

MODULE 5: THE DEVELOPMENT ENVIRONMENT

Module Overview

In the module, Microsoft Dynamics® NAV Server, you were introduced to the basic functionality of the Development Environment. The Development environment acts as a client and is important for all Microsoft Dynamics NAV 2013 deployments as a tool for development and administration tasks. This module describes how to install and use the Development Environment.

Objectives

The objectives are:

- Install the Development environment.
- Explain how to manage databases, companies, licenses and objects.
- Explain the possibilities of the Demo License.
- Explain how to upload a Microsoft Dynamics NAV license.
- Explain the functionalities of the Object Designer.

Installation

The Development environment acts as a client and is important for all Microsoft Dynamics NAV 2013 deployments as a tool for development and administration tasks. For example, you must use it to upload the Microsoft Dynamics NAV 2013 license file.

Install the Development Environment

You use Microsoft Dynamics NAV Setup to install the Development Environment. The Development Environment is a subcomponent of the client.

The Development Environment is installed automatically when you select the Install Demo or the Developer option. It can also be added as part of the Client or the Custom installation option.

You can install the RoleTailored client for Windows without the Development Environment, but you cannot install the Development Environment without the RoleTailored client for Windows.

Demonstration: Install the Development Environment Using the Client Installation Option

The following demonstration shows how to install the Development Environment on a computer without any other Microsoft Dynamics NAV component. In this demonstration, we select the Client installation option and customize it (that is, we add the Development Environment component manually).

Demonstration Steps

1. Insert the Microsoft Dynamics NAV 2013 product DVD in the DVD drive.
 - a. Open the DVD drive by pressing the Eject button on the physical drive.
 - b. Put the DVD on the tray.
 - c. Press the Close button to close the DVD drive.

2. Start Microsoft Dynamics NAV Setup.
 - a. Open Windows Explorer.
 - b. Select Computer to see a list of available drives.
 - c. Select the DVD drive that contains the product DVD.
 - d. In the root folder of the selected drive, double-click setup.exe.
 - e. If you receive the **Open File - Security Warning** "Do you want to run the setup.exe application?" message, click **Run**.

3. Select the installation option.
 - a. In the **Welcome to the Microsoft Dynamics NAV 2013 Setup** window, click **Next**.
 - b. On the **Microsoft Software License Terms** page, click **I Accept**.
 - c. On the **Microsoft Dynamics NAV Setup** page, select **Click an Installation Option**.

4. Specify parameters.
 - a. On the **Choose an installation option** page, click the **Customize** link for the **Client** option.
 - b. On the **Customize the installation** page, click the icon at the left of the **Client** node. The node expands.
 - c. Click the icon at the left of the **Development Environment (C/SIDE)** node.
 - d. Select **Run from My Computer**.
 - e. Click the icon at the left of the **Documentation** node.
 - f. Select **Not Available**.
 - g. On the **Customize the installation** page, click **Next**.
 - h. On the **Specify parameters** page, in the **Server Name** field, enter the name of the server that is running the Microsoft Dynamics NAV Server instance to which you want to connect.
 - i. In the **Service Name** field, enter the name of the server instance to which you want to connect.
 - j. In the **Client Services Port** field, enter the port number that the server instance is using for its client services. The default value is 7046.
 - k. Verify that the **Add rule to Firewall** field is set to **Yes**.
 - l. Click **Apply** to start the installation.
 - m. Click **Close** to exit Microsoft Dynamics NAV Setup.

Add a Development Environment

To add a Development Environment to a computer that is already running some other Microsoft Dynamics NAV components, run Microsoft Dynamics NAV Setup on the computer where you want to install the Development Environment.

Unlike the RoleTailored client, the Development Environment does not connect to the Microsoft Dynamics NAV database through Microsoft Dynamics NAV Server.

Demonstration: Add the Development Environment to an Existing Deployment

This demonstration shows how to add the Development Environment to a computer that is already running other Microsoft Dynamics NAV components. When you start Microsoft Dynamics NAV Setup, it opens in Maintenance mode.

