
1. Define an SSIS Project and an SSIS Package.

How are they related, and why might one project contain multiple packages?

- **SSIS Project:**

An SSIS Project is a container that organizes and manages multiple SSIS packages, connection managers, and project-level parameters. It provides the development environment for building ETL (Extract, Transform, Load) processes.

- **SSIS Package:**

An SSIS Package is an individual unit of work in SSIS that contains control flow and data flow elements used to move and transform data.

- **Relationship & Reason for Multiple Packages:**

A project can contain multiple packages to break down complex ETL processes into modular, manageable components. For example:

- One package might handle daily file imports.
- Another might cleanse or transform the data.
- Another might load it into a data warehouse.

2. What is a “Source” in SSIS?

A **Source** in SSIS is a component that **extracts data** from a data store to be used in the data flow.

Three Common Source Types:

Source Type	Example Use Case
OLE DB Source	Reading data from a SQL Server or Oracle database. Example: Extracting sales data from a SQL Server table.
Flat File Source	Reading data from CSV or TXT files. Example: Importing daily transaction logs from a POS system.
Excel Source	Reading from Excel spreadsheets. Example: Importing budget data submitted by various departments.

3. What is a “Destination” in SSIS?

A **Destination** is a component where **transformed data is loaded** at the end of the data flow.

Three Common Destination Types:

Destination Type Scenario

OLE DB Destination	Load transformed data into a SQL Server data warehouse. Example: Store cleaned customer data for reporting.
Flat File Destination	Output summary reports as CSV files. Example: Daily export of processed orders.
Excel Destination	Export transformed data to Excel for business users. Example: Monthly revenue summary report for finance.

4. Describe the difference between Control Flow and Data Flow.

Concept Description

Control Flow Defines the workflow of the package—i.e., the sequence and conditions for executing tasks (e.g., Execute SQL Task, File System Task). It manages the **order and logic** of operations.

Data Flow Defines the **movement and transformation of data** between sources and destinations. It includes components like Source, Transformations, and Destination.

- **Analogy:**
Control Flow = "What to do and when"
Data Flow = "How the data moves and changes"
-

5. What prerequisite must you install to use Excel Source/Destination components?

To use **Excel Source/Destination** components in SSIS, you must install:

Microsoft Access Database Engine (ACE) OLEDB Provider

- Specifically, **32-bit or 64-bit version** must match the version of your SSIS runtime (not necessarily your Excel version).
- Example: Microsoft.ACE.OLEDB.12.0 or Microsoft.ACE.OLEDB.16.0

Without it, SSIS will not recognize Excel as a valid data source or destination.