

MICROSOFT SQL SERVER -TIETOKANNAN HALLINTA

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TAVOITE

- Saada käsitys SQL Serverin (v. 2005 ja 2008) ominaisuuksista + eri vaihtoehtojen hyvistä ja mahdollisista huonoista puolista
- Oppia luomaan tietokanta, taulut ja muut objektit eri SQL Serverin työkaluilla
- Pystyä hallinnoimaan SQL Server -tietokantaa:
 - varmistukset
 - käyttäjien hallinta
 - monitorointi




MICROSOFT SQL SERVERIN TAUSTATIETOA

- <http://www.microsoft.com/sql>
- Alunperin Sybasen kanssa yhteistyö: SQL Server ostettiin Sybaselta ja jonkin aikaa versiot olivat samoja (versio 6.5 v. 1996)
- Versio 7.0 v. 1998, sen jälkeen versiot 2000, 2005 (SP2), [2008](#) (R2)
- Järjestelmätuki: Windowsin eri versiot
- <http://msdn.microsoft.com/en-us/library/bb545450.aspx>



SQL Server 2005 -versiot



 Microsoft
Business Intelligence

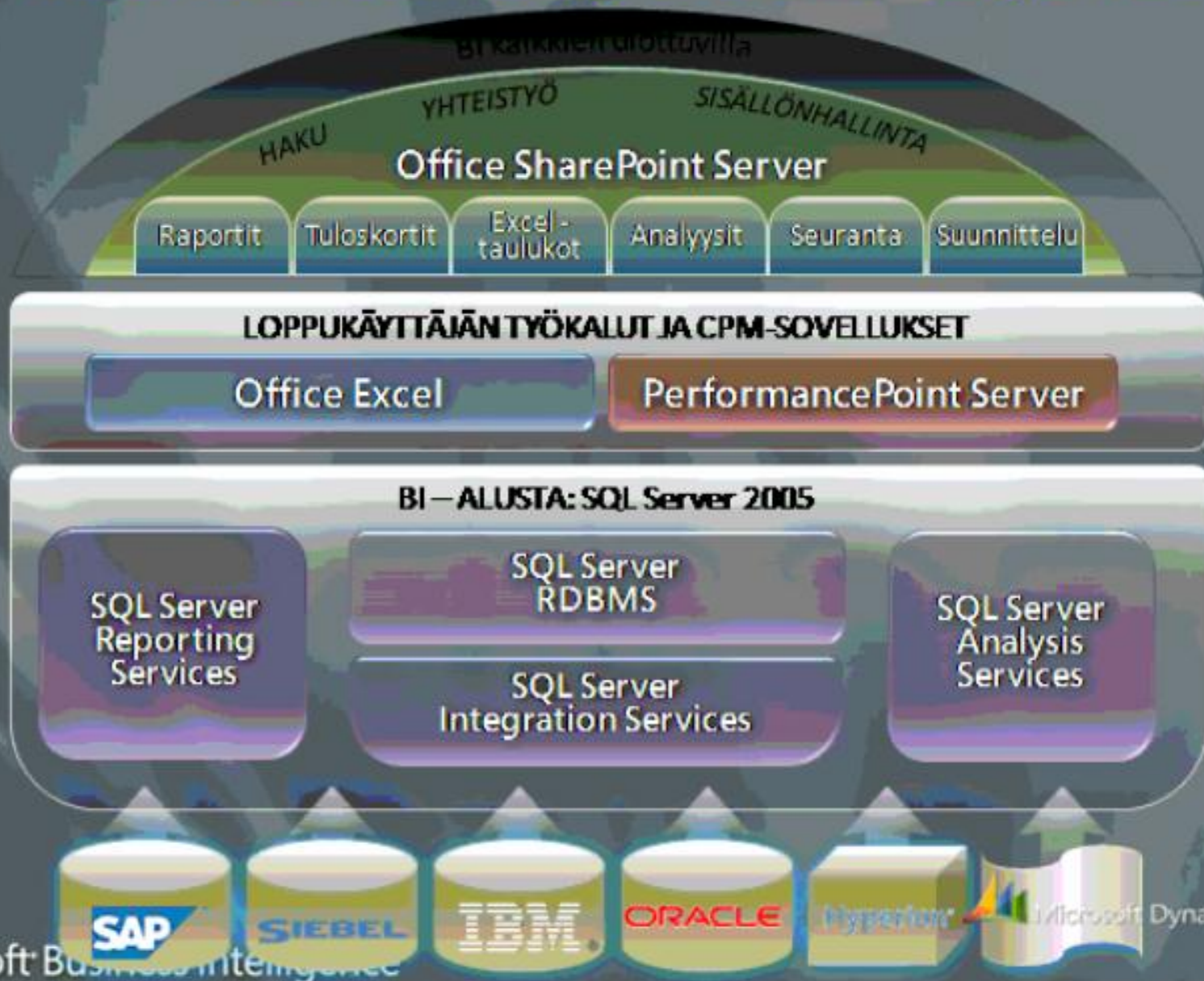
Veloitukseton

\$3,9K/suoritin
tai
\$739 (sis. 5 CAL)

\$6K/suoritin
tai
\$1.849 (sis. 5 CAL)

\$25K/suoritin
tai
\$13.9K (sis. 25 CAL)

Microsoftin integroitu BI-tarjonta



MICROSOFT SQL SERVER JAMKISSA

- JAMKilla sopimus Microsoftin kanssa ohjelmistokehitystyökalujen vapaasta käytöstä opetuksessa
- Osa JAMKin tietojärjestelmiä
- SQL Server 2008 on asennettu virtuaalikoneisiin (sw...)



