

## SQL Server 2005

### Introduction to SQL Server 2005

Introduction to SQL Server 2005 - 1

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

## 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

Introduction to SQL Server 2005 - 2

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

Database and data mining group, Politecnico di Torino  
DBG

## 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

Introduction to SQL Server 2005 - 3

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

Database and data mining group, Politecnico di Torino  
DBG

## SQL Server data warehousing

<p>Operational data sources</p> <ul style="list-style-type: none"><li>– Relational DBs</li><li>– Excel spreadsheets</li><li>– ...</li></ul>	<p>Data warehouse</p> <ul style="list-style-type: none"><li>– Staging Area</li><li>– Cubes</li></ul>	<p>Report</p>
---	--	---------------

The diagram illustrates the data warehousing process. It starts with three cylinders representing operational data sources (Relational DBs, Excel spreadsheets, etc.). An arrow points from these to a central box containing three cylinders and three cubes, representing the data warehouse (Staging Area and Cubes). Another arrow points from the warehouse to a stack of three rectangles representing the final report.

The diagram shows the components of SQL Server 2005. A yellow bar at the bottom contains the text "SQL Server 2005" on the left, "Analysis services" and "Integration services" stacked vertically in the middle, and "Report Server" on the right.

Introduction to SQL Server 2005 - 4

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

## SQL Server Configuration Manager

Introduction to SQL Server 2005 - 6

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

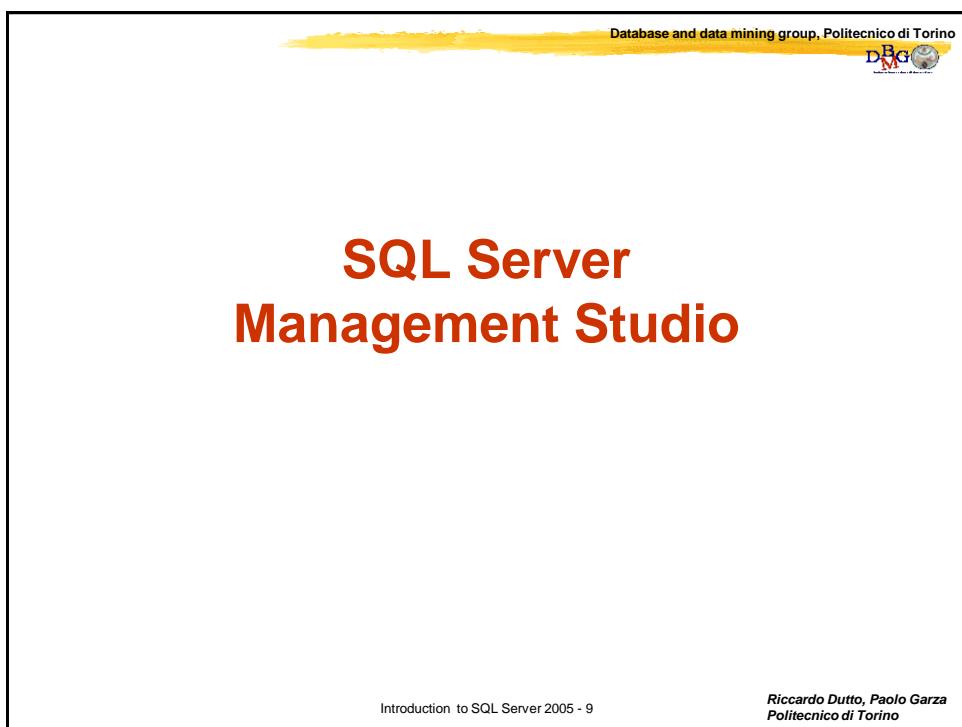
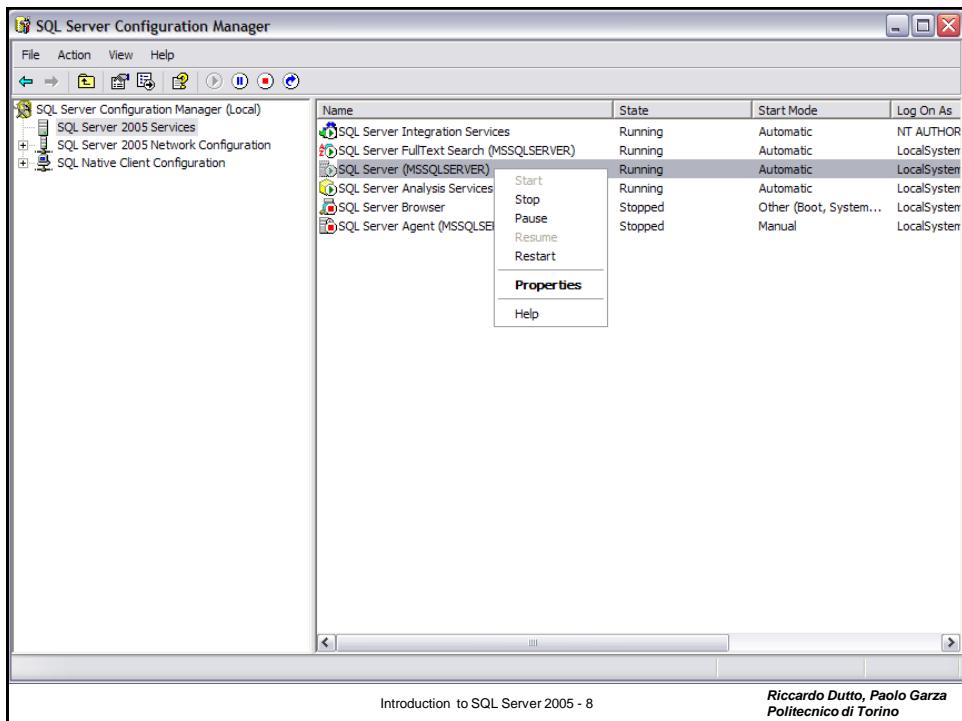
## SQL Server Configuration Manager

