

Introduction to the SQL Server

Data here, data there, data everywhere



Overview

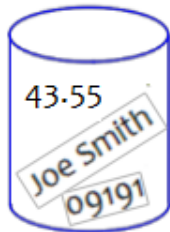
- Services
- Applications
- Libraries

What is SQL Server?

- Services
- Applications
- Libraries

What is SQL Server?

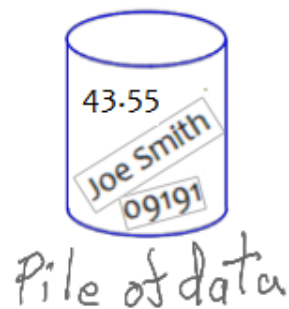
- Services
- Applications
- Libraries



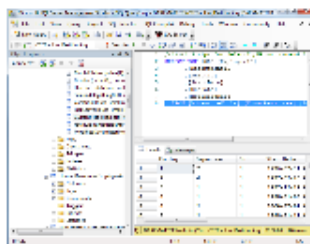
File of data

What is SQL Server?

- Services
- Applications
- Libraries

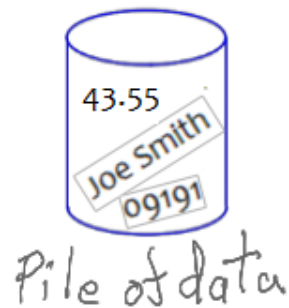


SSMS

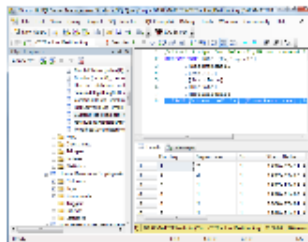


What is SQL Server?

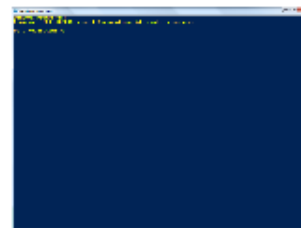
- Services
- Applications
- Libraries



SSMS



sqlcmd



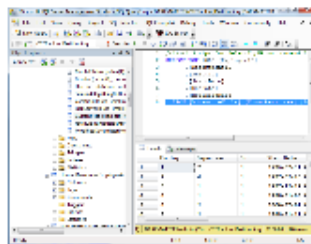
Powershell

What is SQL Server?

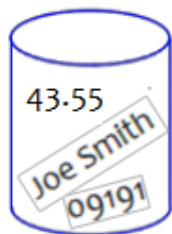
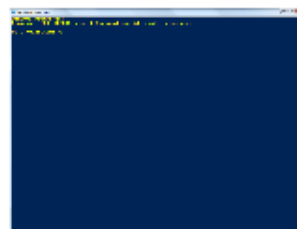
- Services
- Applications
- Libraries

