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SQL Server 2005

Introduction to SQL Server 2005

Introduction to SQL Server 2005 - 1

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SQL Server 2005 basic tools

- SQL Server Configuration Manager
 - SQL Server services management
 - Start, Stop, Restart, ecc..
 - Network protocol configuration
- SQL Server Management Studio
 - OLAP and OLTP server management
 - Database creation and management
 - SQL query execution
 - Query execution plan analysis

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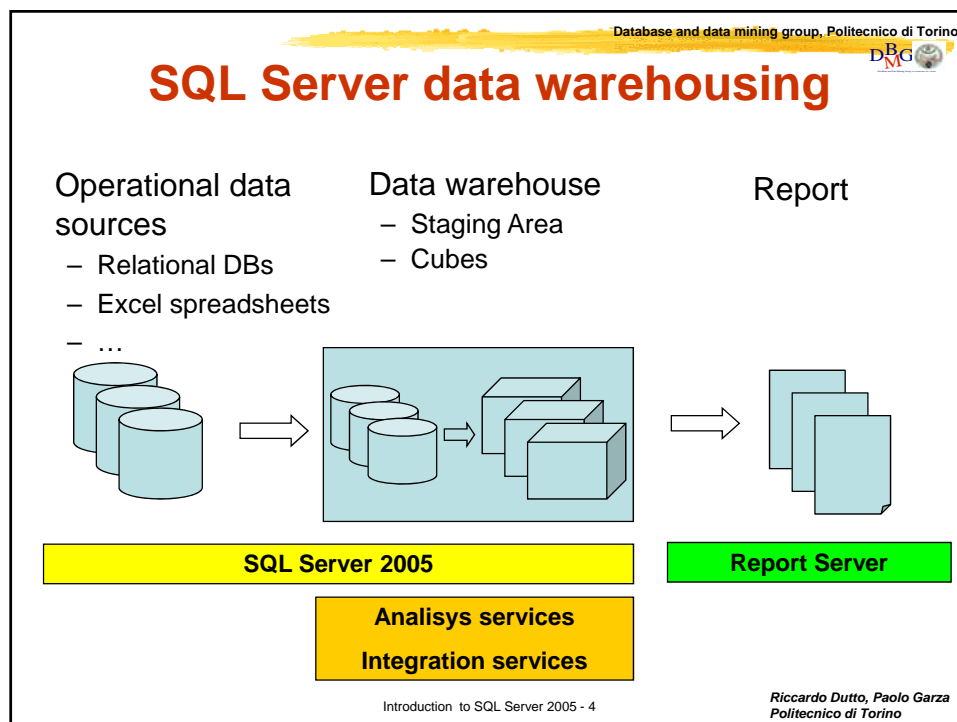
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SQL Server 2005 basic tools


- SQL Server Business Intelligence Development Studio
 - Integration Services Project
 - ETL processing
 - Analysis Services Project
 - OLAP analysis
 - Data mining
 - Report Server Project
 - Report creation

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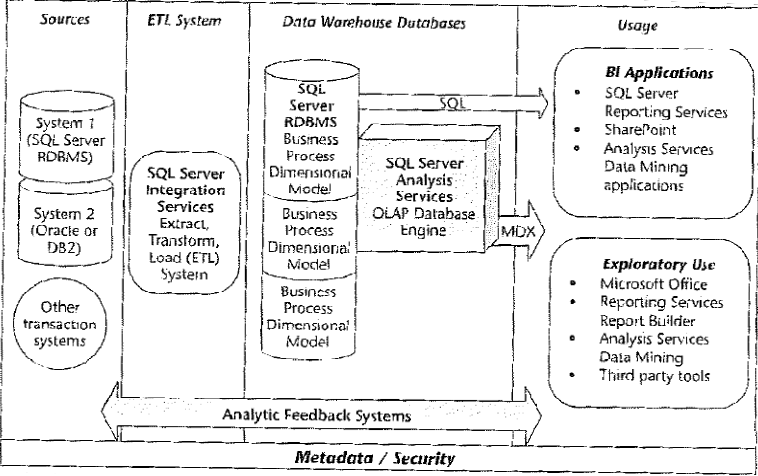
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SQL Server data warehousing



The diagram illustrates the SQL Server data warehousing architecture, organized into four main columns: Sources, ETL System, Data Warehouse Databases, and Usage.