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

Introduction to SQL Server 2005 - 7

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

# Introduction to SQL Server 2005

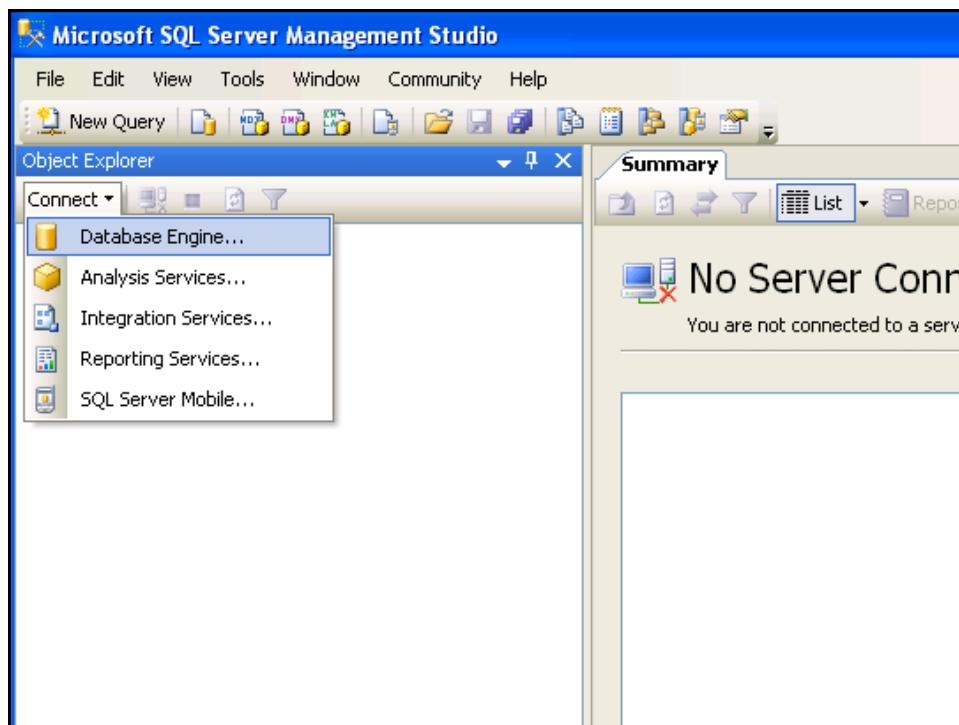


Database and data mining group, Politecnico di Torino  
DBG

## 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

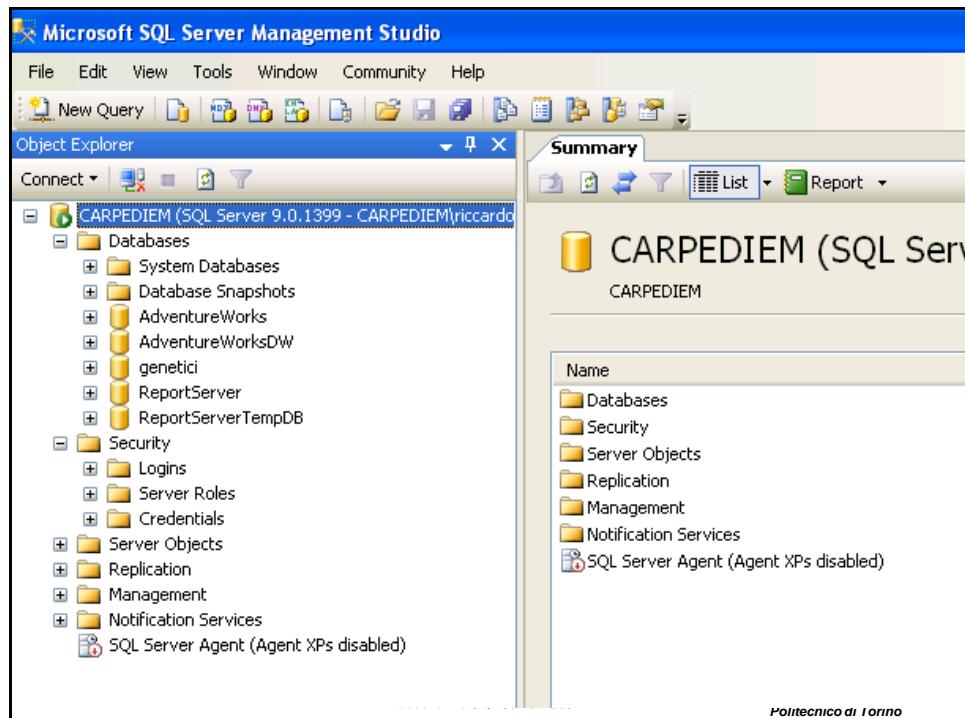
