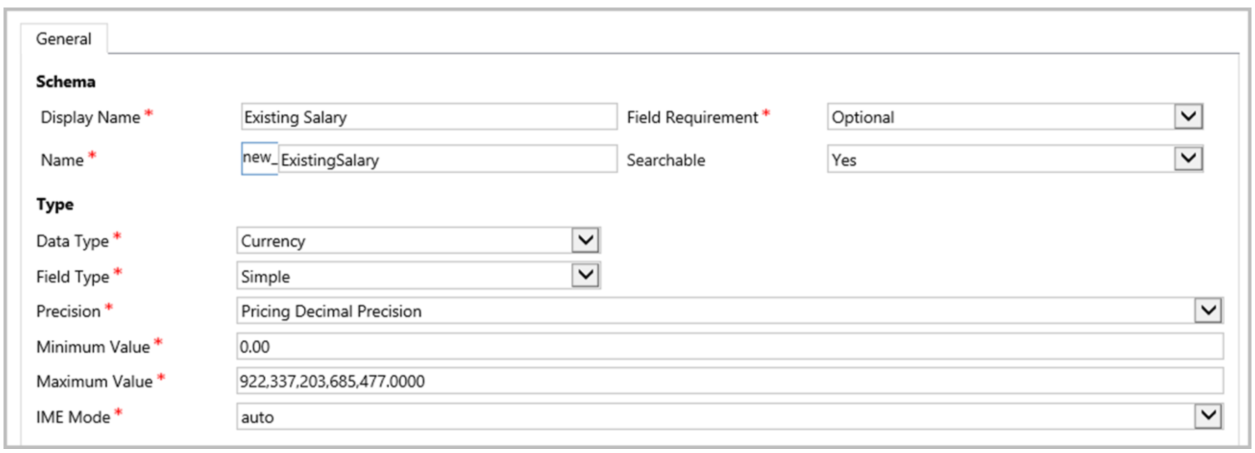

Figure 1-31. Existing Salary field

47. Click the **Save and New** button to create the field and open a new Create Field dialog.

48. Complete the Description field properties as shown in Figure 1-32.

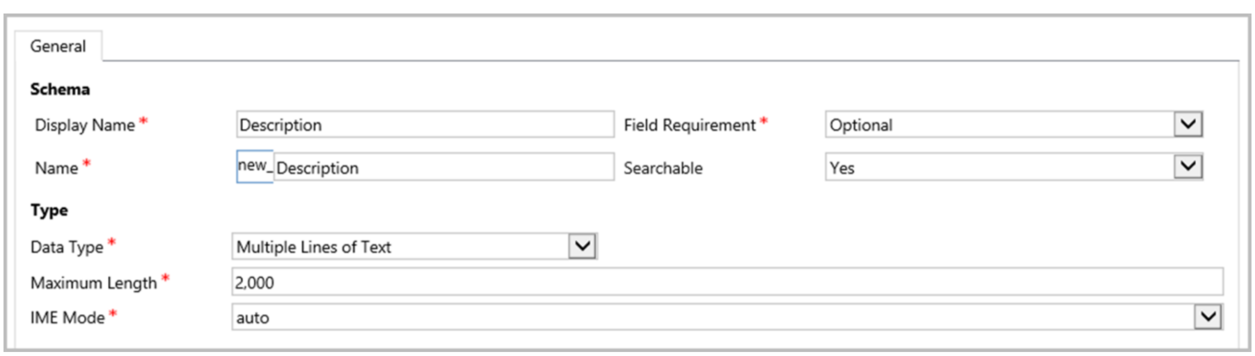

Figure 1-32. Description field

49. Click the **Save and New** button to create the field and open a new Create Field dialog.
50. Complete the Start Date field properties as shown in Figure 1-33.

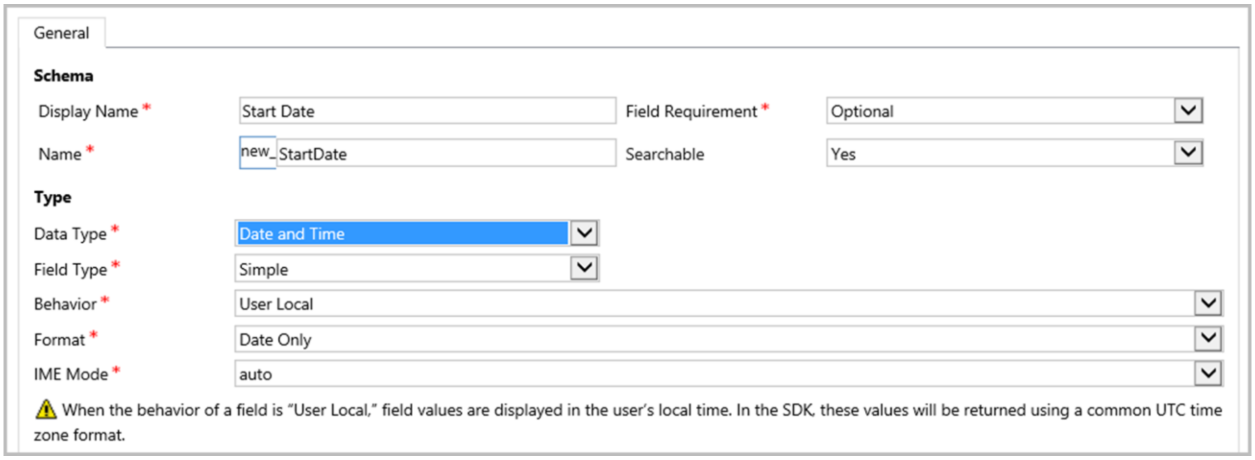

Figure 1-33. Start Date field

51. Click the **Save and New** button to create the field and open a new Create Field dialog.
52. Complete the End Date field properties as shown in Figure 1-34.

