Introduction to SQL 2000:
Installation and Implementation

SQL Server Administration suite: course 1 of 4
This class is designed for…

- Beginner SQL/Prophet 21 (CC) Users who are responsible for SQL Administration as it relates to Prophet 21 (CC)
Overview

• This course will introduce you to the SQL Server environment including an introduction to the components and tools.
• It will also include the steps necessary to install and configure SQL Server.
Objectives

• Recognize the characteristics of a Client/Server environment
• Identify the components and tools of SQL Server
• Install SQL Server
• Complete Post-Installation configurations on SQL Server
This course will NOT cover...

- Windows Navigation
- Data Storage in SQL
- SQL Backup and Restore Maintenance
- Data Manipulation
Client/Server
Client/Server
Distributed Processing

Prophet 21 (CC) Server
Distributed Processing

- Request for customer info
Distributed Processing

- Customer info sent back to the application
## Terms

<table>
<thead>
<tr>
<th>Compatibility</th>
<th>NT4, Windows 2000 and XP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain</td>
<td>Set of servers and logins</td>
</tr>
<tr>
<td>Domain Controller</td>
<td>Server that contains the database of users and permissions</td>
</tr>
<tr>
<td>Member Servers</td>
<td>Any server in the domain that is not the domain controller</td>
</tr>
<tr>
<td>Workgroup</td>
<td>Peer-to-peer networking</td>
</tr>
<tr>
<td>Service</td>
<td>Program that runs in the background</td>
</tr>
</tbody>
</table>
Basic Database Administration

- Being a Proactive Administrator
- Creating an Administrative Plan
Being a Proactive Administrator

• Fail to plan, Plan to fail

• Things to think about
  • How old are your backups?
  • How often do you check?
  • Do you need separate hard disks?
  • Where do you store backup?
  • Do you have replacement parts on hand?
Creating an Administrative Plan

• Core elements of a good plan
  • Backup the database
  • Backup the transaction log
  • Maintain your indexes and statistics
  • Check data consistency
  • Strategy for restoration process
Microsoft SQL Server

- Services to Prophet 21 (CC)
  - Data repository
  - Data relationship integrity
  - Controlled user access
  - Database management tools
Services to Prophet 21 (CC)

- Data repository
  - Central repository for all data that is used in Prophet 21 (CC)
  - Keeping the data in one place provides data integrity and eliminates data synchronizing
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• Data relationship integrity
Services to Prophet 21 (CC)

• **Controlled user access**
  • SQL provides data locking
  • No two users can be modifying the same data at the same time
  • Permissions within the application
Services to Prophet 21 (CC)

- Controlled user access
  - SQL provides data locking
  - No two users can be modifying the same data at the same time
  - Permissions within the application
- Database management tools (SA tools)
  - Implement the administrative plan
  - Troubleshoot the application
  - Interact with the database
  - Maintain integrity of system and data
Why does Prophet 21 use SQL?

- **Client Connectivity**
  - Network Libraries allow connection to multiple types of clients
    - Named Pipes
    - TCP/IP Sockets
    - Multi-Protocol
    - NWLink IPX/SPX
    - AppleTalk ADSP
    - Banyan VINES
Why does Prophet 21 use SQL?

- Operating system integration
  - Security
  - Multiprocessor Support
  - Microsoft Event Viewer
  - Windows NT Services
  - Performance Monitor
  - Microsoft Index Server
Why does Prophet 21 use SQL?

- **Server program interoperability**
  - Microsoft Internet Information Server
  - Microsoft Exchange Server
  - Microsoft Systems Mgmt Server
Components of MS SQL Server

- SQL Server Engine
- SQL Server Agent
- Distributed Transaction Coordinator
- SQL Server Client Utilities
Components of MS SQL Server

- **SQL Server Engine**
  - Allocates server resources among concurrent clients
  - Implements a data locking mechanism to prevent concurrent updates
  - Ensures data consistency and integrity
Components of MS SQL Server

- SQL Server Agent
  - Works in conjunction with SQL Server to manage scheduled tasks, alerts and operators
Components of MS SQL Server

- **Distributed Transaction Coordinator**
  - Component of Microsoft Transaction Server
  - Allows clients to include different data sources in one transaction
  - Coordinates the completion of distributed transactions
Components of MS SQL Server

- SQL Server Client Utilities
  - Client applications used to manage SQL Server
Using the Installation Wizard

Welcome to the Microsoft SQL Server Installation Wizard.

