Practices for Lesson 5: Validating Your Data Flow Diagram

Chapter 5

Practice 5-1: Decompose a Process in Your Data Flow Diagram

Task

In this practice, you decompose a process and add a transformation process in the DFD that you created in the previous practice. Decompose the Gather Membership Information process to handle the following requirements:

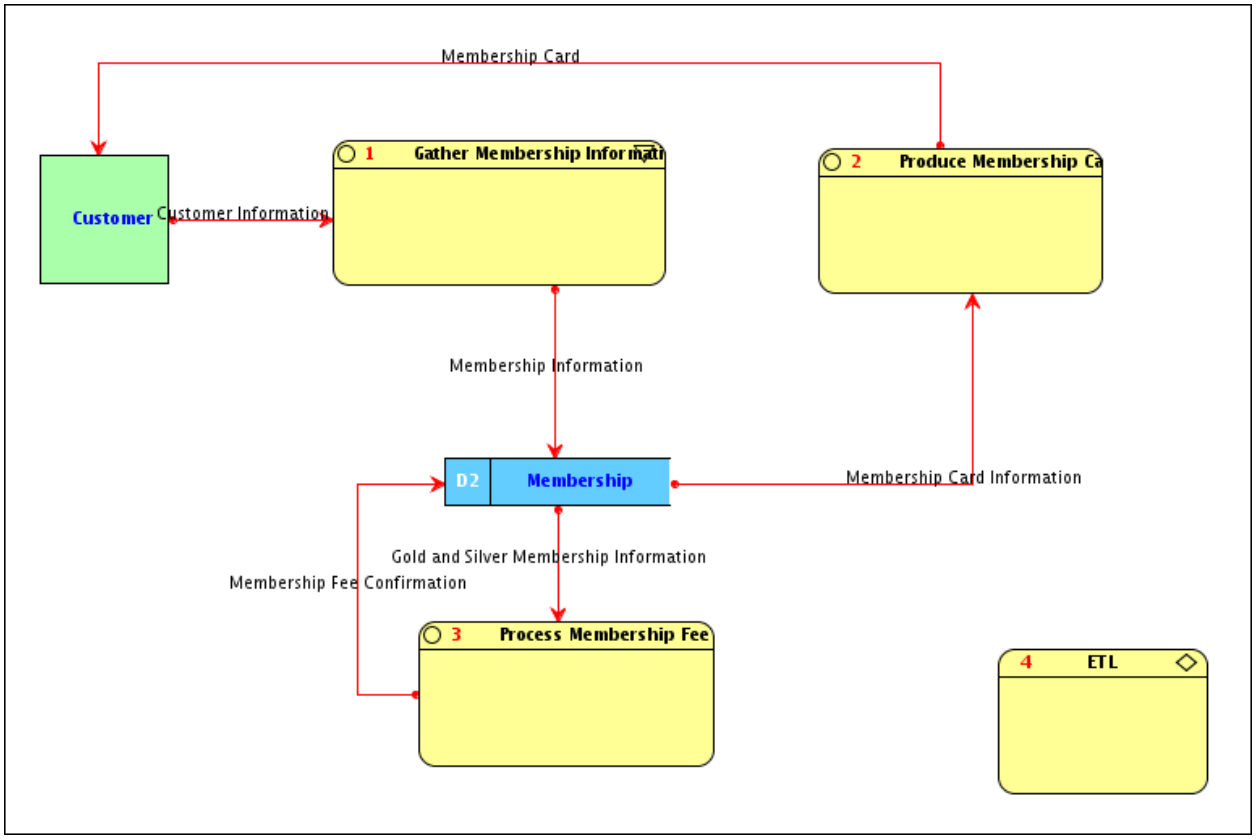
- Verify that the customer has entered all the required information on the form.
- Determine whether the customer is a current customer, and compare whether the customer is upgrading the membership or staying at the same Bronze level.