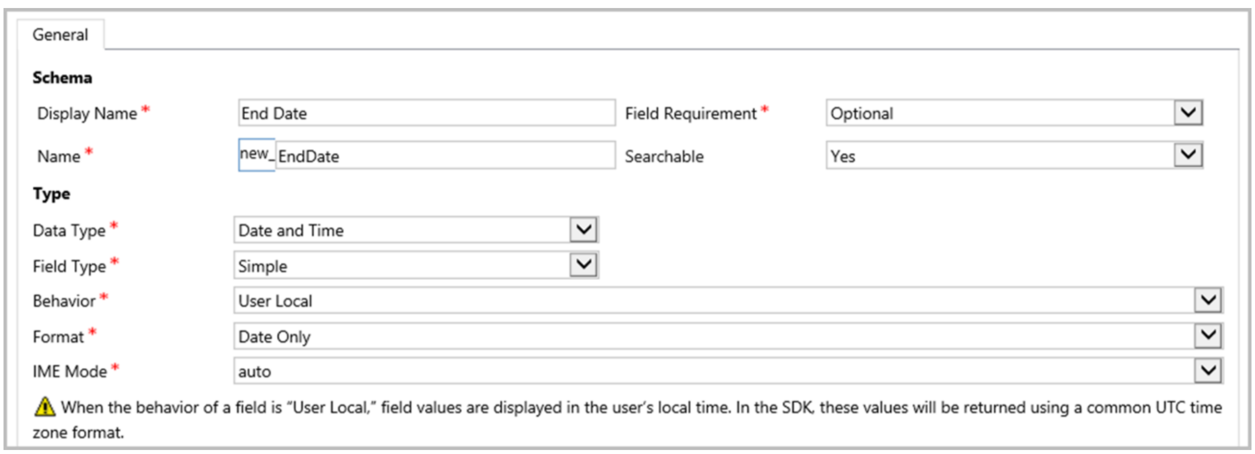

Figure 1-34. End Date field

53. Click the **Save and New** button to create the field and open a new Create Field dialog.

54. Complete the Birthday field properties as shown in Figure 1-35.

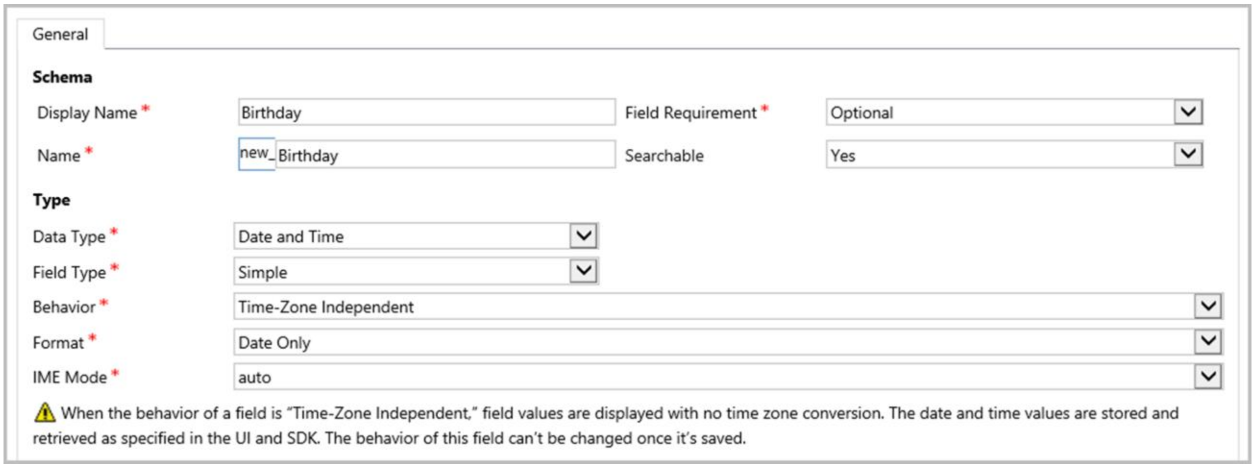

Figure 1-35. Birthday field

55. Click the **Save and New** button to create the field and open a new Create Field dialog.

56. Complete the Check–in Date field properties as shown in Figure 1-36.

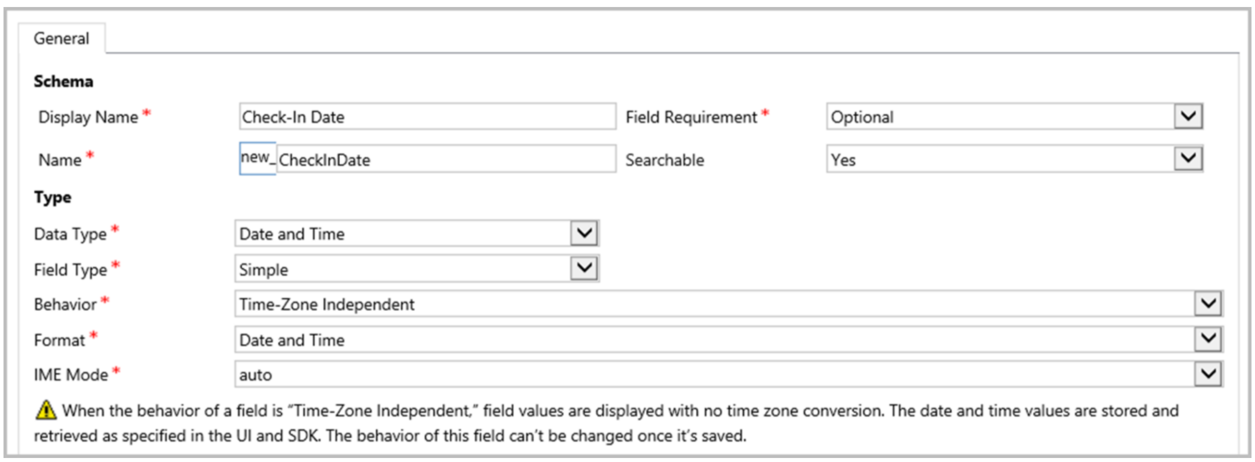

Figure 1-36. Check-in Date field

57. Click the **Save and New** button to create the field and open a new Create Field dialog.

58. Complete the Classification field properties as shown in Figure 1-37.

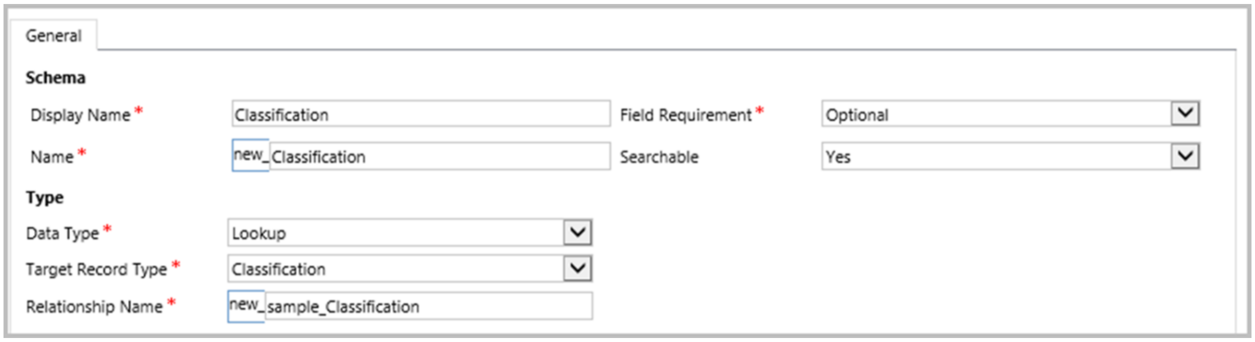

Figure 1-37. Classification field

59. Click the **Save and Close** button to create the field.

Exercise 1.5 Adding Calculated Fields to the Sample Entity

Now that we have our standard fields created, we need to create variations of those fields that are either calculated or rollups.