AUTENTIKOINTITAPA JA KÄYTTÄJIEN LUOMINEN

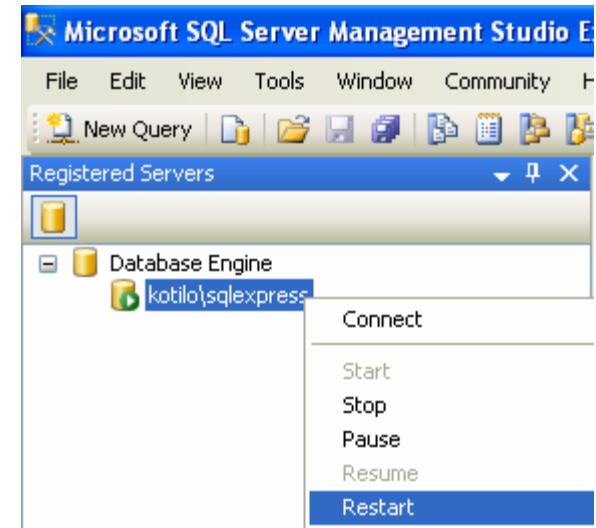
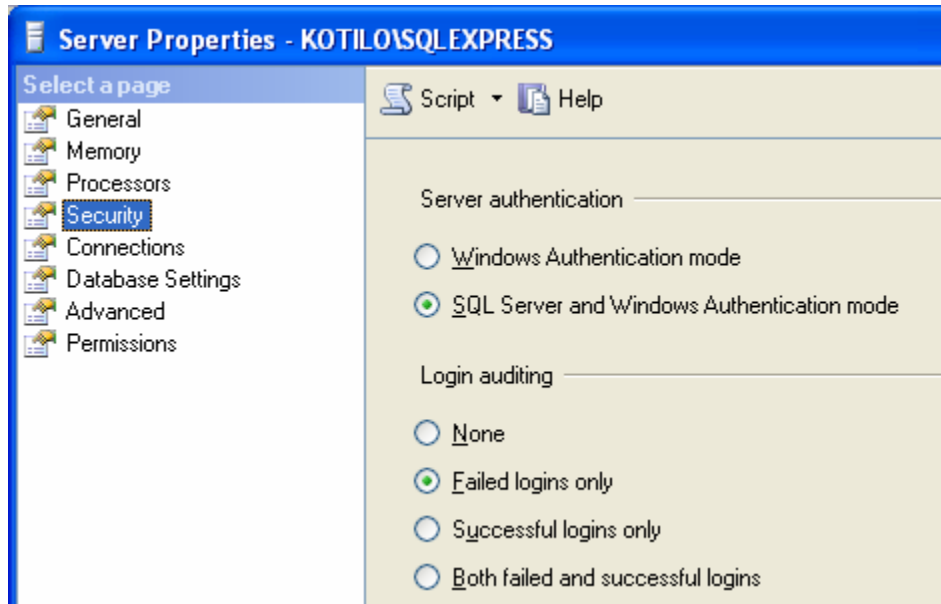


AUTENTIKOINTITAVAN MUUTOS

- Käynnistä Enterprise Manager, napsauta hiiren kakkosnapilla palvelimen nimeä (esim. SQLEXPRESS) ja valitse Properties
- Valitse Security
- Valitse Server Authentication -kohdasta SQL Server and Windows Authentication, jos haluat luoda omia käyttäjiä (ei Windowsin hallinnoimia) SQL Serveriin => sallitaan ei-luotettujen yhteyksien yli tulevat sisäänkirjautumiset (esim. Internet)
- Käynnistä SQL Server uudelleen



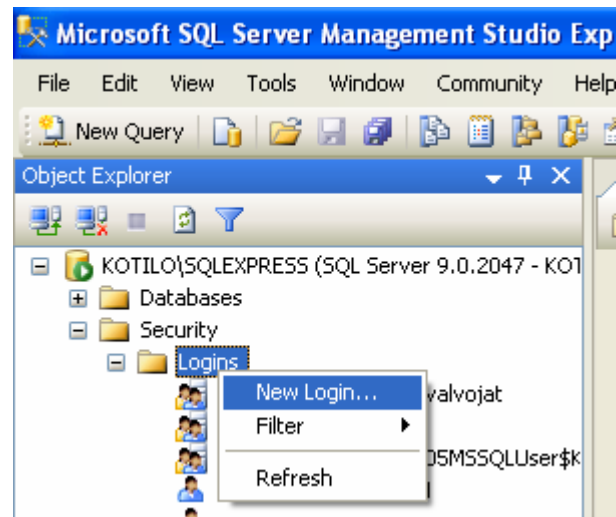
AUTENTIKOINTITAVAN MUUTOS



- Huom. Windowsin puolella on laajemmat suojausominaisuudet, esim. salasanoille
- Windows-ryhmät voidaan lisätä yhtenä login-nimenä

KÄYTTÄJÄN LUOMINEN

- Security – Logins > New Login



YLEISMÄÄRITYKSET

Login - New

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Script Help

Login name: Search...

Windows authentication

SQL Server authentication

Password:

Confirm password:

Enforce password policy

Enforce password expiration

User must change password at next login

Mapped to certificate

Certificate name:

Mapped to asymmetric key

Key name:

Default database:

Default language:

Connection

Server: KOTILO\SQLEXPRESS

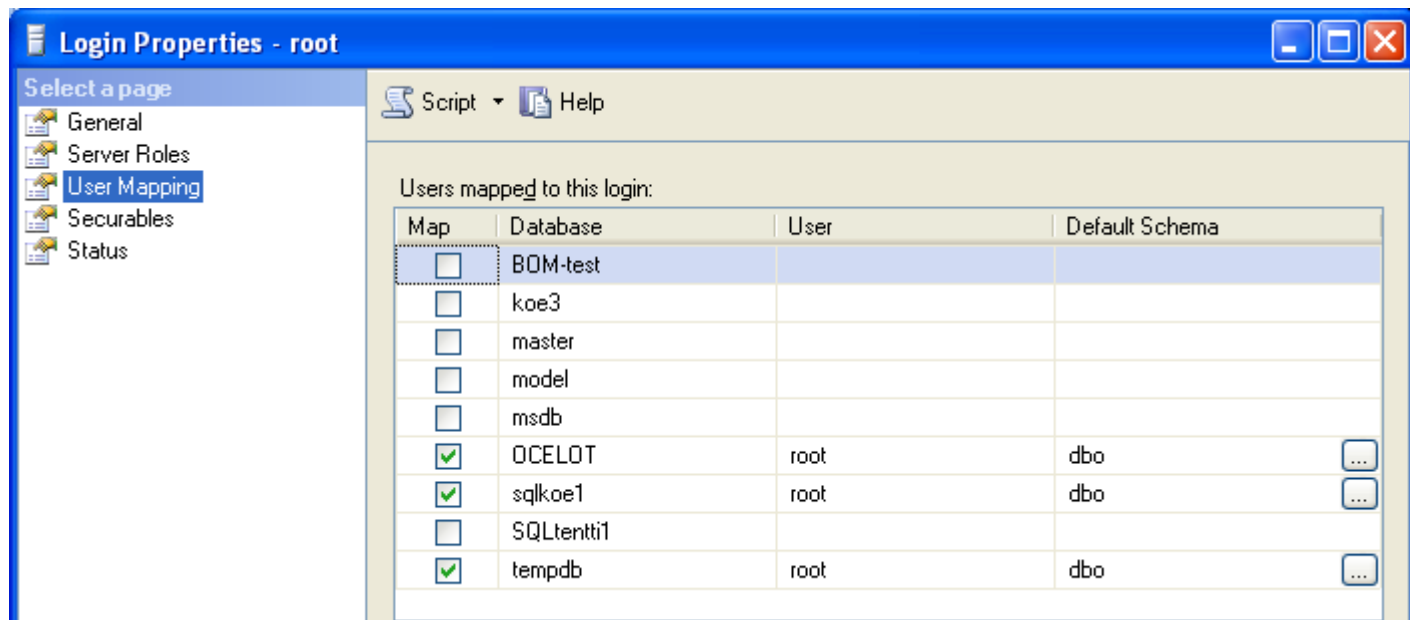
Connection: KOTILO\Jouni

LOGIN PROPERTIES (SERVER ROLES PAGE)

- **bulkadmin** can run the BULK INSERT statement.
- **dbcreator** can create, alter, drop, and restore any database.
- **diskadmin** can manage disk files.
- **processadmin** can terminate processes running in an instance of the Database Engine.
- **securityadmin** manage logins and their properties.
 - They can GRANT, DENY, and REVOKE server-level permissions.
 - They can also GRANT, DENY, and REVOKE database-level permissions.
 - Additionally, they can reset passwords for SQL Server logins.
- **serveradmin** can change server-wide configuration options and shut down the server.
- **setupadmin** can add and remove linked servers, and they can execute some system stored procedures.
- **sysadmin** can perform any activity in the Database Engine.
 - By default, all members of the Windows BUILTIN\Administrators group (the local administrators group) are members of the sysadmin fixed server role.



USER MAPPING



Login Properties - root

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Script Help

Users mapped to this login:

Map	Database	User	Default Schema
<input type="checkbox"/>	BDM-test		
<input type="checkbox"/>	koe3		
<input type="checkbox"/>	master		
<input type="checkbox"/>	model		
<input type="checkbox"/>	msdb		
<input checked="" type="checkbox"/>	OCELOT	root	dbo
<input checked="" type="checkbox"/>	sqlkoe1	root	dbo
<input type="checkbox"/>	SQLtenti1		
<input checked="" type="checkbox"/>	tempdb	root	dbo

SECURABLES

Add Objects

What objects do you wish to add?

Specific objects...
 All objects of the types...
 The server 'KOTILO\SQLEXPRESS'

OK Cancel

Effective Permissions... Add... Remove

Explicit permissions for KOTILO\SQLEXPRESS:

Permission	Grantor	Grant	With Grant	Deny
Authenticate server	KOTILO\Jouni	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connect SQL	KOTILO\Jouni	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connect SQL	sa	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control server	KOTILO\Jouni	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create any database	KOTILO\Jouni	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Effective Permissions

Select a page
General

Script Help

Principal: root

Securable: KOTILO\SQLEXPRESS

Effective permissions:

Permission
CONNECT SQL
CREATE ANY DATABASE
VIEW ANY DATABASE



UUSI LOGIN

Connect to Server

Microsoft SQL Server 2005

Microsoft Windows Server System

Server type: Database Engine

Server name: KOTILO\SQLEXPRESS

Authentication: SQL Server Authentication

Login: root

Password: xxxxxxx

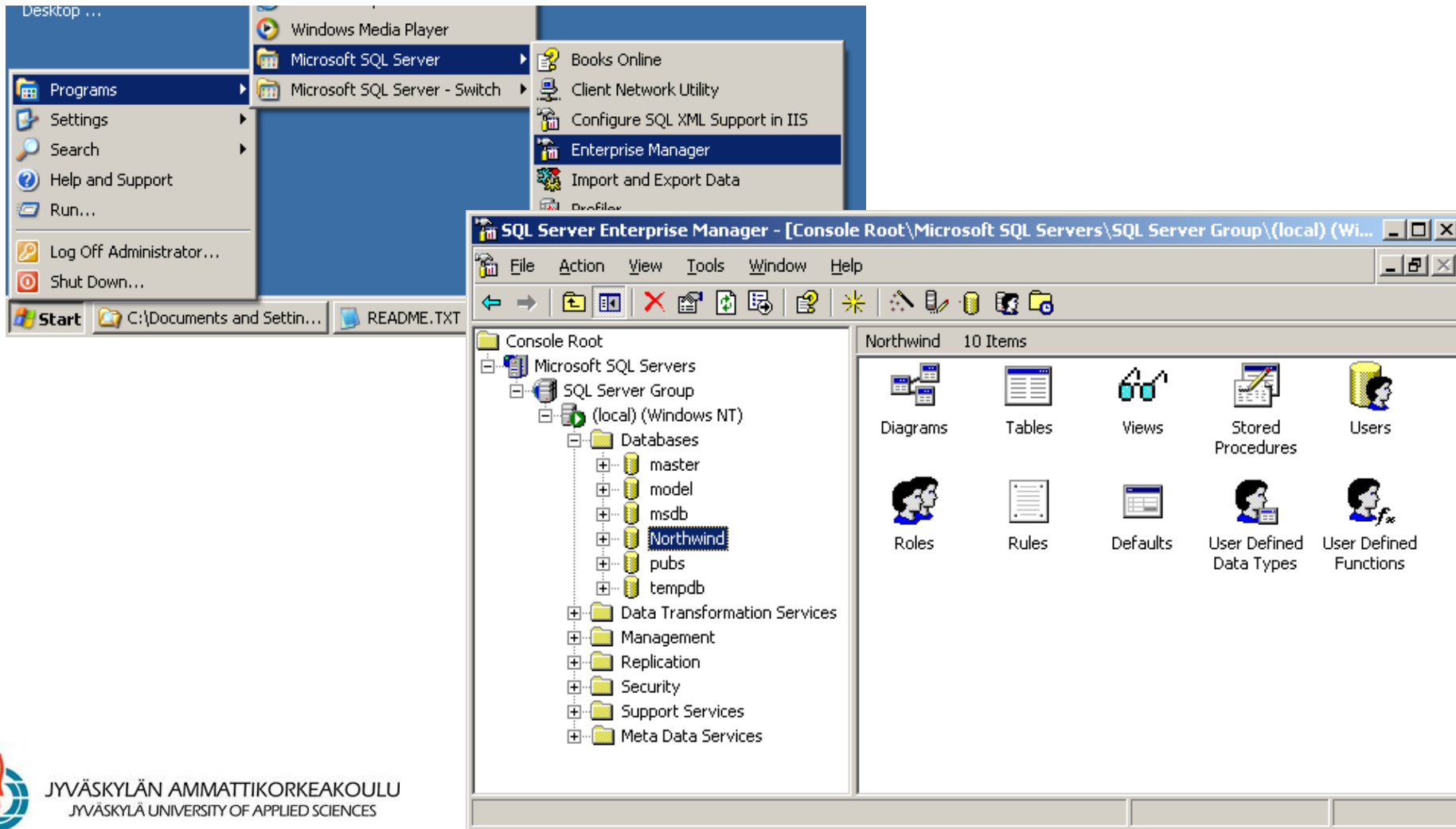
Remember password

Connect Cancel Help Options >>

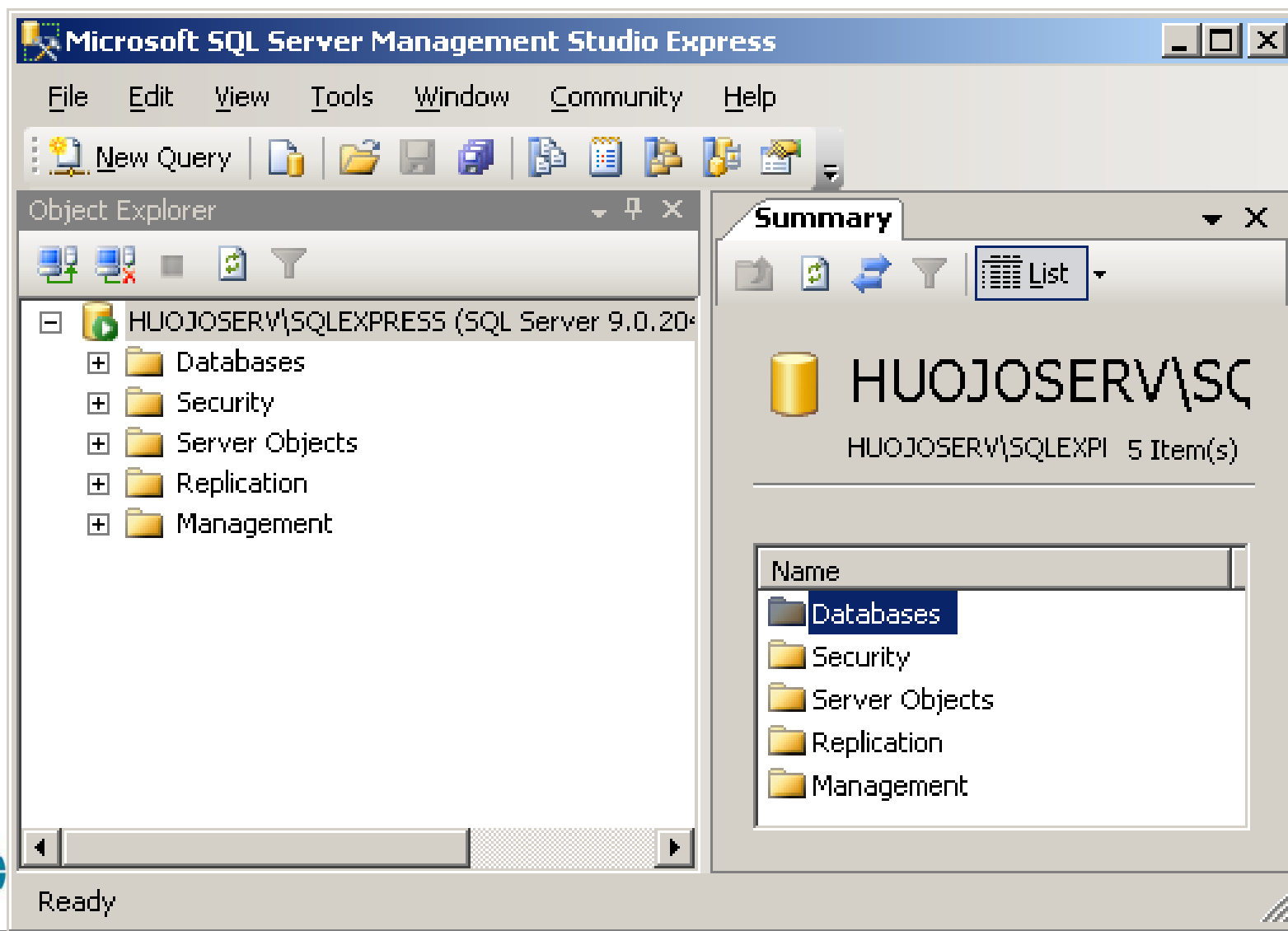
SQL SERVER -TIETOKANNAN JA TAULUN LUOMINEN