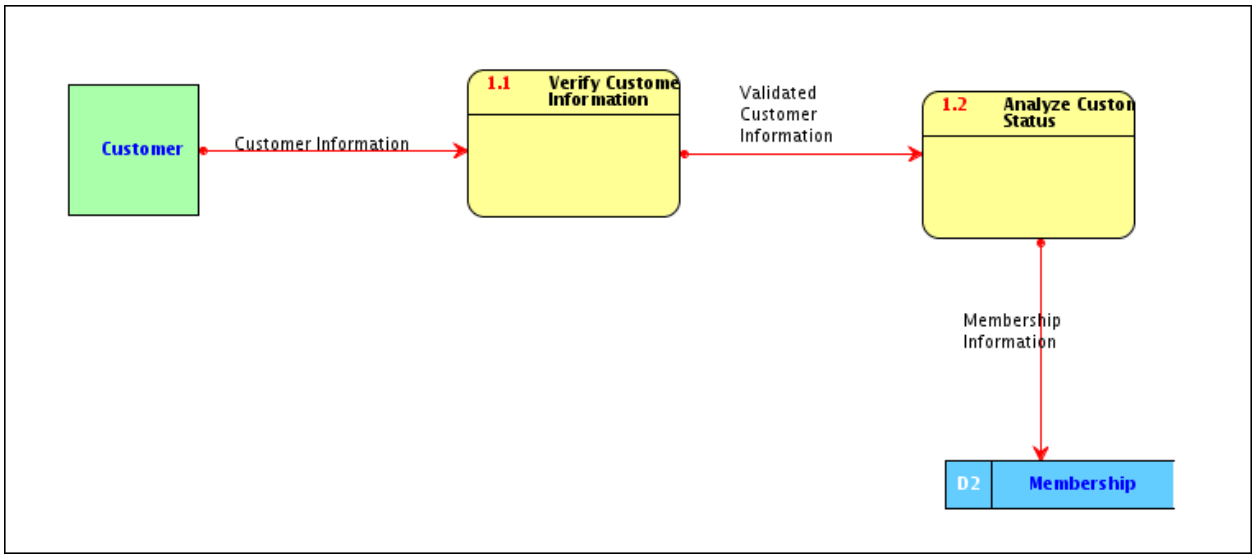
Create a transformation process that loads the membership information into your CRM system so that CRM activities can be used to communicate with customers.

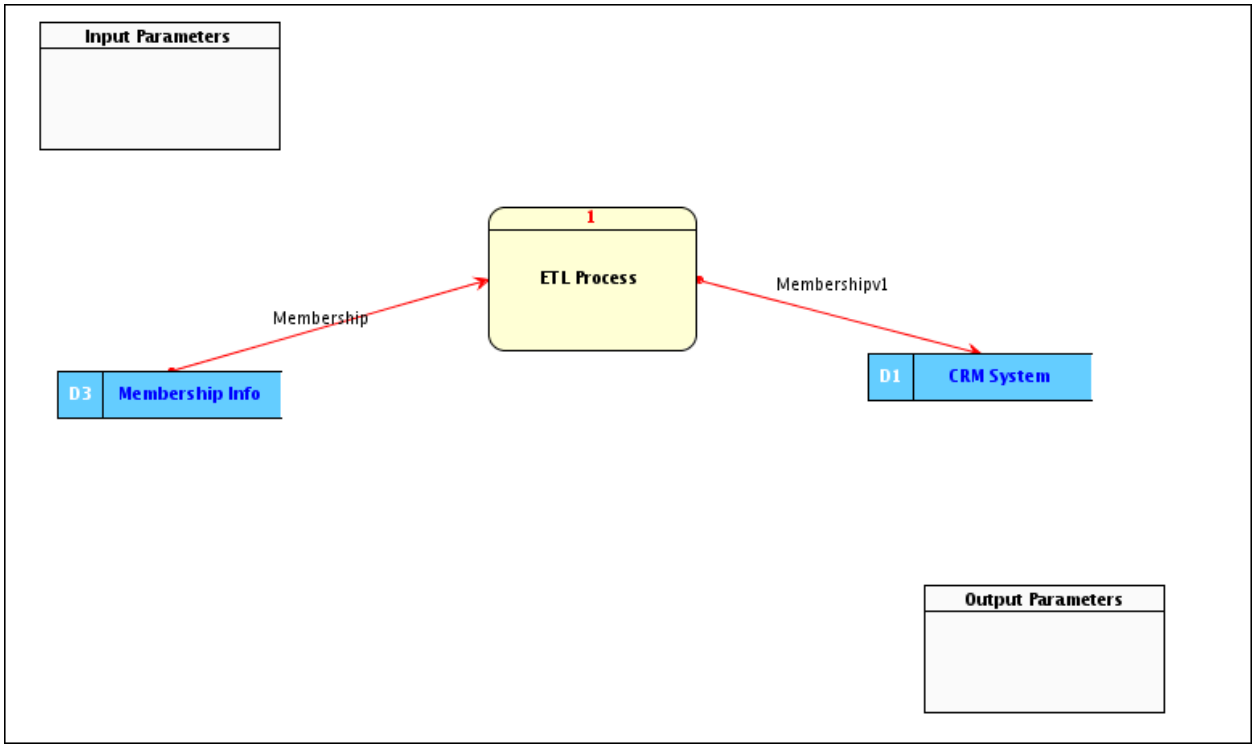
Incorporate the above requirements by revising your DFD to show the decomposition in Oracle SQL Developer Data Modeler.