1. Complete the Full Name field properties as shown in Figure 1-38.

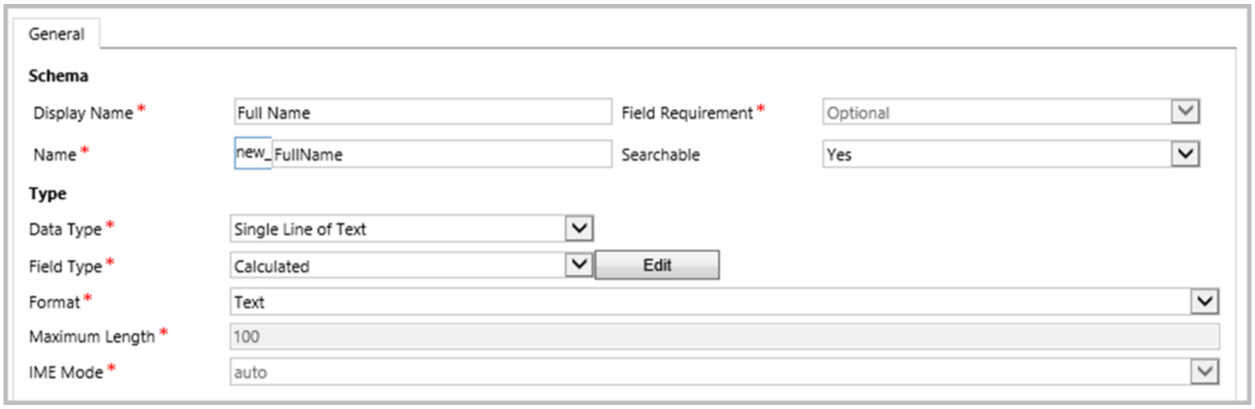

Figure 1-38. Full name field

2. Click the **Edit** button. This will save the field and open the calculated field editor, as shown in Figure 1-39.

Figure 1-39. Full Name field calculated field editor

3. Click the **Add action** button, as shown in Figure 1-40.

Figure 1-40. Add Action button on the calculated field editor

4. Add the formula shown in Figure 1-41.

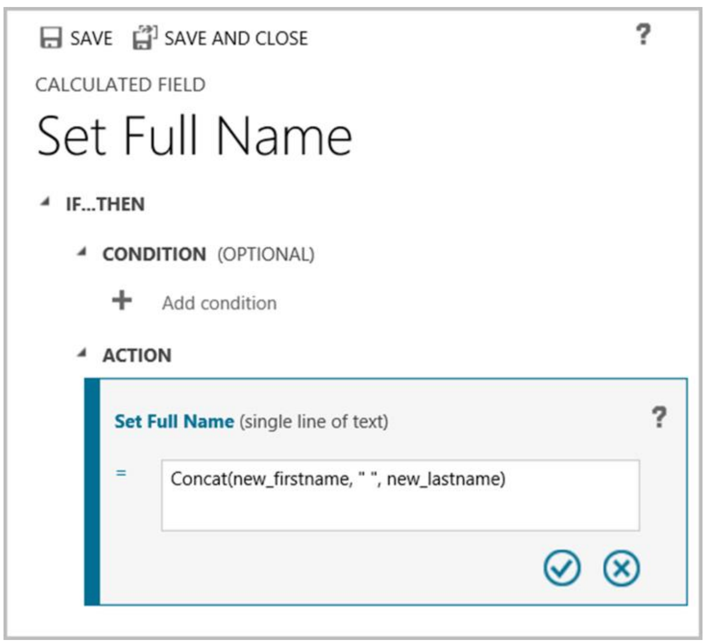

Figure 1-41. Editing the Full Name calculation

5. When you have finished, click the checkmark button, as you can see in Figure 1-42.

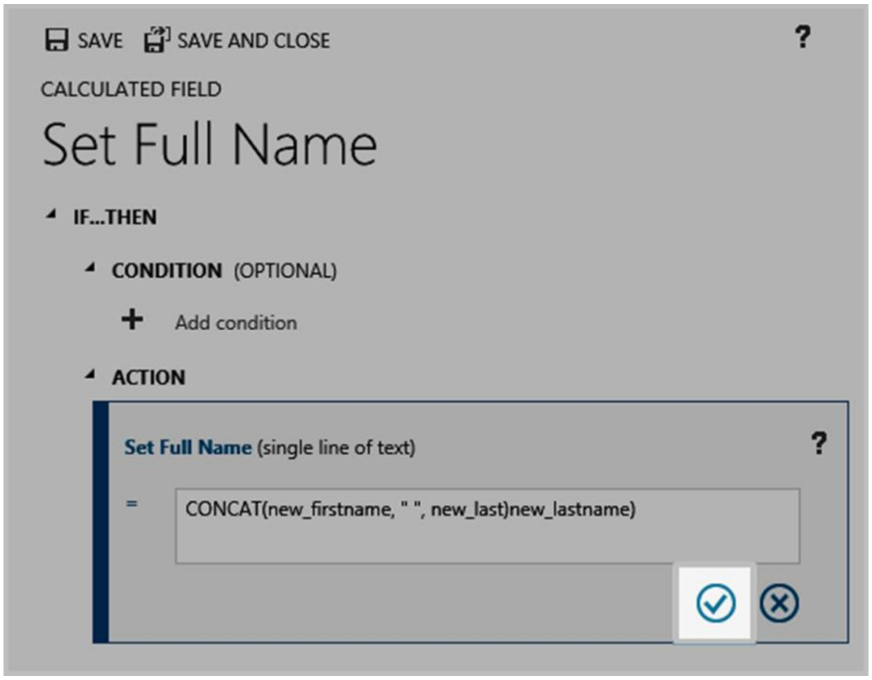

Figure 1-42. Calculated field Action confirmation checkmark button

6. Assuming there are no issues with the calculation, you will see a final compiled calculation, as seen in Figure 1-43

Figure 1-43. Compiled calculation

7. Click the **SAVE AND CLOSE** button to close the calculated field editor.
8. Click the **Save and New** button to create the field and open a new Create Field dialog.

9. Complete the Needs Callback field properties as shown in Figure 1-44.

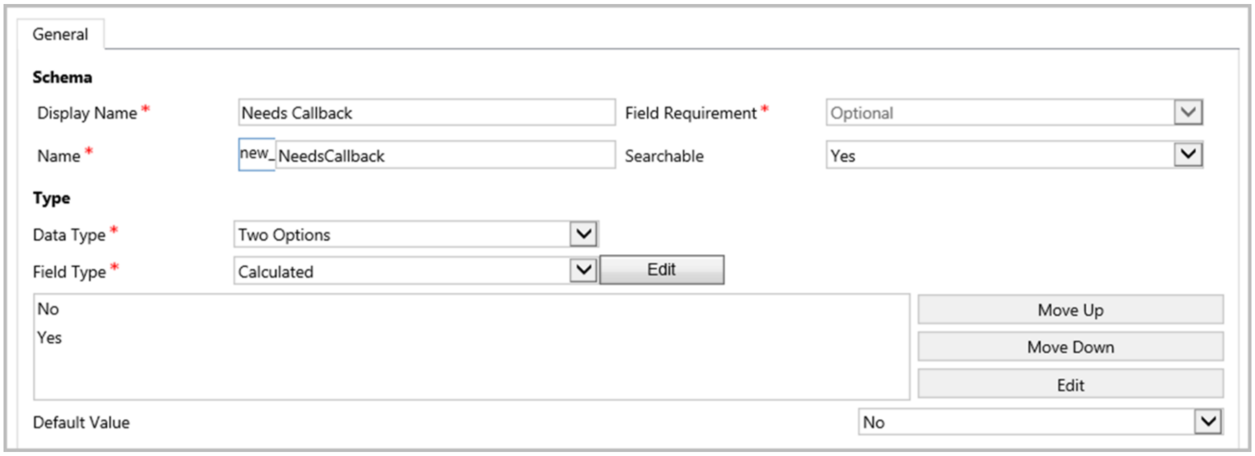

Figure 1-44. Needs Callback field

10. Click the **Edit** button to open the calculated field editor, as shown in Figure 1-45.

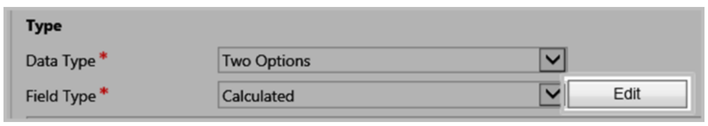

Figure 1-45. Edit button to edit the calculated field

11. Create the **Condition** and **Action** steps as shown in Figure 1-46.

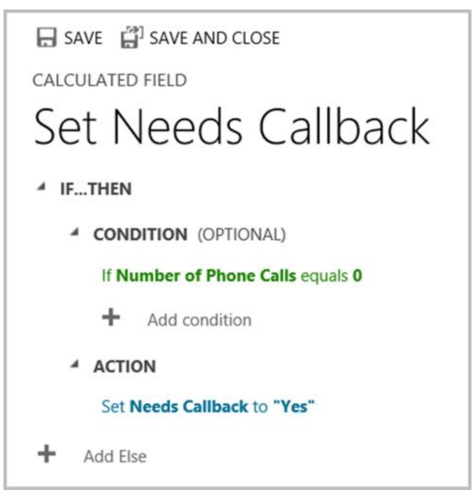

Figure 1-46. Needs Callback calculation

12. Click the **Save and Close** button to close the calculated field editor.

13. Click the **Save and New** button to create the field and open a new Create Field dialog.

14. Complete the Employment Days field properties as shown in Figure 1-47.

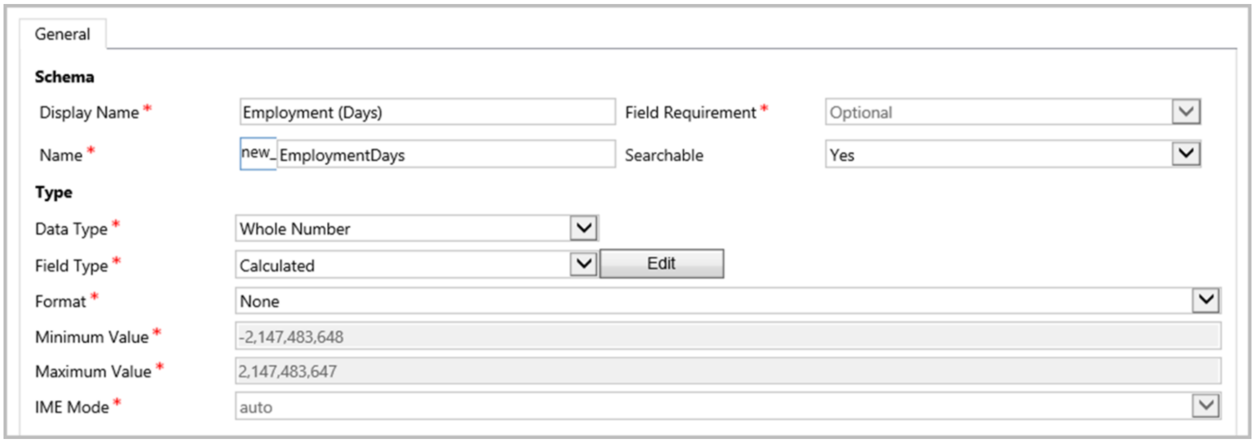

Figure 1-47. Employment Days field

15. Click the **Edit** button to open the calculated field editor.
16. Create the **Condition** and **Action** steps as shown in Figure 1-48.

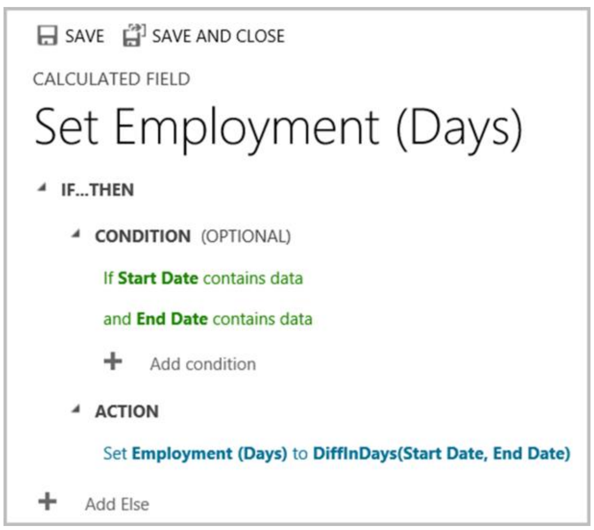

Figure 1-48. Employment Days calculated field

17. Click the **SAVE AND CLOSE** button to save the calculation.
18. Click the **Save and New** button to create the field and open a new Create Field dialog.