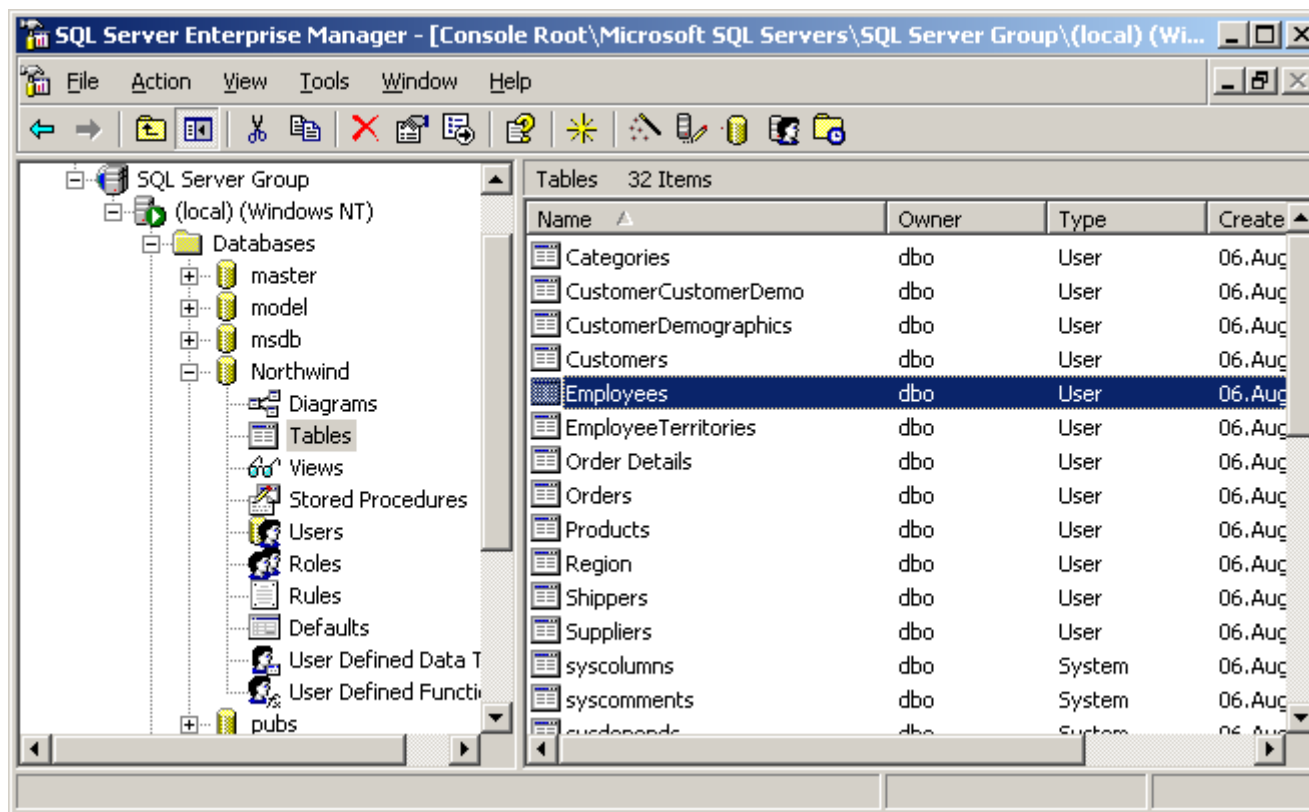
ENTERPRISE MANAGERIN (SQL SERVER 2000) KÄYNNISTYS