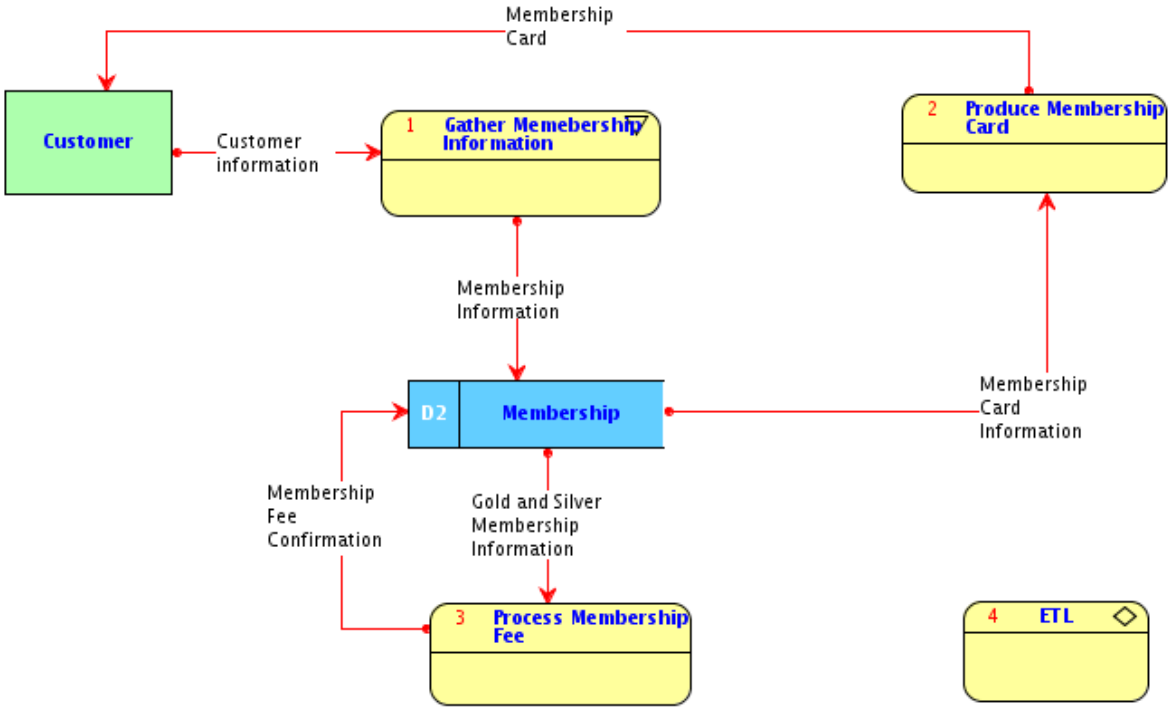
Solution 5-1: Decompose a Process in Your Data Flow Diagram

One solution to this practice is as follows:





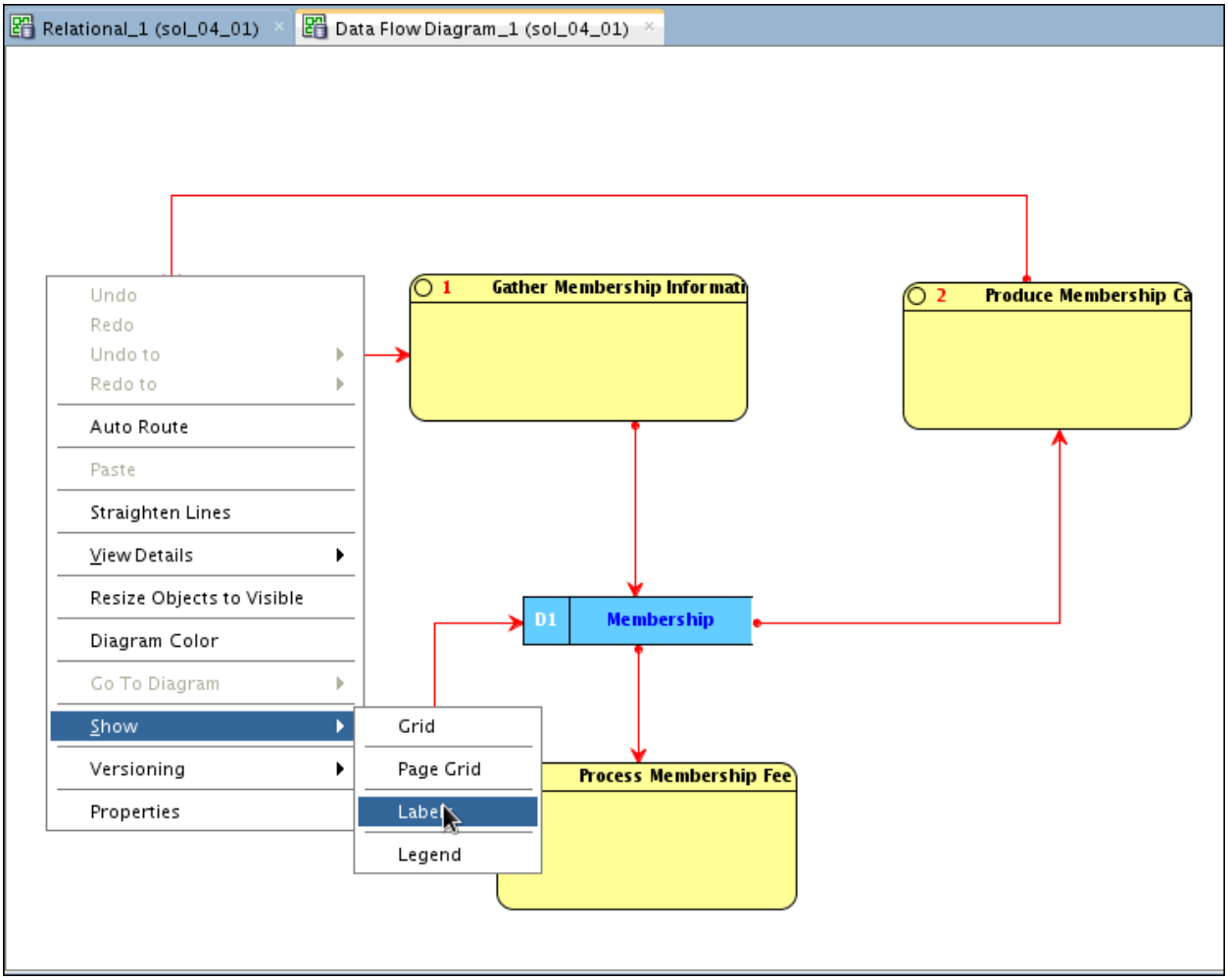




The steps required to produce a lower-level DFD for the Gather Membership Information process are as follows:

1. Open your solution to Practice 4-1, or open `sol_04_01.dmd` from the solutions directory.

2. Right-click the white space in **Data FlowDiagram_1(sol_04_01)** and then select **Show > Labels** from the pop-up menu to view the labels.