Demonstration Steps

1. Insert the Microsoft Dynamics NAV 2013 Product DVD in the DVD drive.
 - a. Open the DVD drive by pressing the Eject button on the physical drive.
 - b. Put the DVD on the tray.
 - c. Press the Close button to close the DVD drive.

2. Start Microsoft Dynamics NAV Setup.
 - a. Open Windows Explorer.
 - b. Select Computer to see a list of available drives.
 - c. Select the DVD drive that contains the product DVD.
 - d. In the root folder of the selected drive, double-click setup.exe.
 - e. If you receive the **Open File - Security Warning** "Do you want to run the setup.exe application?" message, click **Run**.

3. Select the installation option.
 - a. In the **Welcome to the Microsoft Dynamics NAV 2013 Setup** window, on the **Maintenance** page, click **Add or remove components**.

4. Specify parameters.
 - a. On the **Customize the installation** page, click the icon at the left of the **Client** node. The node expands.
 - b. Click the icon at the left of the **Development Environment (C/SIDE)** node.
 - c. Select **Run from My Computer**.
 - d. On the **Customize the installation** page, click **Next**.
 - e. On the **Specify parameters** page, click **Apply** to start the installation.
 - f. Click **Close** to exit Microsoft Dynamics NAV Setup.

Run the Development Environment

After you have installed the Development Environment, you can run it by selecting **Start > All Programs > Microsoft Dynamics NAV 2013 Development Environment**.

The first time that you open the Development Environment, it is not connected to a Microsoft Dynamics NAV database.