- Sources:** Includes System 1 (SQL Server RDBMS), System 2 (Oracle or DB2), and Other transaction systems.
- ETL System:** Features the SQL Server Integration Services Extract, Transform, Load (ETL) System.
- Data Warehouse Databases:** Contains the SQL Server RDBMS Business Process Dimensional Model, Business Process Dimensional Model, and Business Process Dimensional Model. It also includes the SQL Server Analysis Services OLAP Database Engine.
- Usage:** Divided into two categories:
 - BI Applications:** Includes SQL Server Reporting Services, SharePoint, Analysis Services Data Mining applications.
 - Exploratory Use:** Includes Microsoft Office, Reporting Services Report Builder, Analysis Services Data Mining, and Third party tools.


Arrows indicate data flow from Sources to ETL System, then to Data Warehouse Databases, and finally to Usage. A double-headed arrow labeled "Analytic Feedback Systems" connects the Usage column back to the ETL System. A horizontal bar at the bottom is labeled "Metadata / Security".

From "The Microsoft Data Warehouse Toolkit"
Joy Mundy, Warren Thornthwaite, Ralph Kimball

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SQL Server Configuration Manager

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SQL Server Configuration Manager

- SQL Server 2005 user interface for managing services
 - Start, Stop, ..
- Network protocol configuration

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SQL Server Configuration Manager

File Action View Help

SQL Server Configuration Manager (Local)

- SQL Server 2005 Services
- SQL Server 2005 Network Configuration
- SQL Native Client Configuration

Name	State	Start Mode	Log On As
SQL Server Integration Services	Running	Automatic	NT AUTHOR
SQL Server FullText Search (MSSQLSERVER)	Running	Automatic	LocalSystem
SQL Server (MSSQLSERVER)	Running	Automatic	LocalSystem
SQL Server Analysis Services	Running	Automatic	LocalSystem
SQL Server Browser	Stopped	Other (Boot, System...	LocalSystem
SQL Server Agent (MSSQLSE	Stopped	Manual	LocalSystem

Start

Stop

Pause

Resume


Restart

Properties

Help


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SQL Server Management Studio

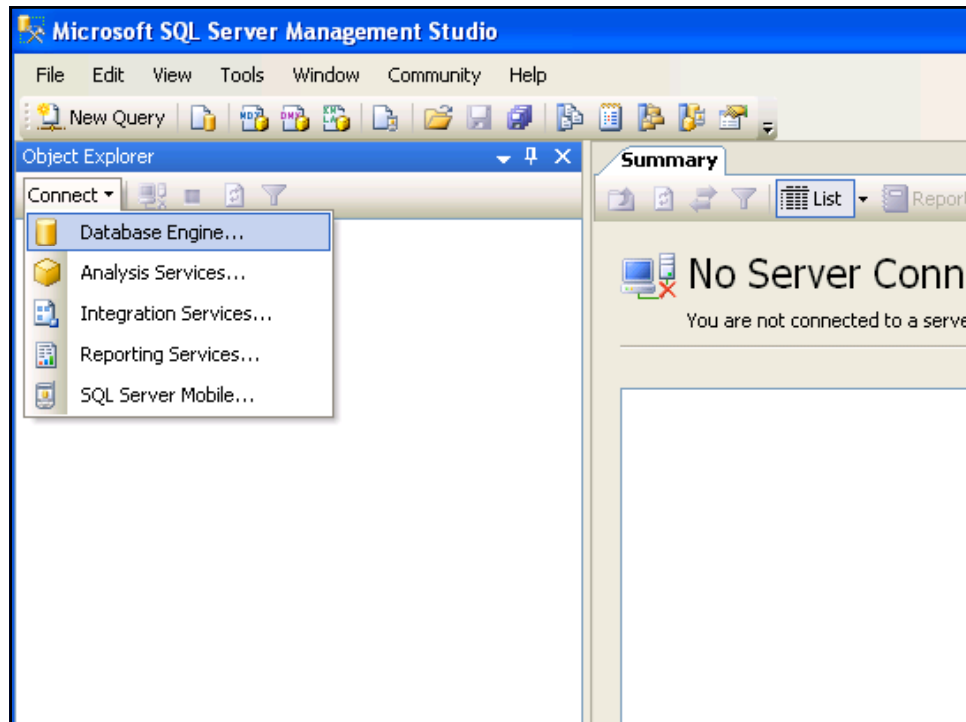
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Connecting to SQL Server