19. Complete the Duration field properties as shown in Figure 1-49.

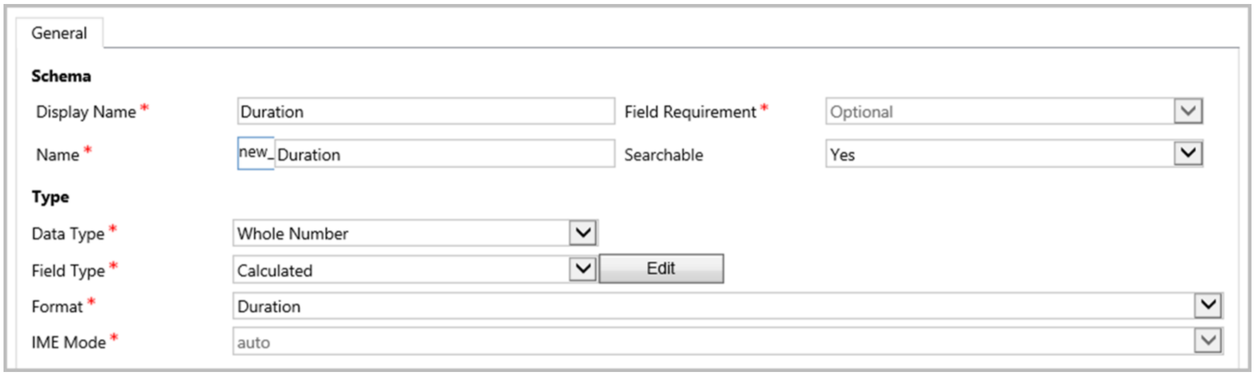

Figure 1-49. Duration field

20. Click the **Edit** button to display the calculated field editor.
21. Create the **Condition** and **Action** steps as shown in Figure 1-50.

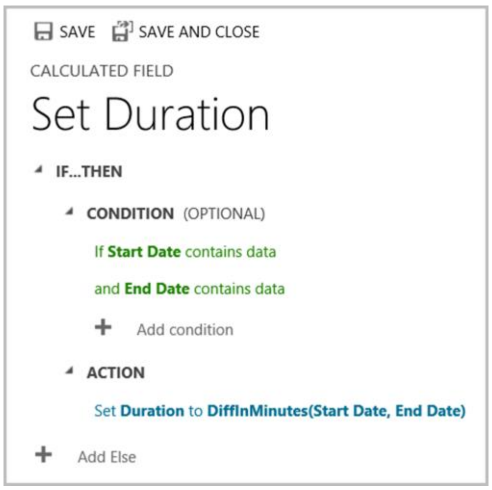

Figure 1-50. Duration calculated field

22. Click the **Save and New** button to save the calculation.
23. Click the **Save and New** to create the field and open a new Create Field dialog.
24. Complete the Bonus Percent of Salary field properties as shown in Figure 1-51.

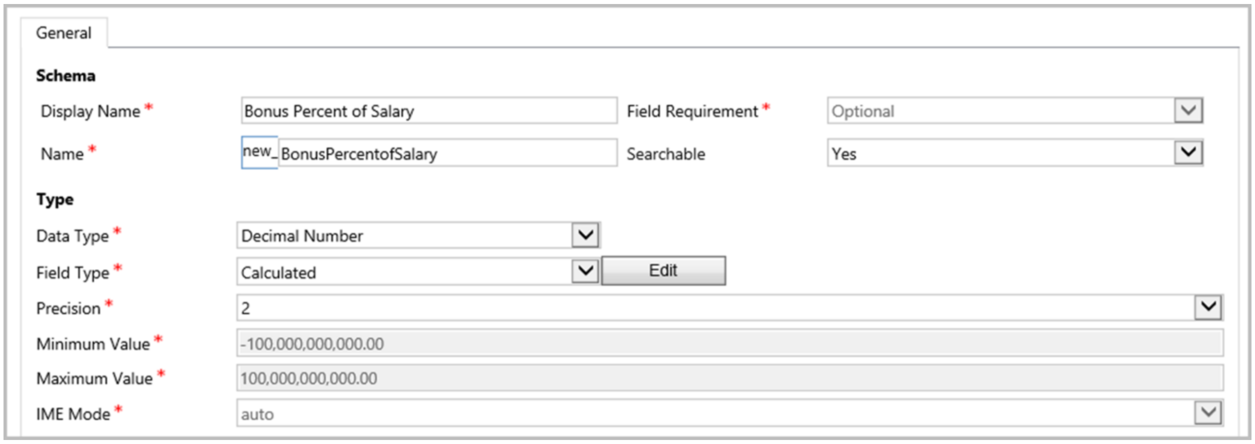

Figure 1-51. Bonus Percent of Salary field

25. Click the **Edit** button to open the calculated field editor.
26. Create the **Condition** and **Action** steps as shown in Figure 1-52.

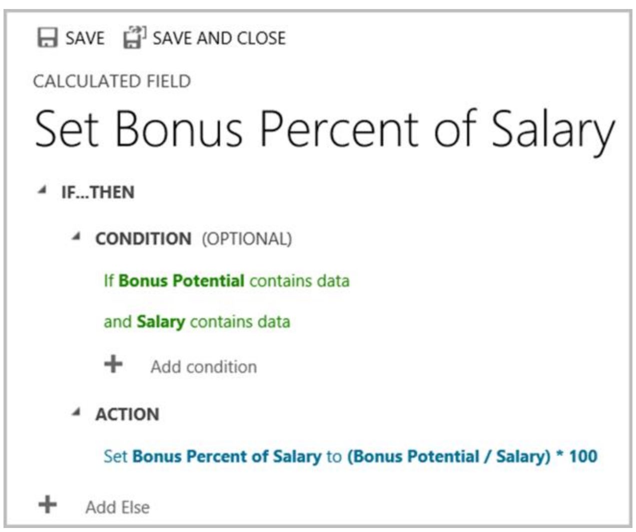

Figure 1-52. Bonus Percent of Salary calculation

27. Click the **SAVE AND CLOSE** button to save the calculation.
28. Click the **Save and New** button to create the field and open a new Create Field dialog.

