What's covered here?

- Data Movement Implementation
- Technical Options

Technical Options for Data Movement

- Quick and easy ways
 - SQL Select Into
 - Spreadsheets
 - Bulk copy programs
 - SSMS
 - ➤ Import Data
 - >Export Data
 - ➤ Copy Database

Quick and easy ways

SQL Select Into

select * into a_new_table from Employee

Quick and easy ways

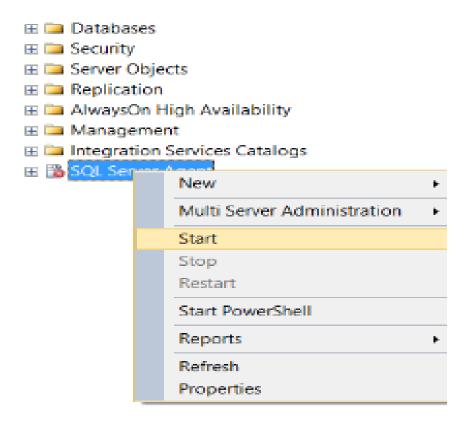
SQL Select Into

```
select E.LastName, E.FirstName, P.YearlySalary into a_new_table from Employee E join PayRates P on E.EmplD = P.EmplD where E.LastName like 'w%'
```

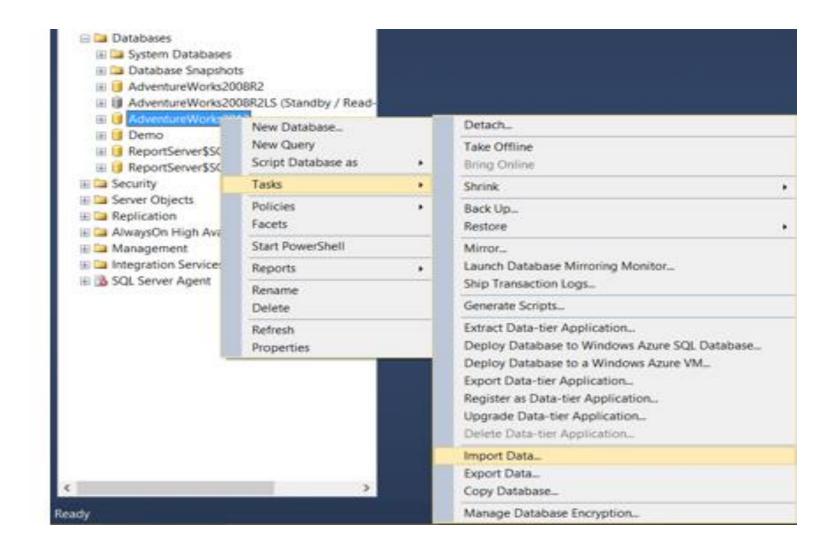
SQL Server Management Studio

- SQL Server Agent Service must be running
- Import/Export Data Wizard
- Copy Database Wizard

SQL Server Agent



Import/Export Data



Save As in Excel

```
Excel Workbook (*.xfsx)
Excel Macro-Enabled Workbook (*xlsm)
Excel Binary Workbook (*.xlsb)
Excel 97-2003 Workbook (*.xls)
XML Data (*.xml)
Single File Web Page (*.mht;*.mhtml)
Web Page (*.htm;*.html)
Excel Template (*xdbr)
Excel Macro-Enabled Template (*xitm)
Excel 97-2003 Template (*.xlt)
Text (Tab delimited) (*.txt)
Unicode Text (*.txt)
XML Spreadsheet 2003 (*.xml)
Microsoft Excel 5.0/95 Workbook (*.xls)
CSV (Comma delimited) (*.csv)
Formatted Text (Space delimited) (*.pm)
Text (Macintosh) (*.txt)
Text (MS-DOS) (*.txt)
CSV (Macintosh) (*.csv)
CSV (MS-DOS) (*.csv)
DIF (Data Interchange Format) (*,dif)
SYLK (Symbolic Link) (*.slk)
Excel Add-In (*xlam)
Excel 97-2003 Add-In (*xia)
PDF (*.pdf)
XPS Document (*.xps)
Strict Open XML Spreadsheet (*.xlsx)
OpenDocument Spreadsheet (*.ods)
```