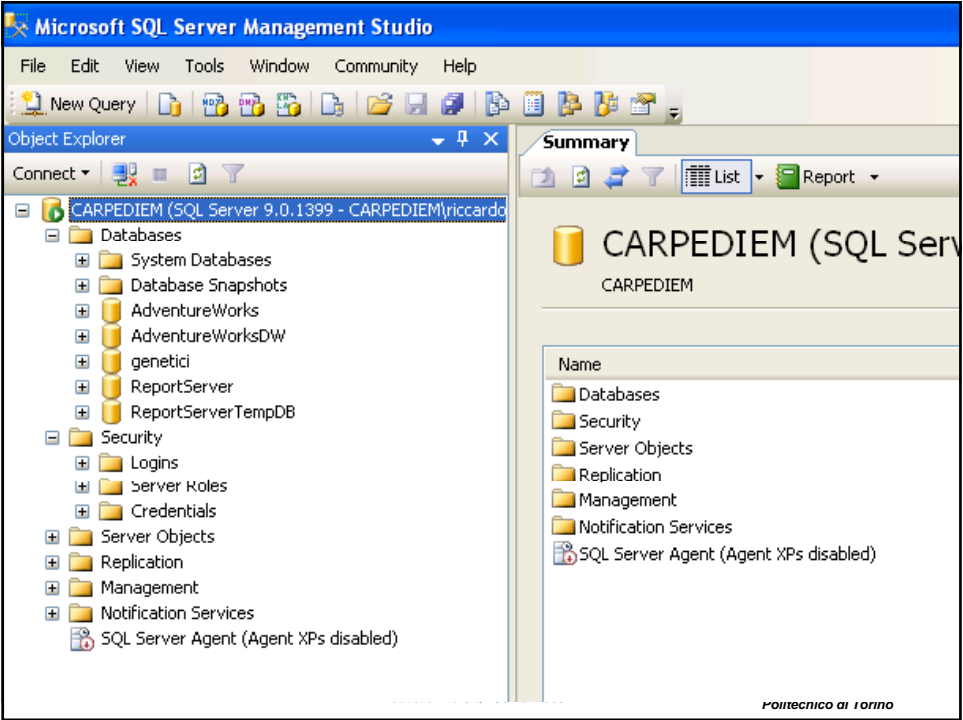
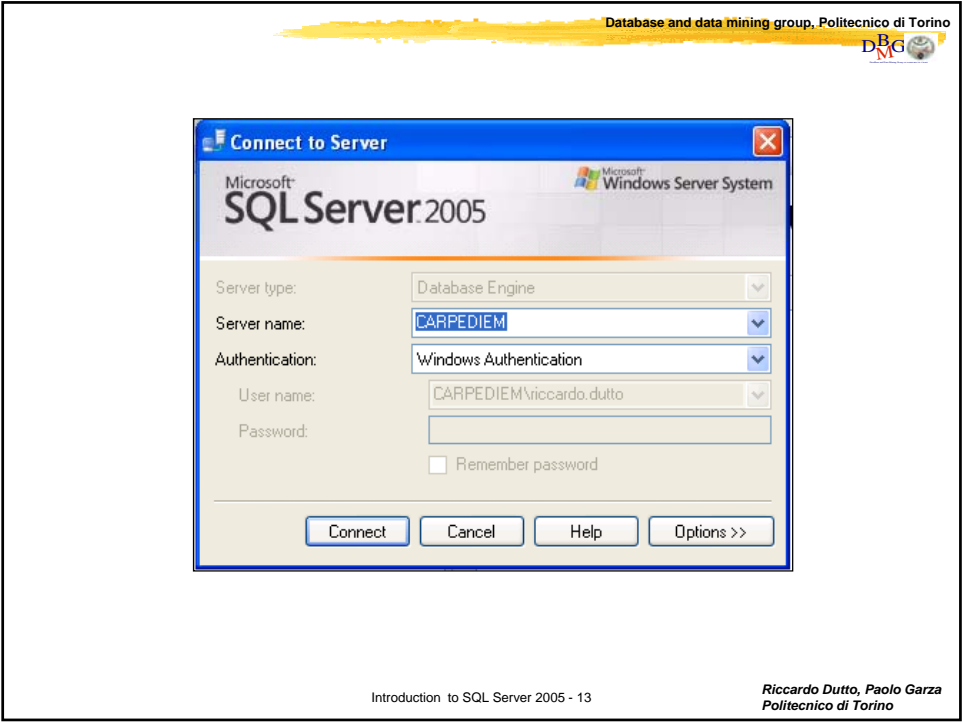
- Run SQL Server Management Studio
- Select the service or database engine to connect to
 - Database engine
 - Relational database (OLTP)
 - Analysis services
 - OLAP server