29. Complete the Engagement This Month field properties as shown in Figure 1-53.

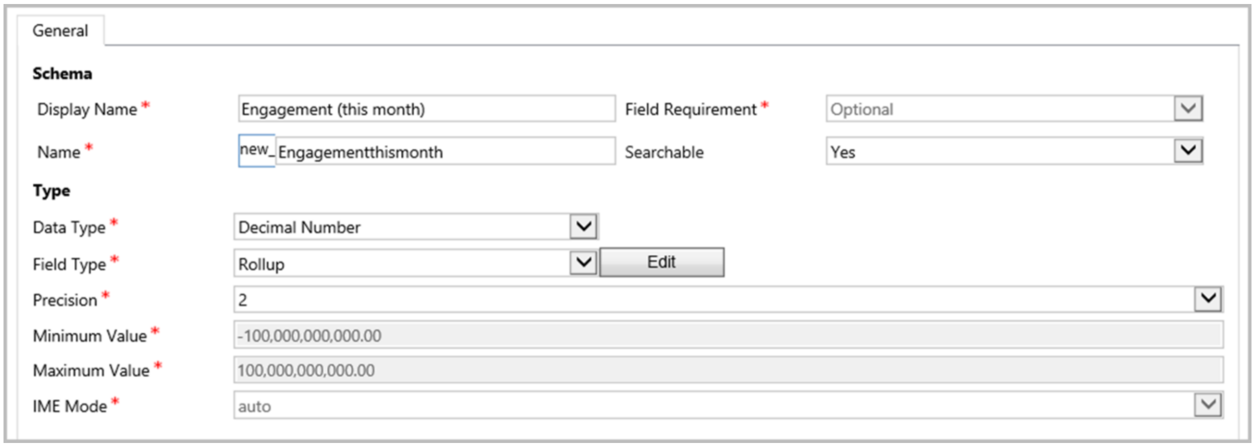

Figure 1-53. Engagement This Month field

30. Click the **Edit** button to open the calculated field editor.

31. Create the **Condition** and **Action** steps as shown in Figure 1-54.

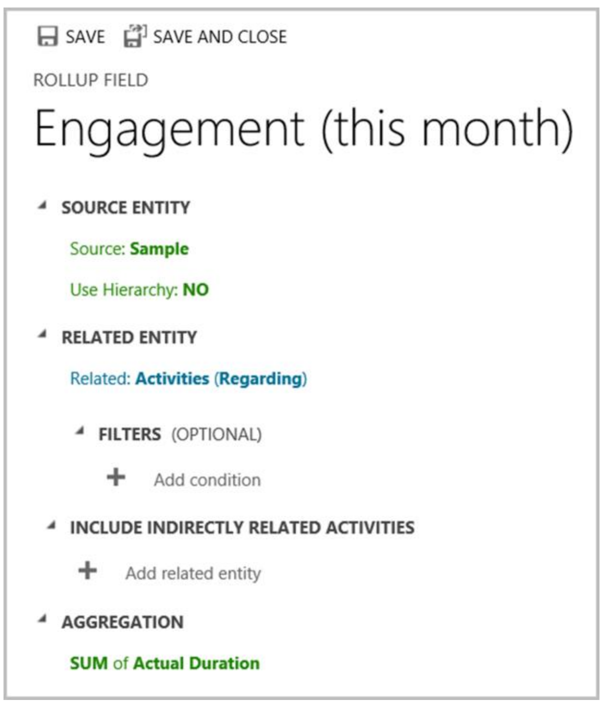

Figure 1-54. Engagement This Month calculation

32. Click the **SAVE AND CLOSE** button to save the calculation.

33. Click the **Save and New** button to create the field and open a new Create Field dialog.

34. Complete the Salary Difference field properties as shown in Figure 1-55.

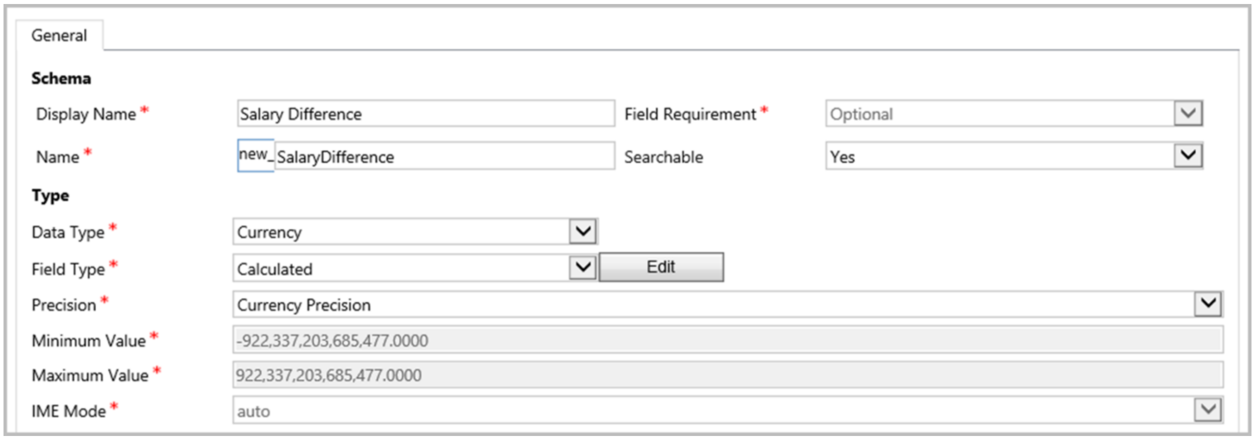

Figure 1-55. Salary Difference field

35. Click the **Edit** button to open the calculated field editor.

36. Create the **Condition** and **Action** steps as shown in Figure 1-56.

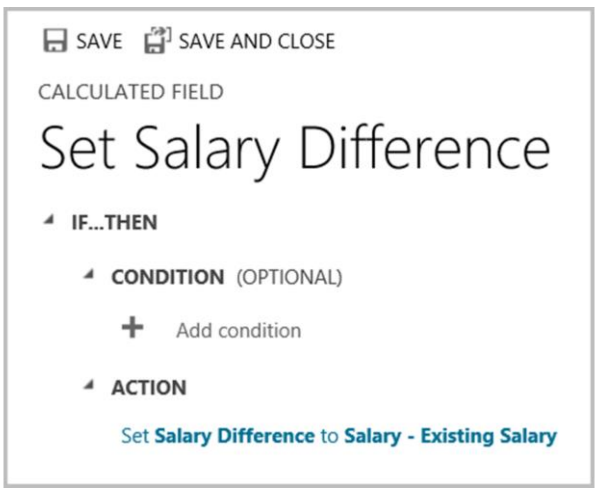

Figure 1-56. Salary Difference calculation

37. Click the **SAVE AND CLOSE** button to save the calculation.

38. Click the **Save and New** button to create the field and open a new Create Field dialog.

39. Complete the Last Phone Call field properties as shown in Figure 1-57.

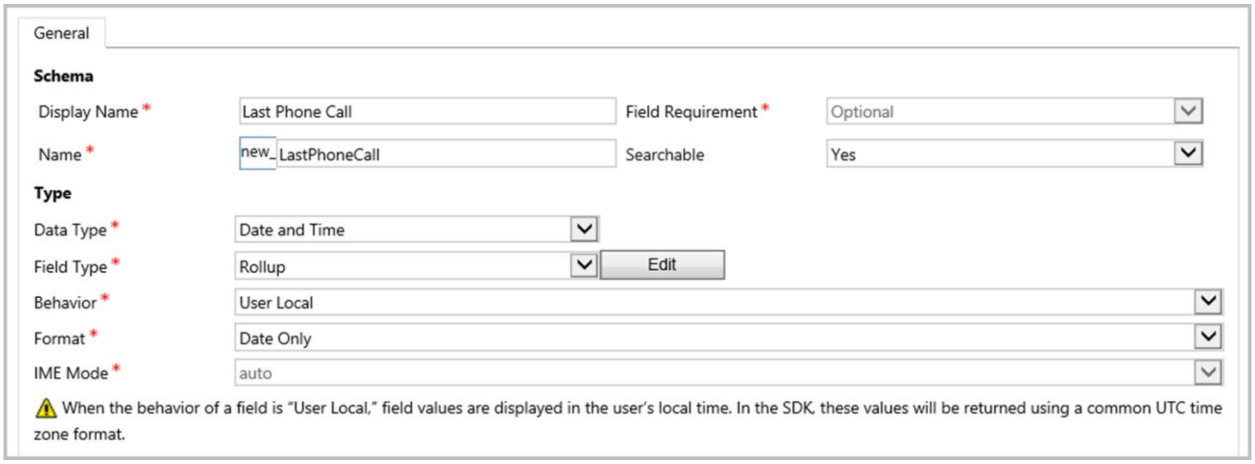

Figure 1-57. Last Phone Call field

40. Click the **Edit** button to open the calculated field editor.
41. Create the **Condition** and **Action** steps as shown in Figure 1-58.

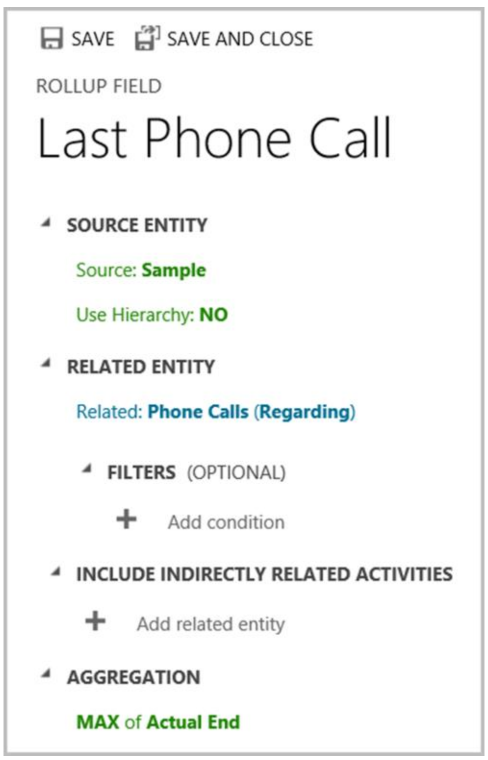

Figure 1-58. Last Phone Call calculation

42. Click the **SAVE AND CLOSE** button to save the calculation.
43. Click the **Save and New** button to create the field and open a new Create Field dialog.