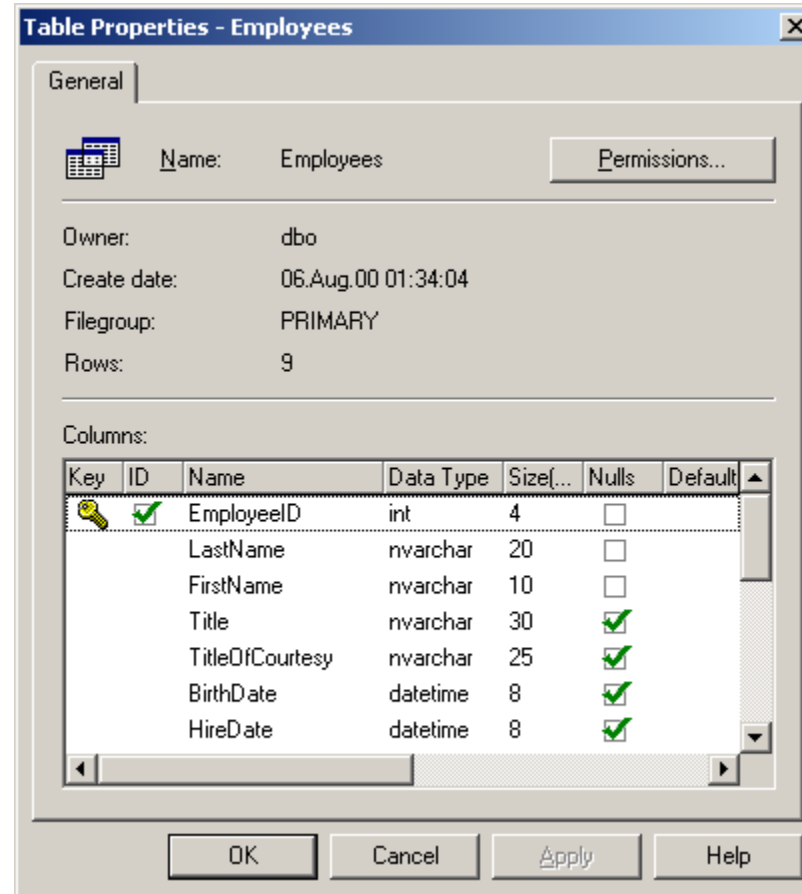
SQL SERVER MANAGEMENT STUDIO EXPRESS



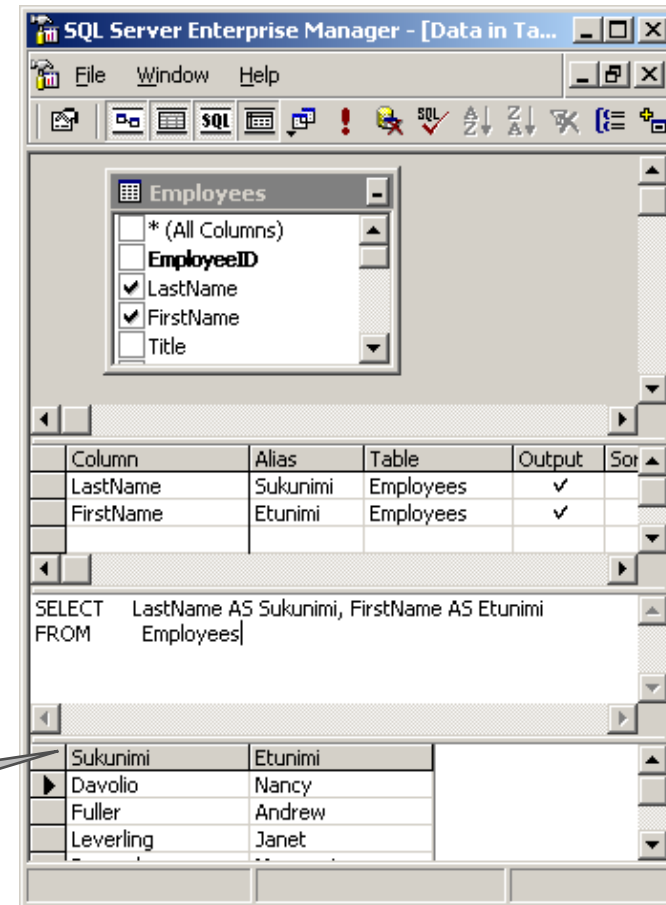
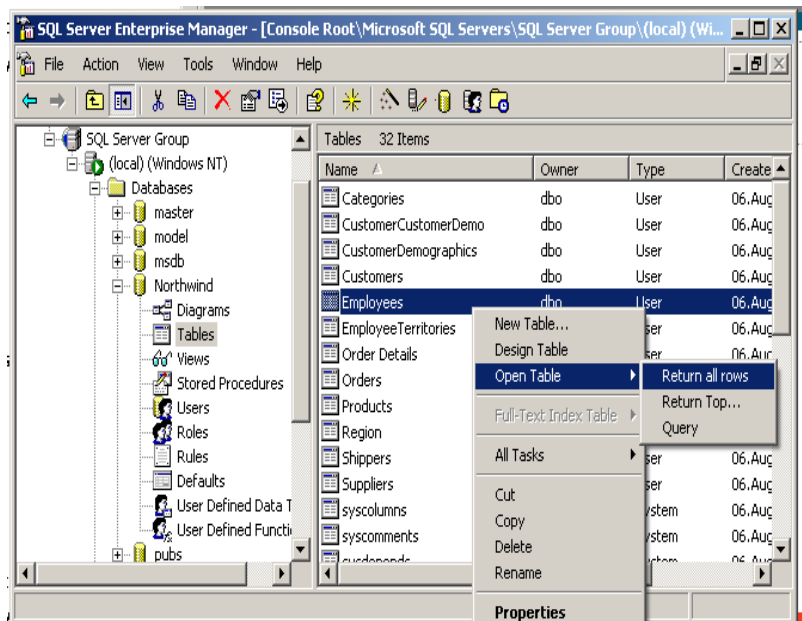
SELAA TIETOKANTAOBJEKTEJA