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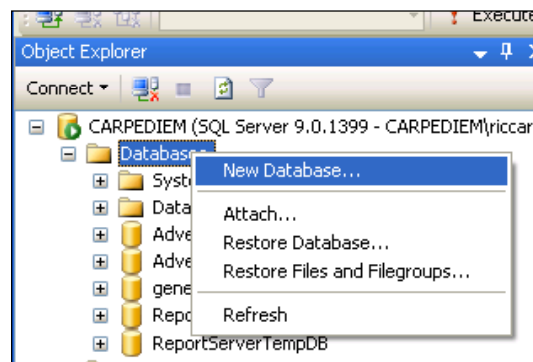
Connecting to SQL Server (2)

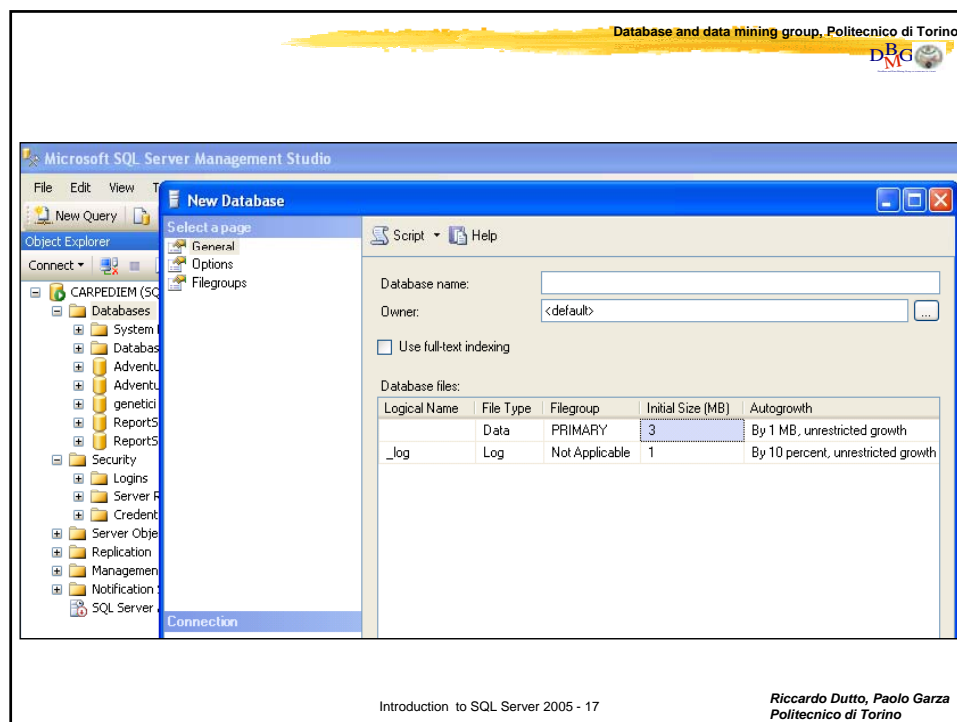
- Write the name of the server to connect to
- Authenticate by means of one of the following methods
 - Windows user authentication
 - Username/password authentication
 - Managed by an internal SQL Server module