44. Complete the Next Phone Call field properties as shown in Figure 1-59.

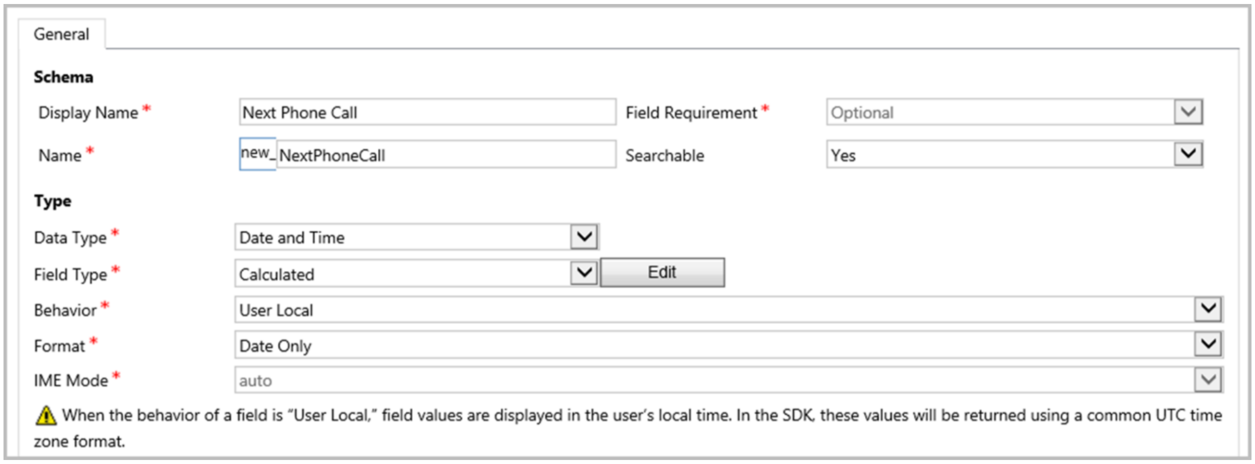

Figure 1-59. Next Phone Call Field

45. Click the **Edit** button to open the calculated field editor.

46. Create the **Condition** and **Action** steps as shown in Figure 1-60.

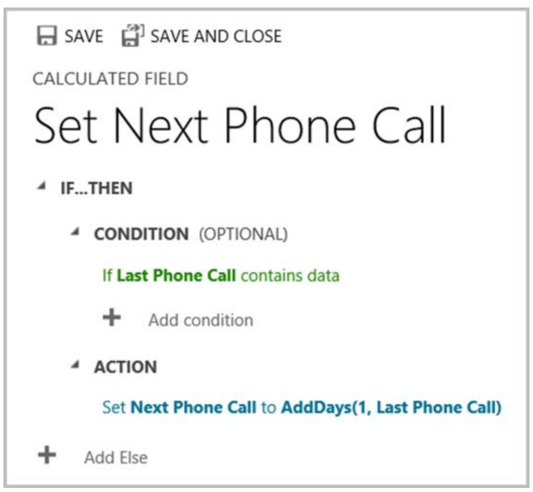

Figure 1-60. Next Phone Call calculation

47. Click the **SAVE AND CLOSE** button to save the calculation.

48. Click the **Save and New** button to create the field and open a new Create Field dialog.

Field creation is now complete.

Exercise 1.6 Adding Fields to the Form

To add the fields we just created to the Sample entity data entry form, perform these steps:

1. Click **Forms** on the left-hand navigation area of the Sample entity as you can see in Figure 1-61.

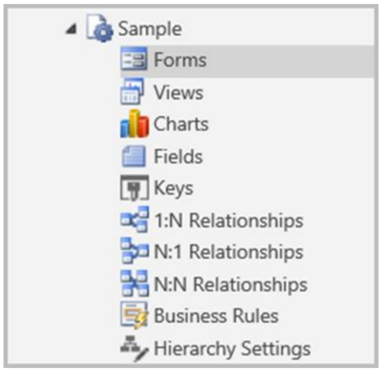

Figure 1-61. Forms area of Sample entity

2. Double-click the Information form, as shown in Figure 1-62, and the Form Editor will be displayed.

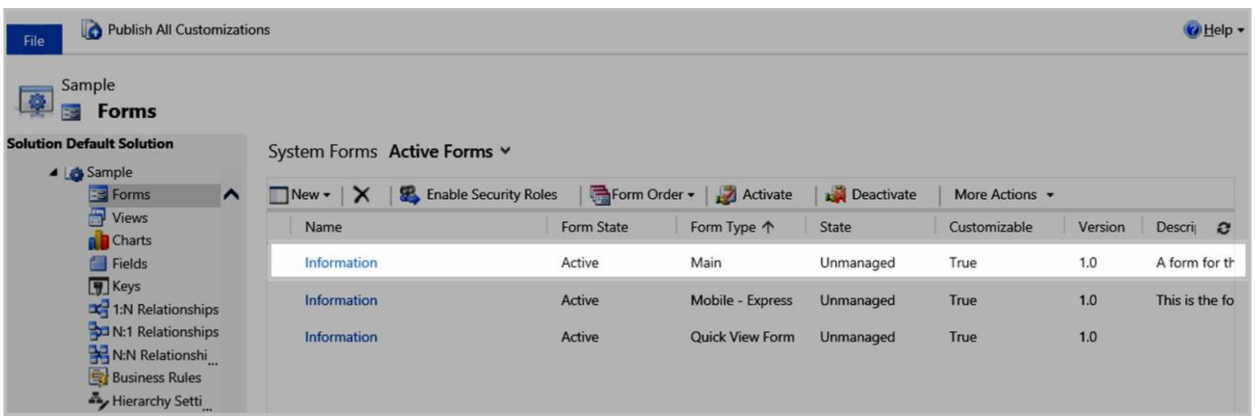

Figure 1-62. Sample entity Information form

3. Change the **Filter** of the Field Explorer to **Custom Fields**, as you can see in Figure 1-63. This will narrow the field list to only show fields we'll be working with in this exercise.

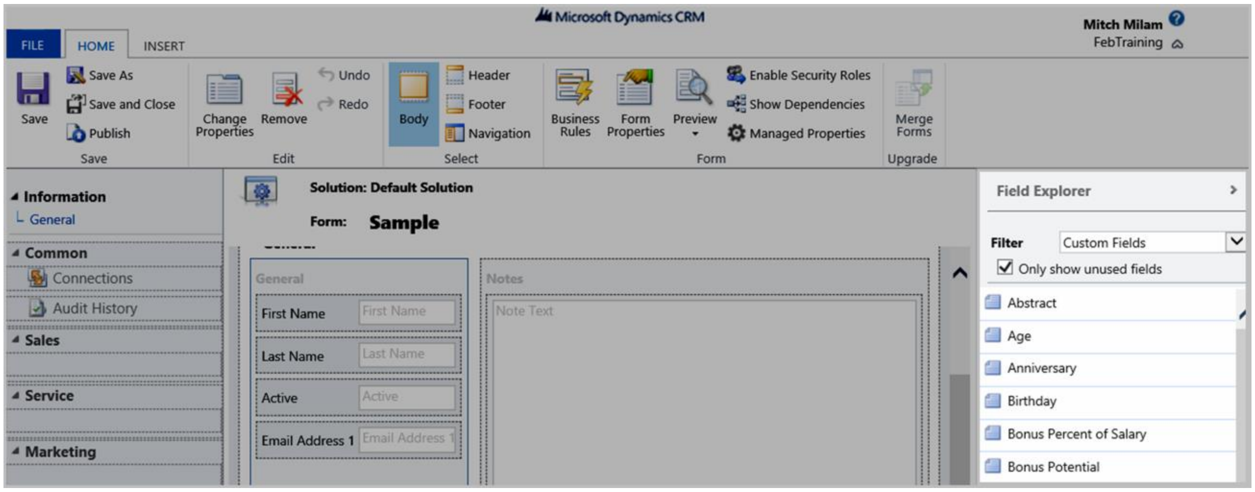

Figure 1-63. Field Explorer in the Form Editor

4. Click on the Insert tab of the Ribbon, as shown in Figure 1-64.

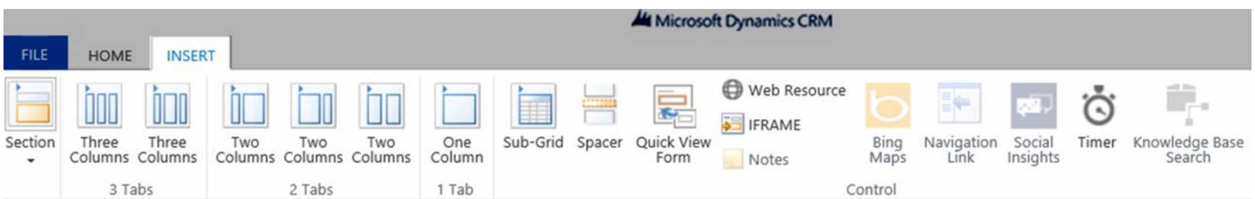

Figure 1-64. Form Editor Insert tab

5. Click the **Section** dropdown button, then click the **One Column** button as shown in Figure 1-65. This will insert a one–column section into the form.

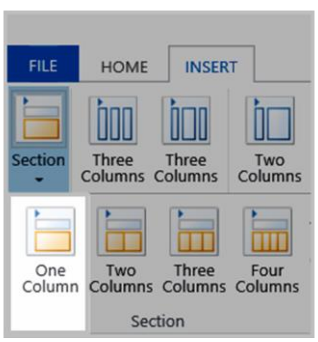

Figure 1-65. Insert a One Column section

6. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-66.