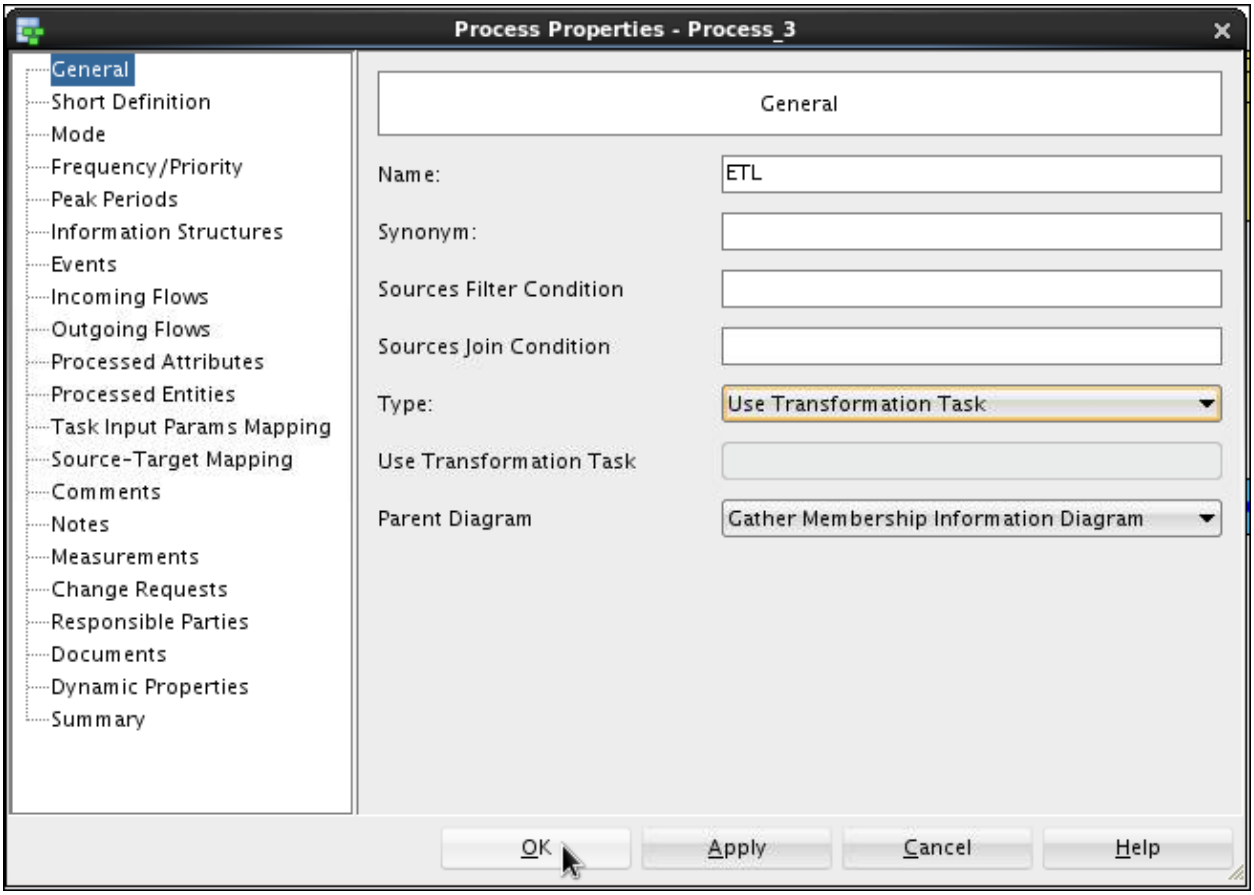
3. Double-click the `Gather Membership Information` process.
4. Change the type to **Composite**, and then click **OK**.
5. Right-click the `Gather Membership Information` process, and then select **Go To Diagram** from the pop-up menu.
6. Notice that the `Customer` external agent and `Membership` Information Store were brought automatically into the lower-level DFD. Click the **New Process**  icon, and then click anywhere in the white space of the data flow diagram.
7. Enter `Verify Customer Information` for the name, and then click **OK**.
8. With the New Process icon selected, click in the white space of the data flow diagram.
9. Enter `Analyze Customer Status` for the name, and then click **OK**.
10. Click the **New Flow**  icon.
11. Click the **`Customer`** external agent, and then click the `Verify Customer Information` process.
12. Double-click the information flow that you just created.

13. Enter `Customer Information` for the flow name, and then click **OK**. If the flow name does not appear, right-click, and then select **Show > Labels** from the pop-up menu.
14. Click the **New Flow**  icon.
15. Click the `Verify Customer Information` process, and then click the `Analyze Customer Status` process.
16. Double-click the information flow that you just created.
17. Enter `Validated Customer Information` for the flow name, and then click **OK**.
18. Click the **New Flow**  icon.
19. Click the `Analyze Customer Status` process, and then click the `Membership` Information store.
20. Double-click the information flow that you just created.
21. Enter `Membership Information` for the flow name, and then click **OK**.