KAKSOISNAPSAUTUS NÄYTTÄÄ TAULUMÄÄRITTELYT

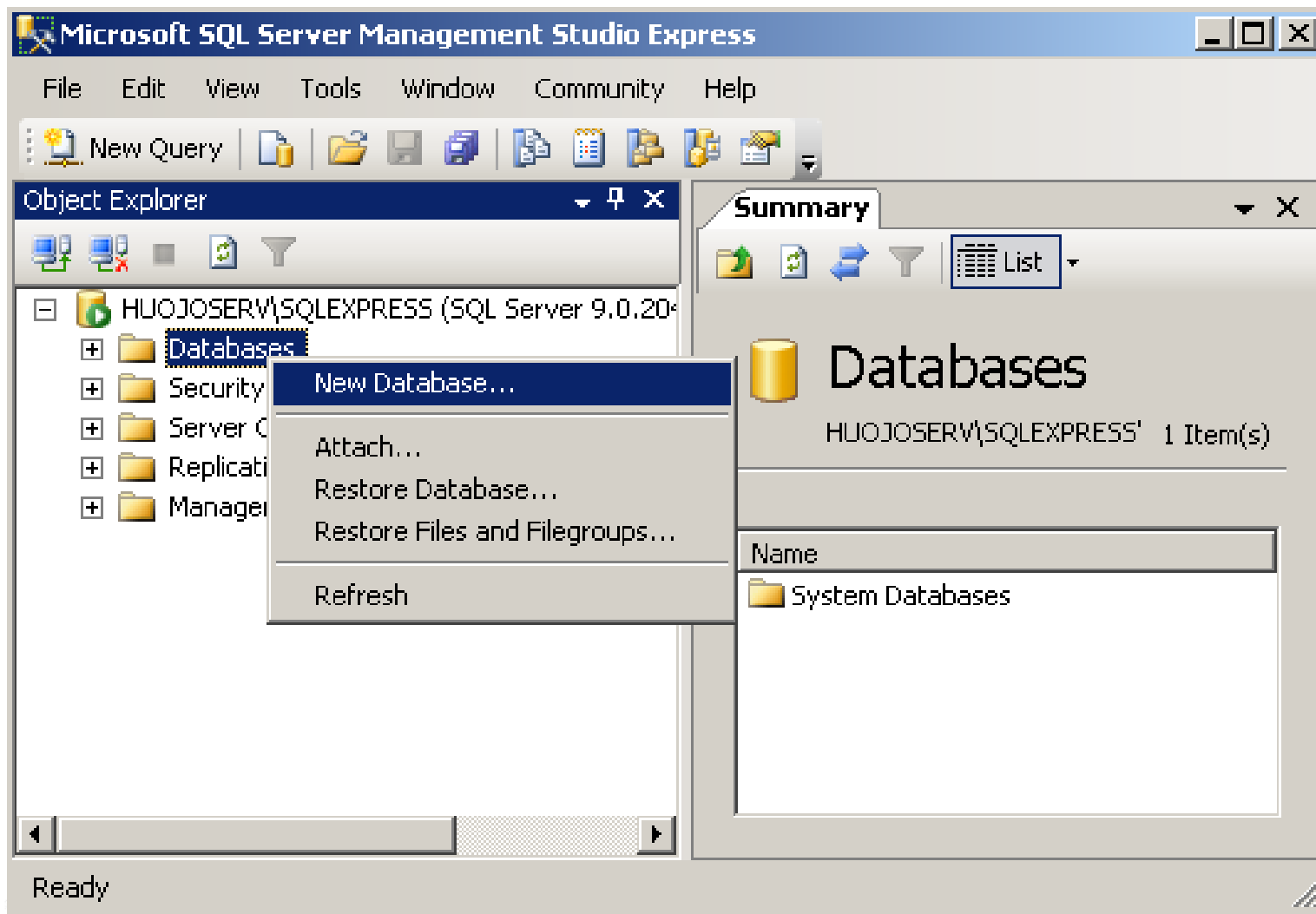


OIKEANPUOLEISEN NAPIN TAKAA PÄÄSTÄÄN ANTAMAAN KOMENTO TAULUN SISÄLLÖN NÄKEMISEKSI



SQL-lause nähdään, kun painat SQL-työkalua

UUDEN TIETOKANNAN LUONTI



New Database

Select a page

- General
- Options
- Filegroups

Script Help

Database name: Tenti061129

Owner: <default>

Use full-text indexing

Database files:

Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth
Tenti061129	Data	PRIMARY	3	By 1 MB, unrestricted growth
Tenti061129...	Log	Not Applicable	1	By 10 percent, unrestricted growth

Connection

Server:
HUOJOSERV\SQLEXPRESS

Connection:
HUOJOSERV\huojo

[View connection properties](#)

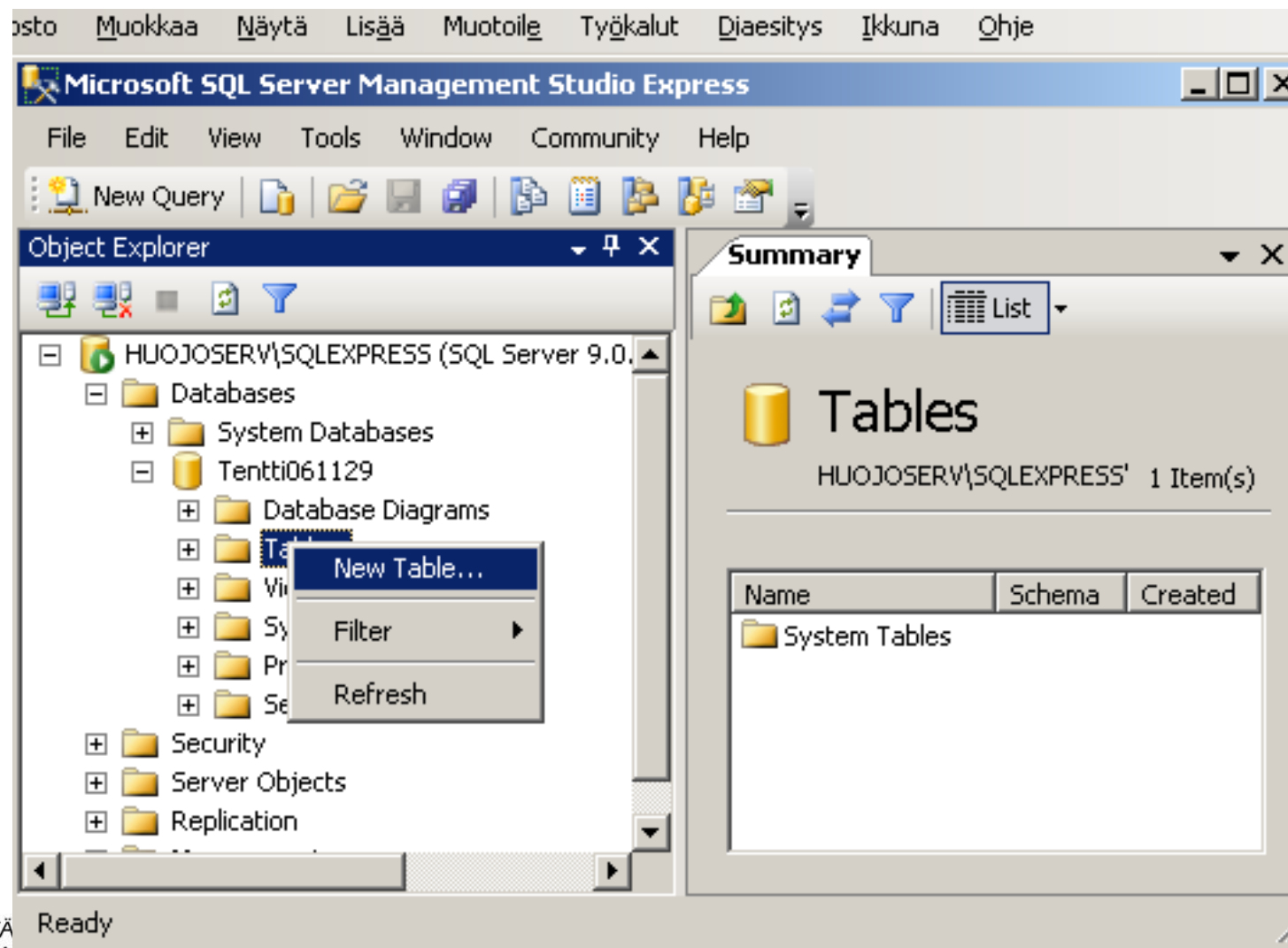
Progress

Ready

Add Remove

OK Cancel

UUDEN TAULUN LUONTI



PERUSAVAIMEN MÄÄRITYS

The screenshot displays the Microsoft SQL Server Management Studio Express interface. The main window shows the 'Table Designer' for a table named 'Table_1' in the 'dbo' schema. The column 'TenttiID' is selected, and its context menu is open, with 'Set Primary Key' highlighted. The 'Object Explorer' on the left shows the server structure, including the 'Tentti061129' database and its 'Tables' folder. The 'Properties' window on the right shows the table's properties, including its name, database, schema, and server name. The 'Table Designer' window shows the column 'TenttiID' with a data type of 'uniqueidentifier' and a 'PRIMARY' constraint.