Introduction to SQL Server 2005 - 10      Riccardo Dutto, Paolo Garza  
Politecnico di Torino



## 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





Database and data mining group, Politecnico di Torino  
DBG

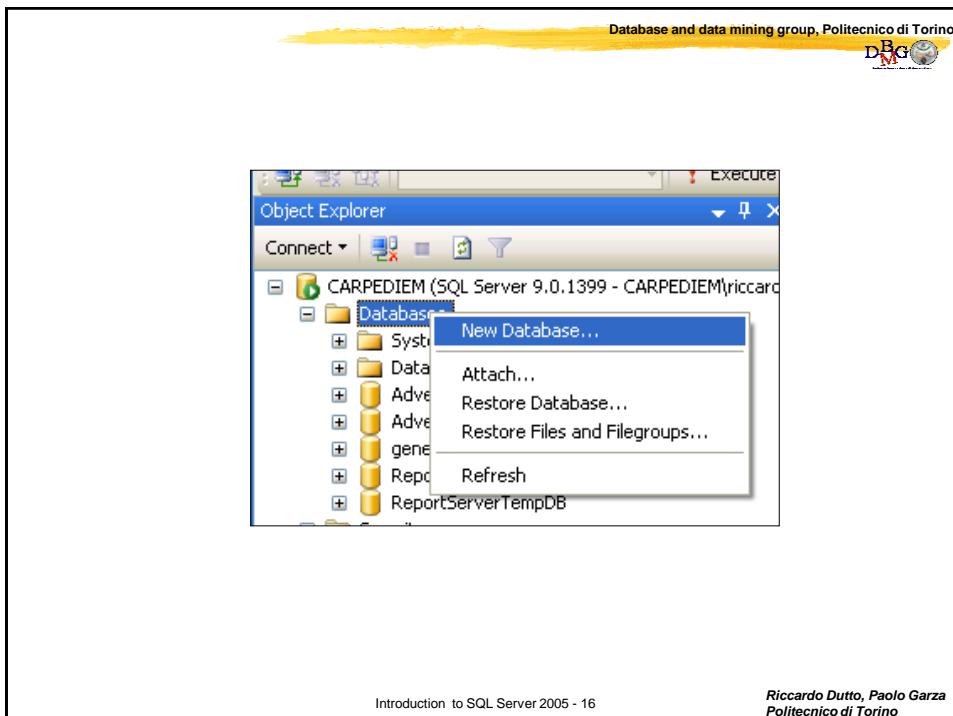
## Creating a new database

- 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, ...

