**Transformations in Informatica 9**

**What is a Transformation?**

A transformation is a repository object which reads the data, modifies the data and passes the data. Transformations in a mapping represent the operations that the integration service performs on the data.  
  
Transformations can be classified as active or passive, connected or unconnected.  
  
**Active Transformations:**  
  
A transformation can be called as an active transformation if it performs any of the following actions.

* Change the number of rows: For example, the filter transformation is active because it removes the rows that do not meet the filter condition. All multi-group transformations are active because they might change the number of rows that pass through the transformation.
* Change the transaction boundary: The transaction control transformation is active because it defines a commit or roll back transaction.
* Change the row type: Update strategy is active because it flags the rows for insert, delete, update or reject.

**Note:** You cannot connect multiple active transformations or an active and passive transformation to the downstream transformation or transformation same input group. This is because the integration service may not be able to concatenate the rows generated by active transformations. This rule is not applicable for sequence generator transformation.  
  
**Passive Transformations:**   
  
Transformations which does not change the number of rows passed through them, maintains the transaction boundary and row type are called passive transformation.  
  
**Connected Transformations :**  
  
Transformations which are connected to the other transformations in the mapping are called connected transformations.  
  
**Unconnected Transformations:**  
  
An unconnected transformation is not connected to other transformations in the mapping and is called within another transformation, and returns a value to that.  
  
The below table lists the transformations available in Informatica version 9:

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| **Transformation** | **Type** | **Description** |
| Aggregator | Active/Connected | Performs aggregate calculations. |
| ApplicationSourceQualifier | Active/Connected | Represents therows that the Integration Service reads from an application, such as an ERP source, when it runs a session. |
| Custom | ActiveorPassive/Connected | Calls a procedure in a shared library or DLL. |
| DataMasking | Passive/Connected | Replaces sensitive production data with realistic test data for non-production environments. |
| Expression | Passive/Connected | Calculates a value. |
| ExternalProcedure | Passive/ConnectedorUnconnected | Calls a procedure in a shared library or in the COM layer of Windows. |
| Filter | Active/Connected | Filters data. |
| HTTP | Passive/Connected | Connects to an HTTP server to read or update data. |
| Input | Passive/Connected | Defines mapplet input rows. Available in the Mapplet Designer |
| Java | ActiveorPassive/Connected | Executes user logic coded in Java.The byte code for the user logic is stored in the repository |
| Joiner | Active/Connected | Joins data from different databases or flat file systems. |
| Lookup | ActiveorPassive/ConnectedorUnconnected | Lookup and return data from a flat file, relational table, view, or synonym. |
| Normalizer | Active/Connected | Source qualifier for COBOL sources. Can also use in the pipeline to normalize data from relational or flat file sources. |
| Output | Passive/Connected | Defines mapplet output rows. Available in the Mapplet Designer. |
| Rank | Active/Connected | Limits records to a top or bottom range. |
| Router | Active/Connected | Routes data into multiple transformations based on group conditions. |
| SequenceGenerator | Passive/Connected | Generates primary keys. |
| Sorter | Active/Connected | Sorts data based on a sort key. |
| SourceQualifier | Active/Connected | Represents the rows that the Integration Service reads from a relational or flat file source when it runs a session. |
| SQL | ActiveorPassive/Connected | Executes SQL queries against a database. |
| StoredProcedure | Passive/ConnectedorUnconnected | Calls a stored procedure. |
| TransactionControl | Active/Connected | Defines commit and rollback transactions. |
| Union | Active/Connected | Merges data from different databases or flat file systems. |
| UnstructuredData | ActiveorPassive/Connected | Transforms data in unstructured and semi-structured formats. |
| UpdateStrategy | Active/Connected | Determines whether to insert, delete, update, or reject rows. |
| XMLGenerator | Active/Connected | Reads data from one or more input ports and outputs XML through a single output port. |
| XMLParser | Active/Connected | Reads XML from one input port and outputs data to one or more output ports. |
| XMLSourceQualifier | Active/Connected | Represents the rows that the Integration Service reads from an XML source when it runs a session |