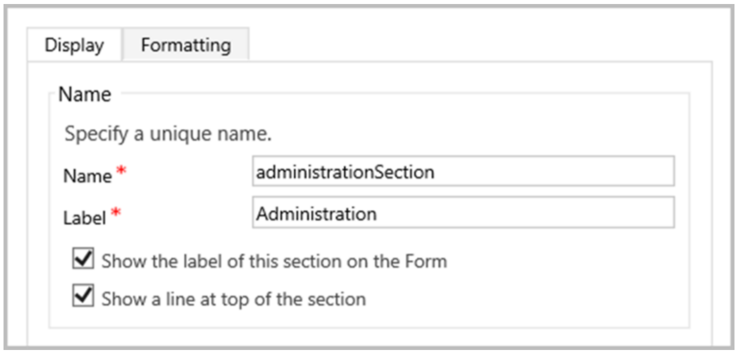

Figure 1-66. Administration section

7. Click **OK** to save your changes.
8. Insert *five* more one–column sections.
9. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-67.

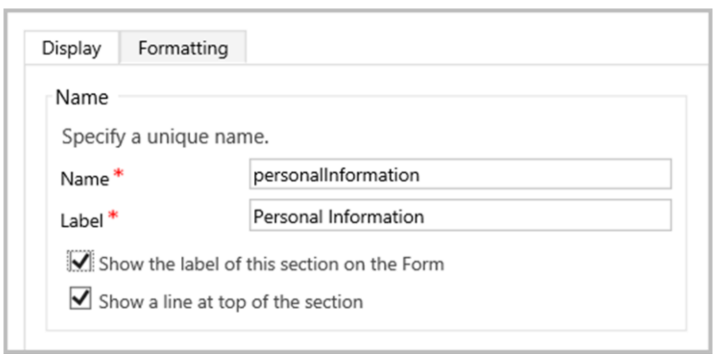

Figure 1-67. Personal Information section

10. Click **OK** to save your changes.

11. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-68.

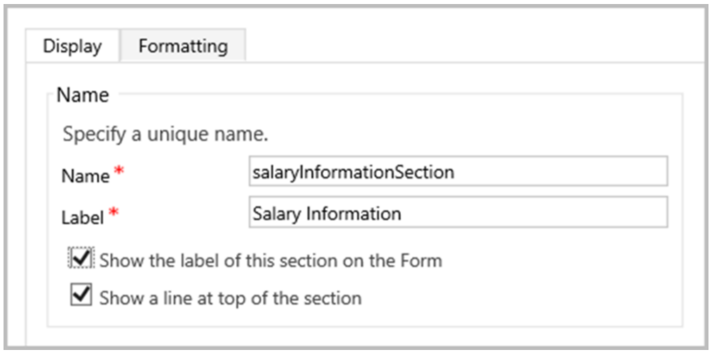

Figure 1-68. Salary Information section

12. Click **OK** to save your changes.
13. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-69.

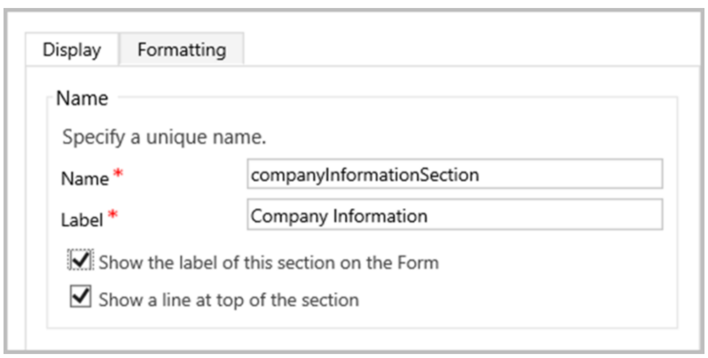

Figure 1-69. Company Information section

14. Click **OK** to save your changes.
15. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-70.

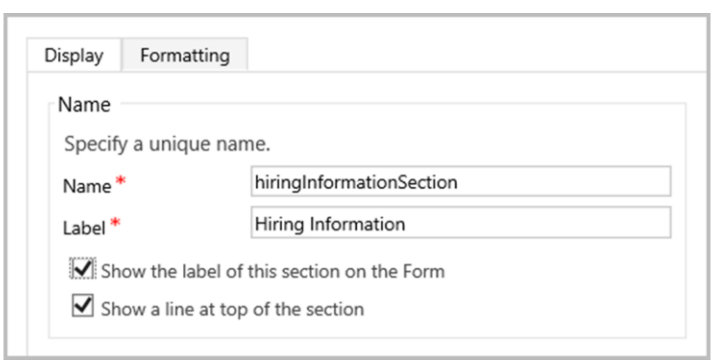

Figure 1-70. Hiring Information section

16. Click **OK** to save your changes.
17. Double–click on the newly inserted section. Change the section properties as shown in Figure 1-71.

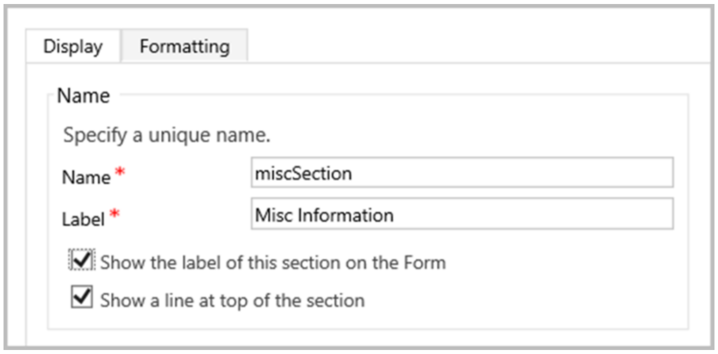

Figure 1-71. Misc Information section

18. Click **OK** to save your changes.
19. Move the Name and Owner fields to the Administration section. The results should look like Figure 1-72.

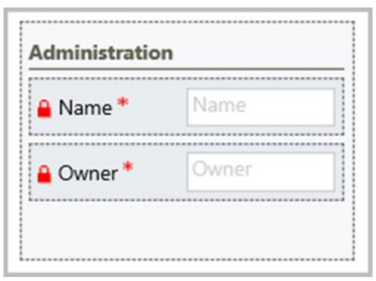

Figure 1-72. Administration section fields

20. Add the following fields to the General section, as shown in Figure 1-73.

Figure 1-73. General section fields

21. Add fields to the Personal Information section as shown in Figure 1-74.

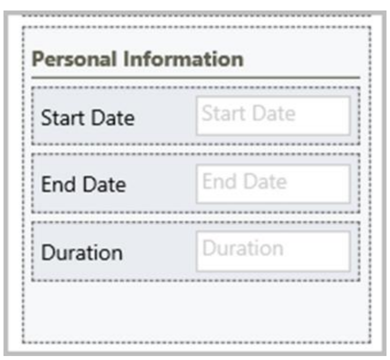

Figure 1-74. Personal Information section fields

22. Add fields to the Salary Information section as shown in Figure 1-75.

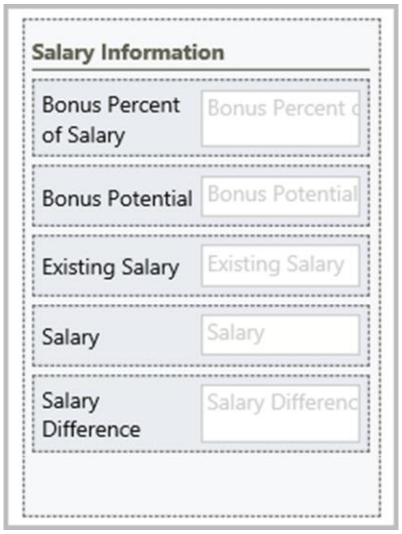

Figure 1-75. Salary Information section fields

23. Add fields to the Company Information section as shown in Figure 1-76.

Figure 1-76. Company Information section fields

24. Add fields to the Hiring Information section as shown in Figure 1-77.

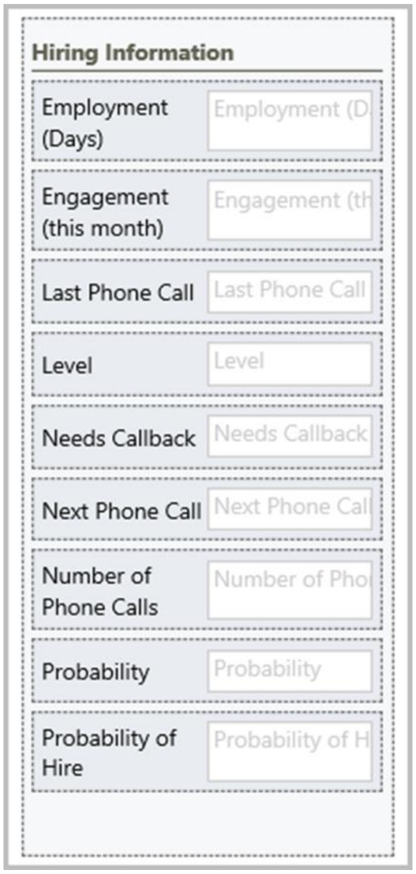

Figure 1-77. Hiring Information section fields

25. Add fields to the Misc Information section as shown in Figure 1-78.

Figure 1-78. Misc Information section fields

26. On the Ribbon, click on the **Home** tab.
27. Click the **Save** then **Publish** buttons.
28. You may close the Form Editor at this point, if you wish.