Introduction to SQL Server 2005 - 15

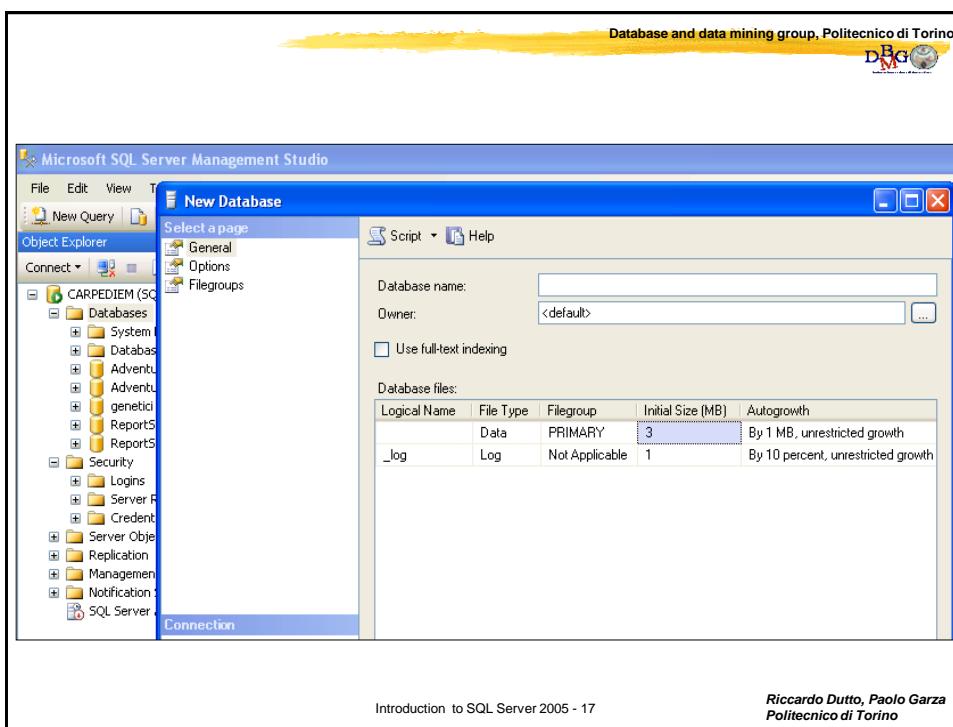
Riccardo Dutto, Paolo Garza  
Politecnico di Torino

# Introduction to SQL Server 2005



Introduction to SQL Server 2005 - 16

Riccardo Dutto, Paolo Garza  
Politecnico di Torino



Introduction to SQL Server 2005 - 17

Riccardo Dutto, Paolo Garza  
Politecnico di Torino

## 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
  - ...

## 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

Database and data mining group, Politecnico di Torino  
DBGM

The screenshot shows the Object Explorer on the left with 'mio\_database' selected. A context menu is open over the 'Tables' folder, with 'New Table...' highlighted. On the right, the 'Table - dbo.Table\_1\*' designer window is open, showing the schema for 'Table\_1'. The columns are:

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"/>

Below the table definition, the 'Column Properties' pane is visible.

Introduction to SQL Server 2005 - 20 Riccardo Dutto, Paolo Garza Politecnico di Torino

Database and data mining group, Politecnico di Torino  
DBGM

## Executing SQL statements

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

Introduction to SQL Server 2005 - 21 Riccardo Dutto, Paolo Garza Politecnico di Torino

Database and data mining group, Politecnico di Torino  
DBG

## Esecuzione di comandi SQL (2)

The diagram illustrates the execution process of an SQL statement in SQL Server Management Studio. It shows a window with a toolbar at the top and a query editor below. Annotations point to specific elements:

- An arrow points to the "Execute" button in the toolbar, labeled "Executing the SQL statement".
- An arrow points to the error icon in the toolbar, labeled "Parse the statement for errors".
- An arrow points to the bottom right corner of the query editor, labeled "Query execution plan".

The query editor displays a file named "CARPEDIEM,STA...QLQuery1.sql\*" containing the SQL command:

```
select * from affitta
```

Below the window, the text "Introduction to SQL Server 2005 - 22" is visible, along with the names of the authors: Riccardo Dutto, Paolo Garza, Politecnico di Torino.