The Installation Wizard allows you to install a new instance of SQL Server or modify an existing instance.
Installation – Computer Name

Enter the name of the computer on which you want to create a new instance of SQL Server or modify an existing instance of SQL Server.

Or, enter the name of a new or existing Virtual SQL Server to manage.

VIRG7

- Local Computer
- Remote Computer
- Virtual Server

Browse...
Installation Selection

Select one of the following installation options.

- Create a new instance of SQL Server, or install Client Tools
- Upgrade, remove, or add components to an existing instance of SQL Server
- Advanced options

Create a New Installation
This option allows you to create a new instance of SQL Server 2000 or install Client Tools on any supported Operating System.
Installation – User Information

Enter your name below. It is not necessary to enter a company name.

Name: Virg3

Company: Prophet 21
Installation – License Agreement

**ADDENDUM TO THE MICROSOFT END USER LICENSE AGREEMENT FOR MICROSOFT SQL SERVER 2000**

The software accompanying this Addendum, Microsoft SQL Server Personal Edition (the "Client Software") is provided to you for use under the terms and conditions of the end user license agreement you acquired with Microsoft SQL Server (Standard or Enterprise Edition) (the "EULA"). Please refer to the EULA for license rights and requirements associated with Client Software. The Client Software is deemed part of the Product (as defined in the EULA), and as such, if you do not have a validly licensed copy of the Product, you are not authorized to use the Client Software. Any capitalized terms used in this Addendum shall have the same meaning as set forth in the EULA, unless otherwise set forth in this Addendum. All terms and conditions of the EULA remain in full force and effect.

Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install Microsoft SQL Server 2000, you must accept this agreement.
You can select one of the following types of installations:

- Client Tools Only
- Server and Client Tools
- Connectivity Only

This option allows you to install a server and the client tools. Use this option if you want to set up a server with administration capabilities.
Installation – Instance Name

For a default installation, leave Default checked and click Next.

To install or maintain a named instance of SQL Server on this computer clear the Default checkbox and type or select an instance name.

A new name must be 16 characters or less and should start with a letter or other acceptable character. For more information, click Help.

Instance name:
Installation Type

Setup Type

Click the type of Setup you prefer, then click Next.

- Typical: Installed with the most common options. Recommended for most users.
- Minimum: Installed with minimum required options.
- Custom: You may choose the options you want to install. Recommended for advanced users.

Destination Folder

Program Files: C:\Program Files\Microsoft SQL Server
Data Files: C:\Program Files\Microsoft SQL Server

Space on program files drive: 38073 K, 6786004 K
Space on system drive: 158694 K, 6786004 K
Space on data files drive: 34432 K, 6786004 K

Required: 38073 K, 6786004 K
Available: 6786004 K
Installation – Select Components

The image shows a window titled "Select Components" with a list of components and sub-components to be installed or removed. The selected components and their sizes are as follows:

- **Server Component**: 76440 K
- **Management Tools**: 25824 K
- **Client Connectivity**: 272 K
- **Books Online**: 30924 K
- **Development Tools**: 260 K
- **SQL Server**: 10888 K
- **Upgrade Tools**: 4164 K
- **Replication Support**: 6812 K
- **Full-Text Search**: 200 K
- **Debug Symbols**: 12428 K

The description under the "Description" section states: "Installs the Full-text search engine which extends the ability to search on character columns beyond basic equality and LIKE operators.

Space on program files drive:
- Required: 38205 K
- Available: 6785500 K

Space on system drive:
- Required: 182917 K
- Available: 6785500 K

Space on data files drive:
- Required: 34432 K
- Available: 6785500 K

The window includes buttons for "Help", "< Back", "Next >", and "Cancel".
Installation – Services Accounts

Options:
- Use the same account for each service. Auto start SQL Server Service.
- Customize the settings for each service.

Services:
- SQL Server
- SQL Server Agent

Service Settings:
- Use the Local System account
- Use a Domain User account

Username: Administrator
Password: 
Domain: VIRG7

Auto Start Service
Installation – Authentication Mode

Choose the authentication mode.

- Windows Authentication Mode
- Mixed Mode (Windows Authentication and SQL Server Authentication)

Add password for the sa login:

Enter password: [masked]

Confirm password: [masked]

- Blank Password (not recommended)
Installation – NetWork Libraries

Select the network libraries to use when connecting to the server.