SQL Server Profiler
Database Engine Tuning Advisor

SSMS



sqlcmd



File of data

Powershell

T-SQL

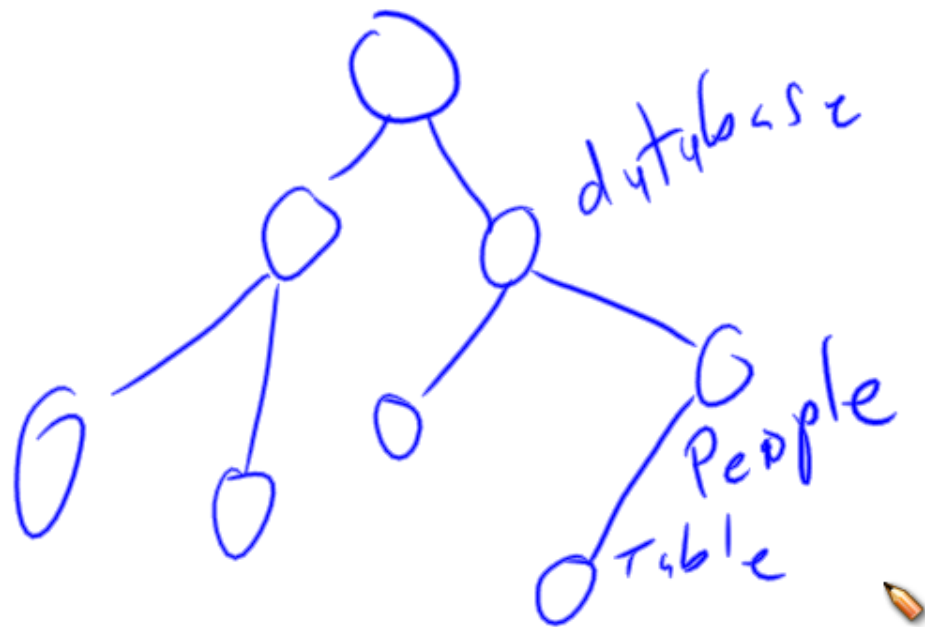
- Transact SQL
- Mostly ANSI
- INFORMATION_SCHEMA
- Proprietary schema
- BOL

SQL Server Management Objects

- SMO
- SSMS
- sqlps

SQL Server Management Objects

- SMO
- SSMS
- sqlps



Other Services

- **Data implies**
 - analysis
 - reporting
- **OLTP vs. OLAP**

Other Services

- Data implies
 - analysis
 - reporting
- OLTP vs. OLAP

Departments

SKU's

1	Id	Name
2	1	Garden
3	2	Tools
4	3	Fabric

1	Id	Desc.	Price	Dept.
2	213	Daisy	3.01	1
3	43	Hammer	2.89	2
4	72	Red Silk	1.43	3
5	18	Chisel	2.87	2

Registers

1	Id	SKU	Qty	Time
2	A3	72	2	6/10/09 8:12AM
3	C12	43	1	6/10/09 8:14AM

Other Services

- Data implies
 - analysis
 - reporting
- OLTP vs. OLAP

Daisy Sales

1	Register	Period	Qty
2	A3	1-2PM	3
3	A4	1-2PM	2
4	A1	1-2PM	1
5	A7	2-3PM	4

Departments

SKU's

1	Id	Name
2	1	Garden
3	2	Tools
4	3	Fabric

1	Id	Desc.	Price	Dept.
2	213	Daisy	3.01	1
3	43	Hammer	2.89	2
4	72	Red Silk	1.43	3
5	18	Chisel	2.87	2

Registers

1	Id	SKU	Qty	Time
2	A3	72	2	6/10/09 8:12AM
3	C12	43	1	6/10/09 8:14AM

SQL Server Analysis Services

- **Keeps track of facts**
- **Works with dimensions**
 - product and time are dimensions
 - dimensions often rolled up
- **MDX**
- **Cubes**
 - time, product, cash register
 - dollars, product, cash register

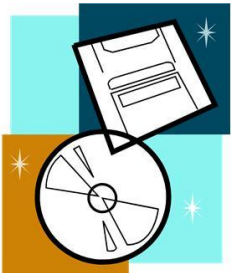
SQL Server Integration Services

Moving data is easy, controlling it takes a ^{package} program



SQL Server Reporting Services

- Development framework
- Runtime service

A table of data with percentages. The table has several rows and columns, with the first column containing numbers and the other columns containing percentages. The data is presented in a grid format.

Summary

- **Services**
 - Database engine, SSAS, SSIS, SSRS
- **Applications**
 - SSMS, sqlcmd, sqlps, profiler, tuning advisor
- **Libraries**
 - ADO.NET, Linq to SQL, SMO
- **More we didn't cover**
 - dtexec, dtexecui, shadow copy, agent
- **Pluralsight ILT & PSOD**

References

- **sqlps**
 - <http://msdn.microsoft.com/en-us/library/cc281954.aspx>
- **LinqPad**
 - <http://www.linqpad.net>
- **SMO**
 - <http://msdn.microsoft.com/en-us/library/ms162169.aspx>