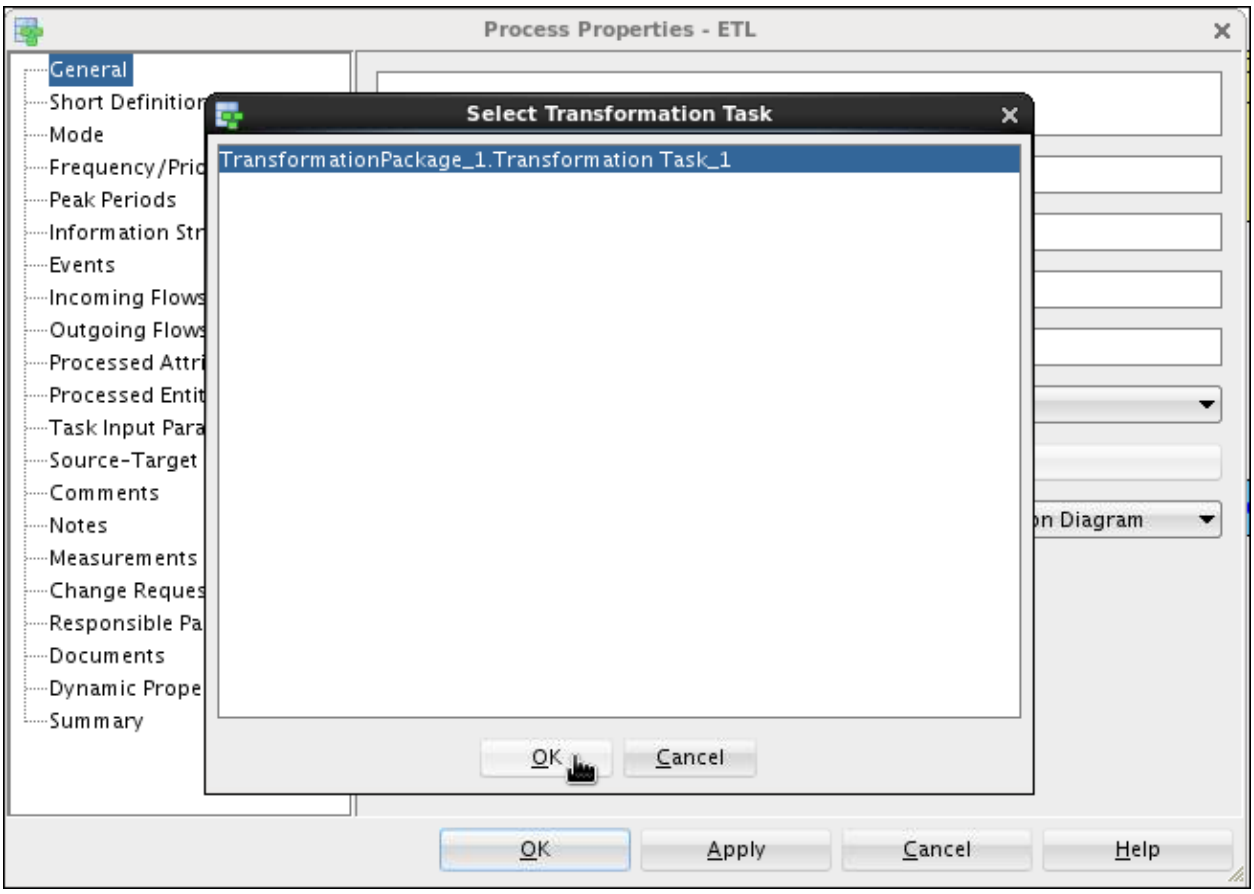
The steps required to produce the transformation process are as follows:

22. Expand the **Process Model** node in the object browser.
23. Right-click **Transformation Packages**, and then select **New Package** from the pop-up menu.
24. Expand **Transformation Packages**.
25. Right-click **TransformationPackage_1** and then select **New Transformation Task**.
26. Click the **New Process**  icon, and then click in the white space of the diagram.
27. Enter `ETL Process` for the name, and then click **OK**.
28. Click the **New Information Store**  icon, and then click in the white space of the diagram.
29. Enter `Membership Info` for the name, and then click **OK**.
30. With the **New Information Store**  icon selected, click the white space of the diagram to create another information store.
31. Enter `CRM System` for the name, and then click **OK**.
32. Click the **New Flow**  icon.
33. Click the `Membership Info` information store, and then click the `ETL Process` process.
34. Double-click the information flow that you just created.
35. Enter `Membership` for the flow name, and then click **OK**.
36. Click the **New Flow**  icon.
37. Click the `ETL Process` process, and then click the **`CRM System`** information store.
38. Double-click the information flow that you just created.
39. Enter `Membership` for the flow name, and then click **OK**.
40. Notice that the name of the flow was changed to be a unique value because you already have a flow with the name Membership.

41. Now that the transformation task is created, you can create a transformation task process on your DFD. Switch to your **Data FlowDiagram_1(sol_04_01)** DFD tab.
42. Click the **New Process**  icon, and click in the white space of the diagram.
43. Enter `ETL` for the name, select **Use Transformation Task** for the type, and then click **OK**.



44. Double-click the **ETL Process** and click the button for **Use Transformation** task. Select **TransformationPackage_1.TransformationTask_1**, and then click **OK** twice.



The solution to this process has been completed.