- Named Pipes
  - Named Pipe name: `\\pipe\sql\query`

- TCP/IP Sockets
  - Port number: `1433`

- Multi-Protocol
  - Enable Multi-Protocol encryption

- NWLink IPX/SPX
- AppleTalk ADSP
- Banyan VINES
  - SteetTalk service name:
Installation – Change TCP/IP Sockets

The Network Libraries window is shown, allowing the selection of network libraries for connecting to the server. The options include:

- **Named Pipes**
  - Named Pipe name: `\\pipe\sql\query`

- **TCP/IP Sockets**
  - Port number: `900`
  - Proxy address: 

- **Multi-Protocol**
  - Enable Multi-Protocol encryption
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Prophet 21 (CC) Properties

```
development_db Properties

Access
- Restrict access
  - Members of db_owner, dbcreator, or sysadmin
  - Single user
- Read-only

Recovery
Model: Full

Settings
- ANSI NULL default
- Recursive triggers
- Auto update statistics
- Torn page detection
- Allow cross-database ownership chaining
- Auto close
- Auto shrink
- Auto create statistics
- Use quoted identifiers

Compatibility
Level: Database compatibility level 80
```

Post Installation

- Configure the Client Software
- Register Servers with SQL Enterprise Manager
- Assign a password to the ‘sa’ account
- Install the latest SQL Server Service Pack
- Set additional server parameters
Configuring Client Software

• Must be able to connect to SQL Server
• Client Network Utility
Configuring Client Software
Configuring Client Software

![Network Library Configuration Window]

- **Server alias:**
- **Network libraries:**
  - Named Pipes
  - TCP/IP
  - Multiprotocol
  - NWLink IPX/SPX
  - AppleTalk
  - Banyan VINES
  - VIA
  - Other

- **Connection parameters:**
  - **Server name:** Name of machine
  - **Dynamically determine port:**
  - **Port number:**

[OK] [Cancel] [Help]
Configuring Client Software

The configuration screen for adding a network library shows options for network libraries and connection parameters. The Port number field is highlighted with the message "Must match machine."
Register Server
Select a SQL Server

Select or type the name of one or more servers in the Available servers box.
Authentication Mode

Select an Authentication Mode

Select the authentication mode that you use to connect to SQL Server.

Connect using:

- The Windows account information I use to log on to my computer [Windows Authentication]

- The SQL Server login information that was assigned to me by the system administrator [SQL Server Authentication]
Connection Option

Select Connection Option

When you connect using SQL Server account information you can store your login name and password or provide it each time you connect.

- Login automatically using my SQL Server account information.
  - Login name: [Field]
  - Password: [Field]

- Prompt for the SQL Server account information when connecting.
Select SQL Server Group

Specify whether you want to add the SQL Server(s) you are registering to the default SQL Server group, another existing group, or a new SQL Server group.

- Add the SQL Server(s) to an existing SQL Server group
  Group name: [Dropdown]

- Create a new top-level SQL Server group
  Group name: [Input Field]
Completing the Register SQL Server Wizard

The SQL Server(s) you are registering is shown below. It may take several minutes for the wizard to connect and verify that the server exists and the connection information is valid.

BASS
Assigning Password to sa Account

- Blank by default
Assigning Password to sa Account
Installing the Latest Service Pack

- www.microsoft.com
- Search for ‘Service Pack’
Additional Settings
Additional Settings

SQL Server provides authentication based on Windows accounts and a named SQL Server login ID and password.

Authentication:
- SQL Server and Windows
- Windows only

Audit level:
- None
- Failure
- Success
- All

Startup service account:
Start and run SQL Server in the following account:
- System account
- This account

Password:
Summary

• Recognize the characteristics of a Client/Server environment
• Identify the components and tools of SQL Server
• Install SQL Server
• Complete Post-Installation configurations on SQL Server
For More Information…

- Visit Activant on the web: distribution.activant.com

- Browse Documentation

- Search the Solutions database

- View Educational Services’ training course offerings
  - SQL Server Administration suite
  - Microsoft SQL Server: 3-day classroom training

- Submit a Support case

- Email Professional Services Sales: pss@activant.com
SQL Server Data Storage

- Recognize elements of a SQL Database
- Identify purpose of and options in Database and Transaction logs
- Introduce types of Indexes

SQL Server Administration suite: course 2 of 4
SQL Server Management

- Performing backups
- Backup and restore statements
- Backup verification
- Managing database logins and permissions
Basic Data Manipulation

- SQL statements
- Running stored procedures