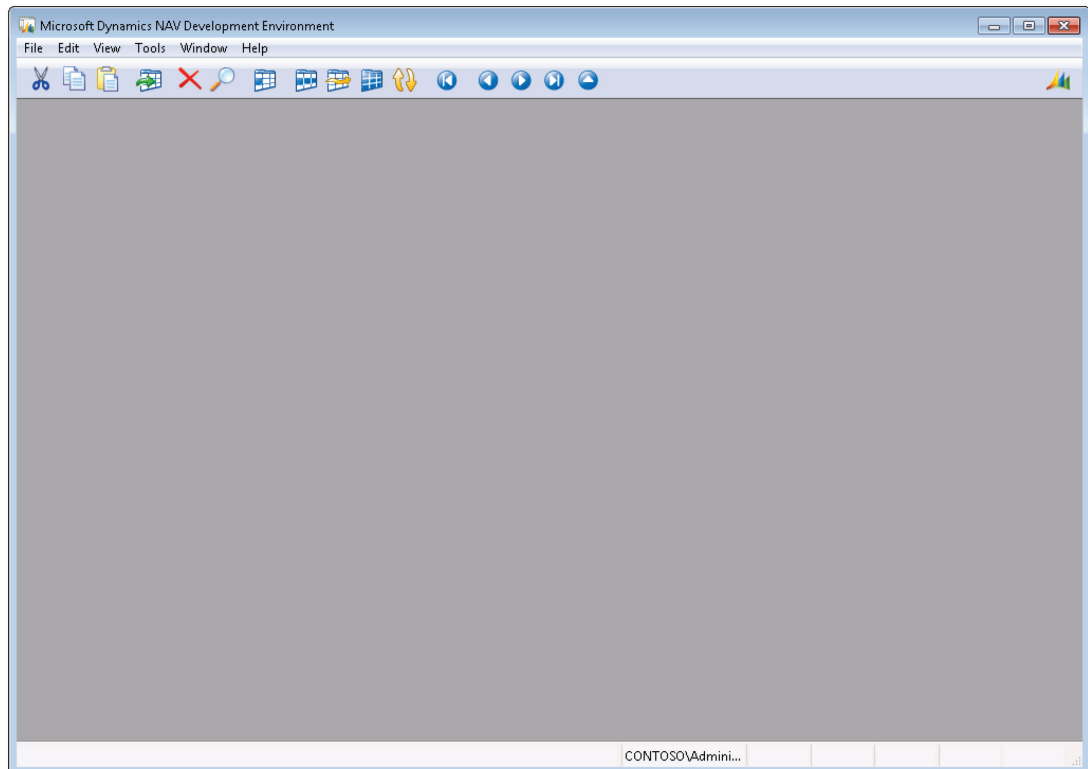


FIGURE 5.1: THE DEVELOPMENT ENVIRONMENT WINDOW ON FIRST USE

Installation and Configuration in Microsoft Dynamics® NAV 2013

When you open a database, the Development Environment opens the **Object Designer** window. The name of the database appears in the application title bar.

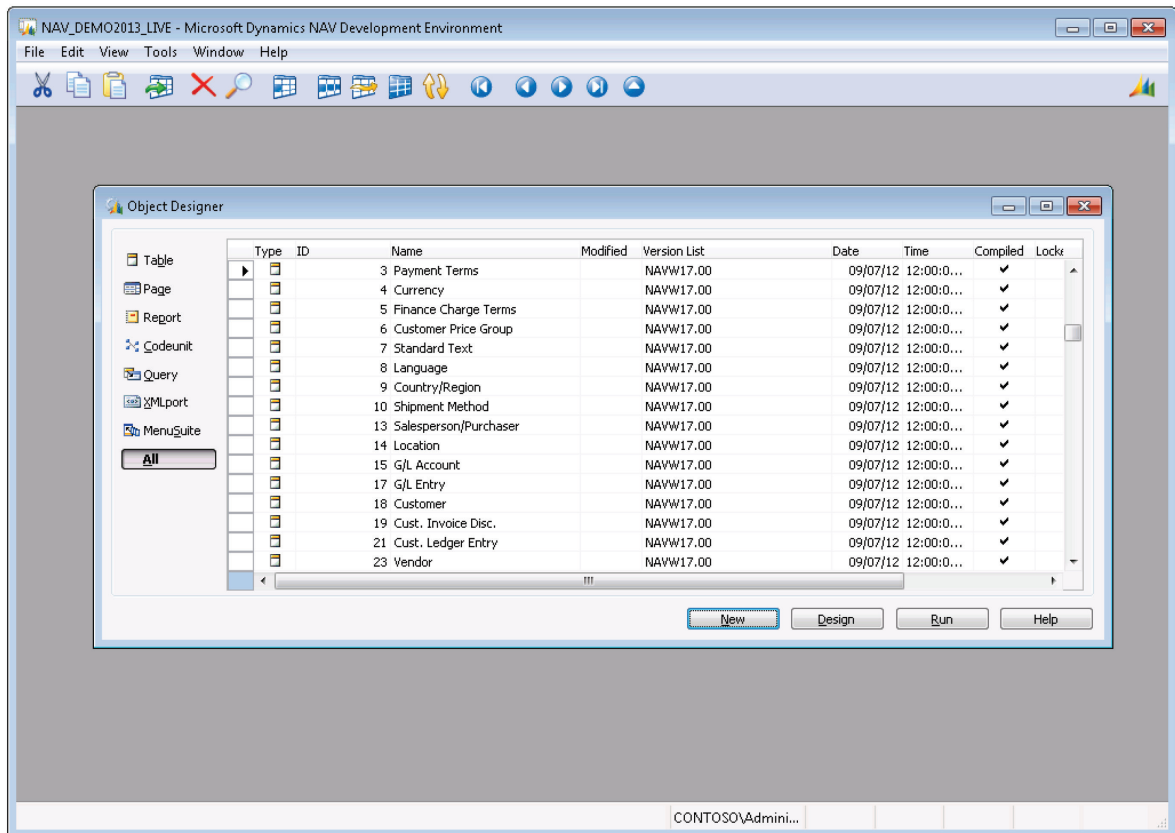


FIGURE 5.2: DEVELOPMENT ENVIRONMENT THE DEVELOPMENT ENVIRONMENT CONNECTED TO THE NAV_DEMO2013_LIVE DATABASE


When you reopen Microsoft Dynamics NAV 2013, the program automatically opens the database and company on which you last worked.