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| Question 1: | What are the different types of transformation? |
| Answer: | List of Transformations available in Informatica:   |  | | --- | | * Aggregator Transformation * Application Source Qualifier Transformation * Custom Transformation * Data Masking Transformation * Expression Transformation * External Procedure Transformation * Filter Transformation * HTTP Transformation * Input Transformation * Java Transformation * Joiner Transformation * Lookup Transformation * Normalizer Transformation * Output Transformation * Rank Transformation * Reusable Transformation * Router Transformation * Sequence Generator Transformation * Sorter Transformation * Source Qualifier Transformation * SQL Transformation * Stored Procedure Transformation * Transaction Control Transaction * Union Transformation * Unstructured Data Transformation * Update Strategy Transformation * XML Generator Transformation * XML Parser Transformation * XML Source Qualifier Transformation * Advanced External Procedure Transformation * External Transformation | |
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| Question 2: | Active and Passive Transformation? |
| Answer: | If something is changing for the row in a transformation then It’s an active Transformation. But what is changing?   1. A transformation that changes the number of rows passing through it. 2. Changing the order of the rows passing through it also consider in active transformation.   When a row enters a transformation, Informatica assigns a row number. If this number change for a row, that's an Active transformation. In other words the nth row coming in will go as n'th row, and then the transformation is Passive  Filter Transformation:  The number of rows getting in the transformation and coming out is different. And as specified above it satisfies the criteria for being an active transformation.   But this is not the case, if all the rows in filter transformation will satisfy the True filter condition then it’s behave as a Passive Transformation.  Aggregator Transformation:  Aggregator transformation is used to get the aggregate value based on the group by ports. Thus if we have duplicates on the group by columns then it will pass only the distinct records.   So here also the records coming into the transformation and going out are different and acts as an active transformation.   But similar to filter transformation here also there can be an exception. That is if there are no duplicates on the group by ports then all the rows will be passed.   Sorter Transformation:  This is one transformation which can satisfy both the criteria of being an active transformation.   * The sorter transformation is also provided to output only the distinct rows, where it can filter the duplicate rows and send the unique set. * As it sorts the data so the order of the rows changes which satisfy our second criteria.   Union Transformation:  This is a transformation which becomes active only due to second criteria. In the union transformation the order of rows always not same as it came from source. Unlike Joiner transformation which restricts the data flow from one source until it gets all the data from the other source and so the order of the rows doesn’t change. While on other hand in Union transformation it does not restrict the flow of any data and keeps on passing the data as it receives. So the order of the rows keeps on changing satisfying the second criteria for being an active transformation.  Router Transformation:  Router Transformation becomes active   * Due to filter condition we are changing the input rows and out put rows. * For multiple group if condition satisfy for more then one group the we will send the data in multiple output transformation.so for example we get 50 rows and we have 4 groups with a condition TRUE then all the groups will pass 50 rows that is total of 200 rows will come out of the Router making it an active transformation. |
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| Question 3: | Advantage of connected and unconnected Lookup transformation |
| Answer: | Connected Lookup   * Connected Lookup transformation is one which is connected to Pipe line. * Use for both Dynamic and static lookup cache * Can be assign the default value when no match found. * Can return more the one ports.   Unconnected Lookup   * Unconnected Lookup transformation is one which is not connected to the pipeline. * It should be called either from expression or Update Strategy. * If no match found for the lookup condition, the lookup transformation will return Null Values. * It will return only one port. * It can use only static cache |

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| **Question 6:** | **How to give Dynamic file name in informatica?** |
| **Answer:** | In the Target File definition there is a property where we can add the “Filename column”. By adding this we can send the dynamic file name for the output file. Target File ->Edit ->Column->Add file column to the table. After that in the mapping with the other field values we have to link this port also with the appropriate file name. If you will not Link this column then it will use the session or parameter file property to get the file name. |