Microsoft SQL Server Management Studio Express

File Edit View Table Designer Tools Window Community Help

New Query

Object Explorer

HUOJOSERV\SQLEXPRESS (SQL Serve)

- Databases
 - System Databases
 - Tentti061129
 - Database Diagrams
 - Tables
 - Views
 - Synonyms
 - Programmability
 - Security
 - Security
 - Server Objects
 - Replication
 - Management

Table - dbo.Table_1* Summary

Column Name	Data Type
TenttiID	uniqueidentifier

Column Properties

(General)

(Name)

Allow Nulls

(General)

Properties

[Tbl] dbo.Table_1

(Identity)

(Name)	Table_1
Database Name	Tentti061129
Description	
Schema	dbo
Server Name	huojoserv\sqlexpress

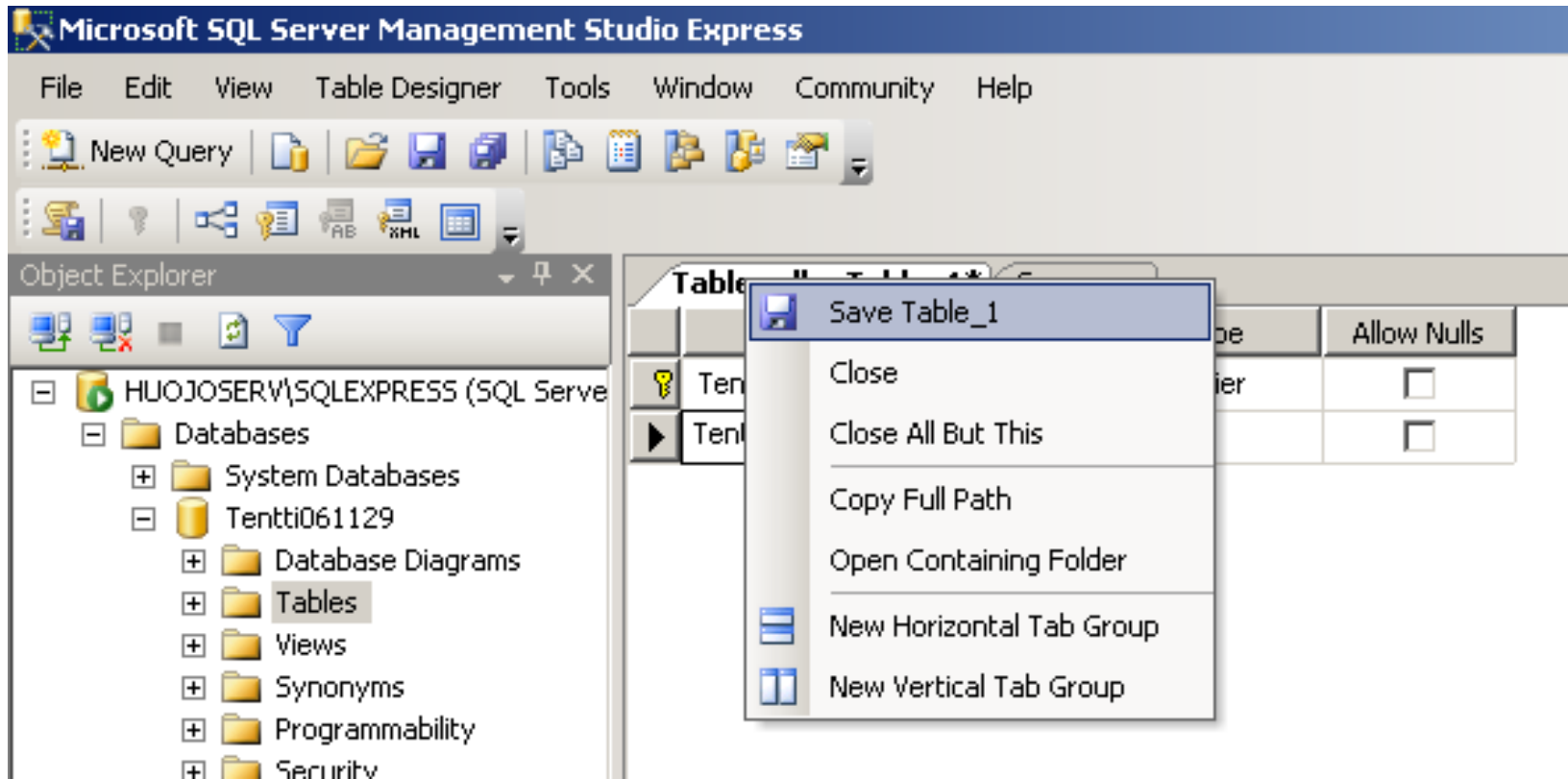
Table Designer

Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No

(Identity)

Ready

TAULUN TALLENNUS



LISÄTIETOA JA VERTAILUJA

- Kotisivu: <http://www.microsoft.com/sql/>
- Vertailu MySQL:ään:
<http://www.microsoft.com/sql/prodinfo/compare/mysql/default.mspix>
- Database Journal:
<http://www.databasejournal.com/features/mssql/archives.php>
- CodePlex: <http://blogs.msdn.com/buckwoody/archive/2008/01/14/my-favorite-codeplex-projects.aspx>
- Tips: <http://www.sqldbatips.com/> &
http://sql-server-performance.com/tips/all_main.aspx
- Cheat sheet: <http://www.ilovejackdaniels.com/cheat-sheets/sql-server-cheat-sheet/>
- Virtual Labs: <http://msdn2.microsoft.com/en-us/virtuallabs/aa740409.aspx>



TIETOLÄHTEIDEN HALLINTA ETL-MENETELMIN (SQL SERVER INTEGRATION SERVICES)