Note: The name of the database and the company that you were last working on is stored in the *.zup file. You can find this file in the c:\users\\AppData\Roaming\ folder. If you delete this file, Microsoft Dynamics NAV opens, but does not establish a connection to a Microsoft Dynamics NAV database.

The Development environment can be used to do the following:

- Manage databases
- Manage companies
- Manage Microsoft Dynamics NAV licenses
- Manage Microsoft Dynamics NAV objects

Unlike the RoleTailored client, the Development environment does not connect to the Microsoft Dynamics NAV database by using a Microsoft Dynamics NAV Server instance.

 **Note:** You can click **Tools > Language** to change the language of the user interface. Please be aware that some functionality is available only in English. This especially applies to the design and programming features.

Managing Databases

You can use the Development Environment to manage Microsoft Dynamic NAV databases.

Open a Database

To open a Microsoft Dynamics NAV database in the Development environment, click **File > Database > Open**.

In the **Open Database** dialog box, you can select the database to open:

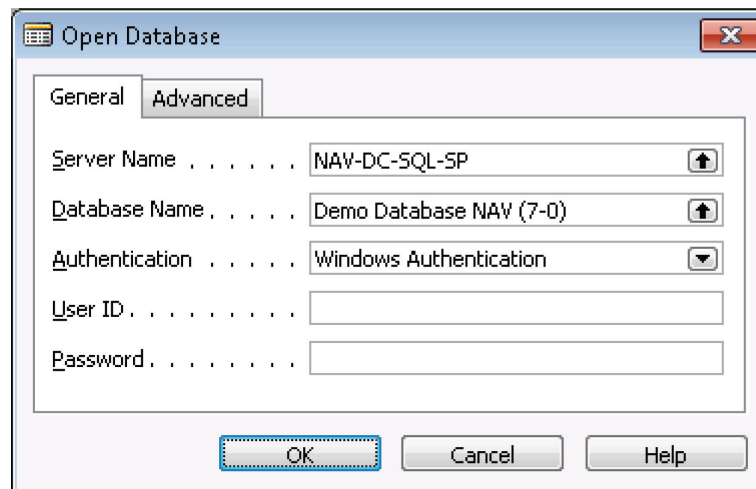



FIGURE 5.3: OPENING A MICROSOFT DYNAMICS NAV IN THE DEVELOPMENT ENVIRONMENT

Installation and Configuration in Microsoft Dynamics® NAV 2013

To select and open a database, you fill in the fields as follows:

Tab/Field	Description
General / Server Name	Enter the name of the SQL Server that runs the database that you want to open. You can click the field and select the server from a list of available computers that are running SQL Server or you can enter the server name manually.
General / Database Name	Enter the name of the database that you want to open. You can enter the name manually, or you can click the field to make a selection from the list of databases that are available on the selected server. To retrieve a list of available databases from the selected SQL Server, you must first enter valid credentials.
General / Authentication	Enter the type of authentication that you require. Click the field to choose between Database Server Authentication and Windows Authentication. If you select Database Server Authentication, your authentication is performed by the SQL Server that you have selected. (You must provide a User ID and a Password .) <hr/>  Note: To use database authentication, the Server authentication property for SQL Server must be set to SQL Server and Windows Authentication (Mixed mode). <i>Database authentication can only be used in the Development Environment, not in the RoleTailored client for Windows.</i> <hr/> If you select Windows Authentication, your authentication is performed by the Windows domain controller. (You cannot provide a User ID and a Password .)