Exercise 1.7 Verifying Your Work

To test our work, we need to create a new Sample record. Perform these steps:

1. Navigate to **Settings**, **Samples**, as shown in Figure 1-79.

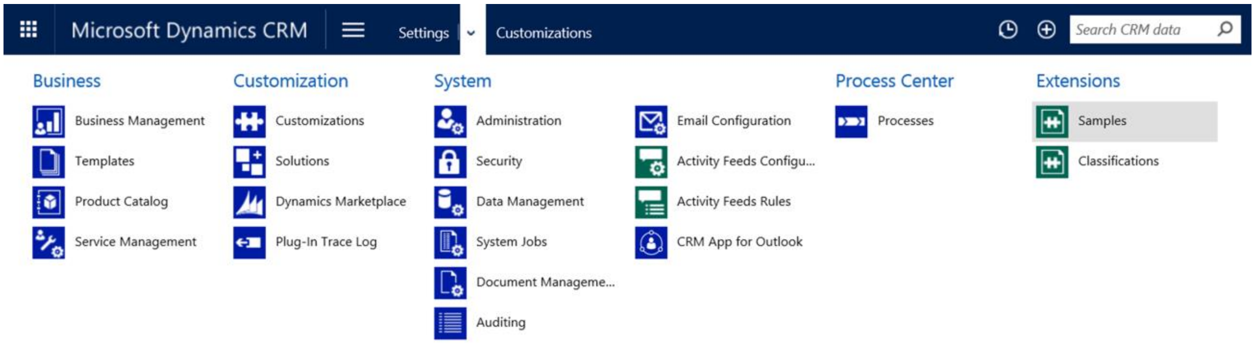

Figure 1-79. Navigating to the Samples entity

Note: If you do not see Samples, then press Ctrl+F5 to reload the web page, then repeat step 1.

2. Click **Samples** to display the Samples entity records.
3. On the Command Bar, click the **New** button, as shown in Figure 1-80.

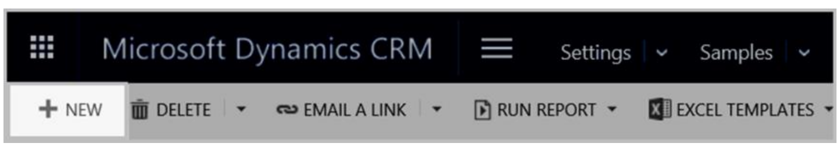

Figure 1-80. New button on the Sample entity view

4. With the exception of the Administration section, complete all of the fields on the form.

Note: You will notice fields with locks beside then, as shown in Figure 1-81. These are calculated fields that will be automatically populated when you save the record. Since they are automatically populated, they are not editable by the user.

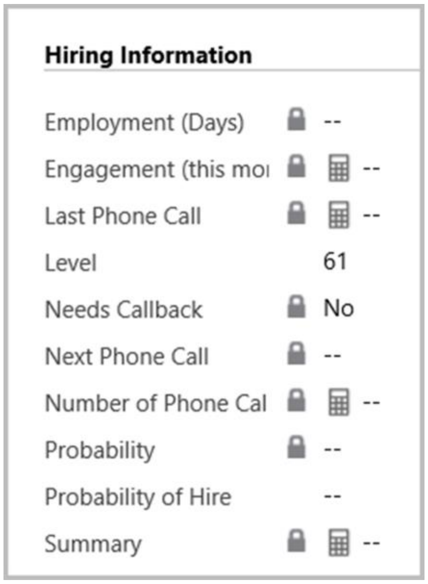

Figure 1-81. Hiring Information section while editing data

5. Click the **Save** button to save the record. When the form is refreshed, the calculated fields have been populated, as you can see in Figure 1-82.

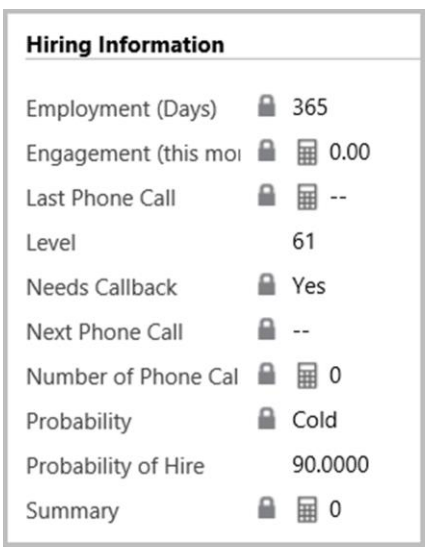

Figure 1-82. Hiring Information section containing calculated data

6. Click on the **ACTIVITIES** tab of the Social Pane, as shown in Figure 1-83.

Figure 1-83. The Activities tab of the Social Pane

7. Click the **Add Phone Call** button, as shown in Figure 1-84, to add a phone call.

Figure 1-84. Add Phone Call button on the Social Pane

8. Complete the phone call fields, as shown in Figure 1-85. (you may enter any data you wish)

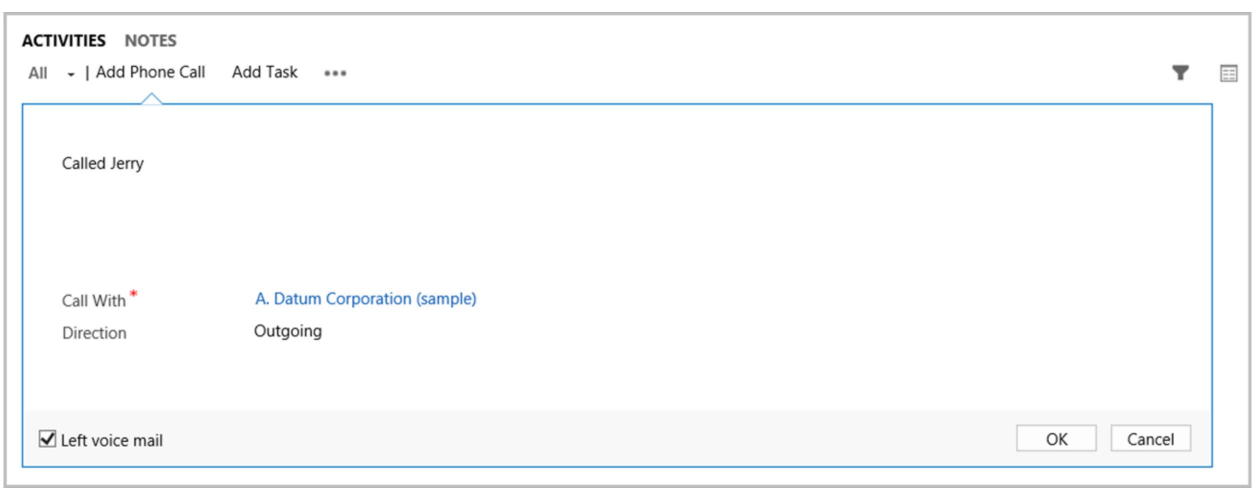

Figure 1-85. Phone call form with data

9. Click the **OK** button when finished
10. Scroll to the Hiring Information section.
11. The Last Phone Call field has a calculator icon just to the left of the data value. This is to inform you that this is a calculated field. When you hover over the field, a refresh button will be displayed as you can see in Figure 1-86. Clicking the refresh button will cause the field to refresh.

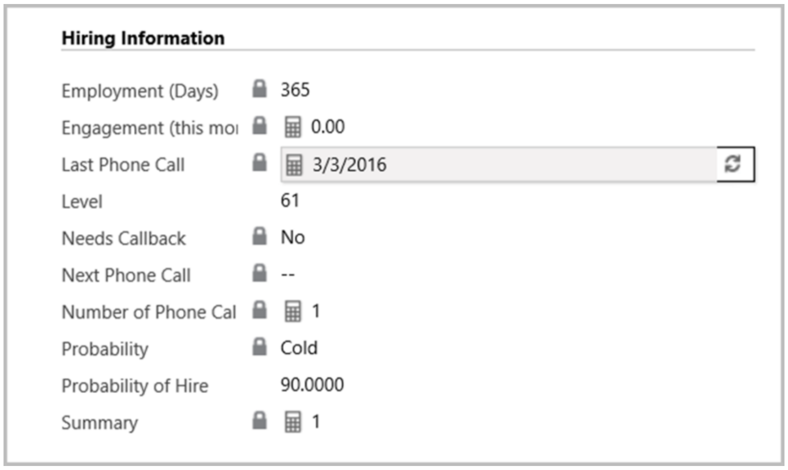

Figure 1-86. Refreshing a calculated field

This concludes this exercise.

Chapter 2 Additional Reading

Here are a few additional topics that you need to review to complete your understanding of how fields work:

Define Calculated Fields

Define Rollup Fields