Technical Options for Data Movement

- ETL (Extract Transform Load) Tools
 - Collect and cleanse data from different systems
 - Massive data refresh to support data warehouse
 - Many third-party vendors offer ETL tools
 - Use SQL scripts to fine tune ETL tool
 - OS or RDBMS job scheduler can be used to automate ETL process

SQL Server Integration Service (SSIS)

- Platform for ETL operations
- Fundamental Integration Services Concepts
 - ➤ Package
 - ➤ Control flow
 - ➤ Data flow
 - ➤ Variable
 - > Event handler

SQL Server ETL Tool

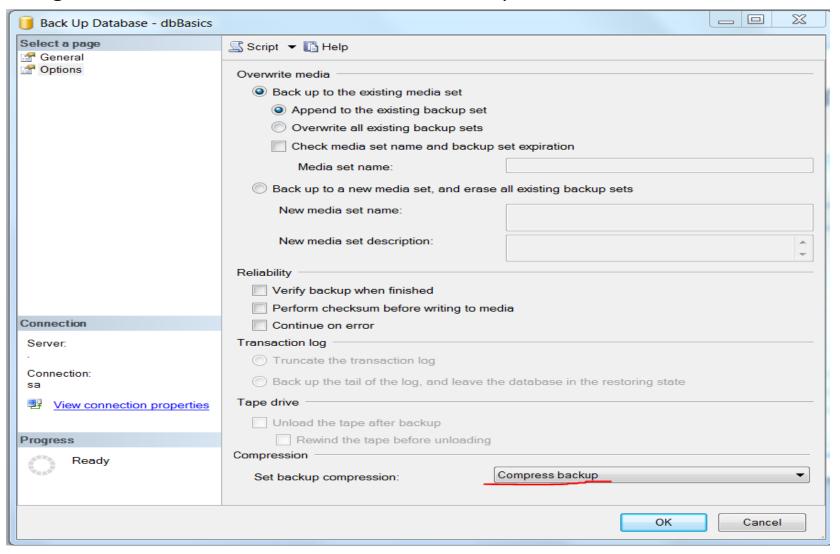


Backup and Restore

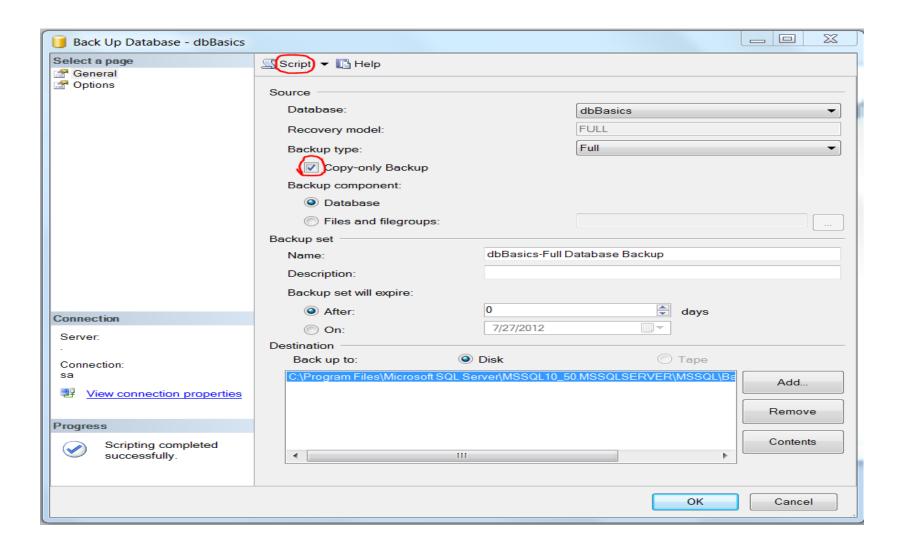
- Compression can reduce the backup file size by 50%
- Move data between Test, Staging, and Production environments

Backup

Right click on a database → Tasks → Back up



Backup



Replication

- Publishers replicate data updates
- Subscribers accept data updates
- Distributors log and distribute data
- Published Data

Types of Replication

- Snapshot
- Transactional
- Merge

Advanced Technical Options

- Log Shipping
- Mirroring
- AlwaysOn Availability Groups