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Tab/Field	Description
General / User ID	Enter your User ID if you have selected Database Server Authentication.
General / Password	Enter your Password if you have selected Database Server Authentication.
Advanced / Net Type	<p>Select the network type to be used when you connect to the server. The default value in this field is Default, which refers to the default client network type assigned by SQL Server. (You can change the SQL Server default net type with the Client Network Utility, which is part of the SQL Server Client Utilities, if they are installed on the client computer.)</p> <p>Although you can change the default value, it is frequently not necessary to change the network type from the default setting.</p>
Advanced / Attach File Name	<p>If you want to attach and open a detached database that consists of a single data file (excluding the transaction log file), you must enter the full path and file name of the database in the Attach File field. This file typically has the .mdf extension.</p> <p>You can give this single file database any name by entering it in the Database Name field on the General tab.</p> <p>If no transaction log file exists alongside the data file, it is created automatically when you attach the data file. The database file is attached when you open it.</p>

After you have completed the fields in the **Open Database** window, click **OK** to open the database.



Note: To work in the application, you must always open a database and a company - in that order. After you have done this one time, or if the choices are on the command line that starts the program, this occurs automatically when you choose a company. Therefore, you only have to click **File > Database > Open** when you want to open a database different than the one currently open.

Close a Database

If you have to close the database, you can do this by clicking **File > Database > Close**. You can use this function to close an open database, for example, before you open another database. However, you do not have to use it because the program saves all the data and closes everything correctly when you choose to open another database or exit the program.

Delete a Database

You can use the Development Environment to delete an existing Microsoft Dynamics NAV database. To do this, start the Development Environment and open the database that you want to delete. Next, click **File > Database > Delete**. Microsoft Dynamics NAV 2013 prompts you to confirm the deletion two times before actually deleting the database.



Note: Before you delete a database, verify that there are no active users in the database. In addition, stop all services and server instances that use the database that you want to delete.

When you delete a database, all content of the database disappear. If it is necessary, make a backup of the database before you delete it.

After you have deleted a database, the connection with the server is closed. You have to reconnect to a server and reopen a database if you want to continue working.

Create a Database

The Development Environment can be used to create Microsoft Dynamics NAV databases on the computer that runs SQL Server. To do this, start the Development Environment, and then click **File > Database > New**. Before you can create a database, you must first specify the instance of SQL Server for the database and the authentication type:

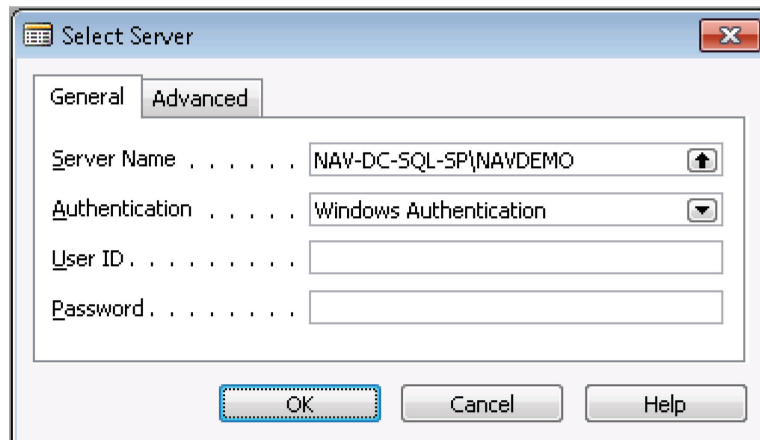


FIGURE 5.4: SELECTING THE INSTANCE OF SQL SERVER FOR A NEW DATABASE

When you click **OK**, Microsoft Dynamics NAV tries to establish a connection to the selected SQL Server that uses the credentials specified.