Creating a new database

- From “Databases” choose
 - “New Database”
- Choose a name for the new database
- Optional
 - Change the settings for the data file and the log file
 - Autogrowth, ...
 - Change the general database options
 - Auto create statistics, ...





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Creating a new database (2)

- After creating the new database you can
 - Set the authorizations for the system users
 - Create Tables
 - Create Views
 - Create Trigger
 - ...

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Creating tables

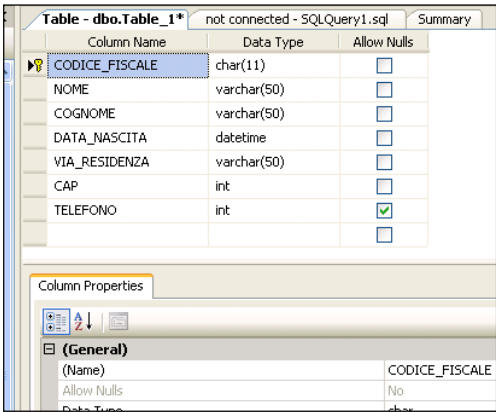
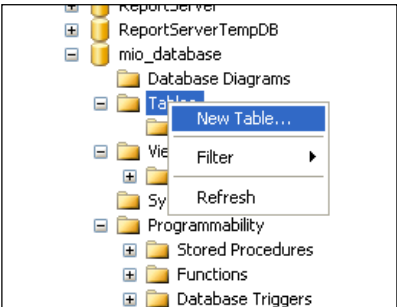
- You can create new tables using
 - The grafic wizard (similar to Access)
 - Choose the name of the fields
 - Set the type of the fields
 - Set possible constraints ("allow nulls")
 - Define the primary key
 - Define possible foreign keys
 - A SQL script
 - Allows batch processing

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Column Name	Data Type	Allow Nulls
CODICE_FISCALE	char(11)	<input type="checkbox"/>
NOME	varchar(50)	<input type="checkbox"/>
COGNOME	varchar(50)	<input type="checkbox"/>
DATA_NASCITA	datetime	<input type="checkbox"/>
VIA_RESIDENZA	varchar(50)	<input type="checkbox"/>
CAP	int	<input type="checkbox"/>
TELEFONO	int	<input checked="" type="checkbox"/>

Column Properties

(General)

(Name) CODICE_FISCALE

Allow Nulls No

Data Type char

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Executing SQL statements

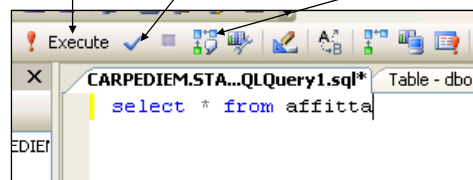
- Choose the database
- Use the “New Query” command
- Edit the SQL statement
- Parse the statement for errors
- Execute the SQL statement

Esecuzione di comandi SQL (2)

Executing the SQL
statement

Parse the statement for
errors

Query execution plan





SQL Server BI Development Studio

- SQL Server Business Intelligence Development Studio
 - Integration Services Project
 - ETL processing
 - Analysis Services Project
 - OLAP analysis
 - Data mining
 - Report Server
 - Report creation



More on SQL Server 2005

- Books
 - Joy Mundy, Warren Thornthwaite, Ralph Kimball, *The Microsoft Data Warehouse Toolkit*, Wiley Publishing, 2006
 - Ralph Kimball, Joe Caserta, *The Data Warehouse ETL Toolkit*, Wiley Publishing, 2006
 - Zhao Hui Tang, Jamie MacLennan, *Data Mining with SQL Server 2005*, Wiley Publishing, 2006