If a connection can be made, the **New Database** window appears:

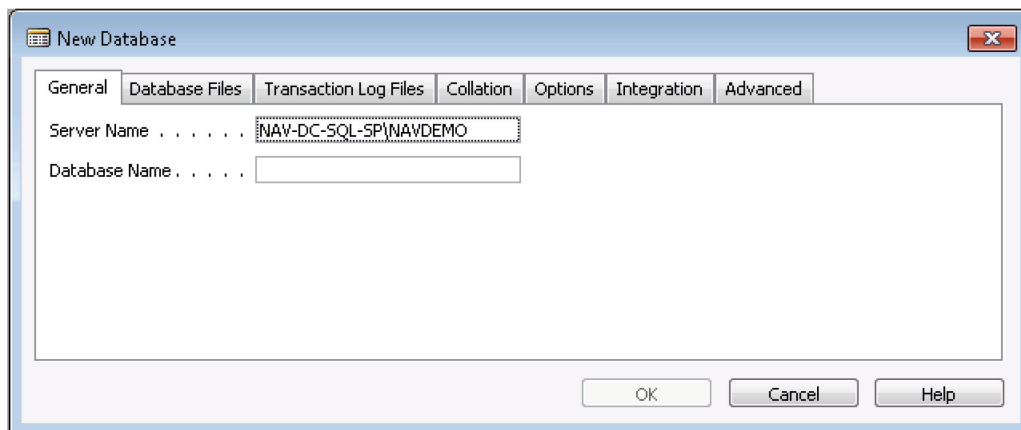


FIGURE 5.5: THE NEW DATABASE WINDOW

In the **New Database** window, you must enter the information about the database that you want to create. The window contains the same Tabs as the **Alter Database** window. The tabs are as follows:

General

On the **General** tab, you can define the logical name of the Microsoft Dynamics NAV database in the **Database Name** field. The tab also shows the server name. The value of the **Server Name** field is taken from the **Select Server** dialog box.

Database Files

The **Database Files** tab lets you increase the size of the database. You can do this as follows:

- By increasing the size of one or more of the files that make up the database.
- By adding new data files to the database.

For more information about how to add new database files, see “How-to: Add New Database Files” in the online Help. For more information about increasing the size of a database file, see “How-to: Increase the Size of Database Files” in the online Help.

By default, when you create a new Microsoft Dynamic NAV database, two data files are created. You can increase the size of each data file or add new data files to expand the database. If secondary data files are present, you only have to increase the size of the primary data file when the catalog that it contains has become too large. When the catalog has become too large, new SQL Server objects, such as tables, cannot be created until you increase the size of the primary data file.

When you are using secondary data files, you cannot create more space for storing Microsoft Dynamics NAV data by increasing the size of the primary data file. You can create more space for storing data by increasing the size of the secondary data files that contain Microsoft Dynamics NAV information. You can also add new secondary data files to store more data.



Note: *You can always make the database larger later, but you cannot make it smaller using the Microsoft Dynamics NAV Development Environment.*

If you have to reduce the size of the database, you can shrink the database files by using SQL Server Management Studio.

Transaction Log Files

On the **Transaction Log Files** tab, you can increase the size of the existing transaction log files or add new log files to allow the database to perform more transactions. The transaction log continues to grow as new transactions are performed in the database. SQL Server truncates the log after it performs a successful database or transaction log backup (or after it commits a transaction in cases where the database recovery model is Simple).

You can also delete existing transaction log files that are empty. The first transaction log file that is listed is the primary file. The primary transaction log file cannot be deleted.

For more information about how to add new transaction log files, see "How-to: Add New Transaction Log Files" in the online Help. For more information about how to increase the size of a transaction log file, see "How-to: Increase the Size of Transaction Log Files" in the online Help.

Collation

You can also change the collation that is used by the database. You must set the database **Single user** option before you change the collation. For example, you might change the collation of a database when you plan to centralize multiple SQL Server databases (coming from different regions) on a single instance of SQL Server.

A collation specifies the bit patterns that represent each character in a dataset. Collations also determine the rules that sort and compare data. Characteristics of a collation include, for example, accent sensitivity and case sensitivity.

If you change the database collation, this changes the collation of all the objects in the database except tables that have the **LinkedObject** property set to Yes. These objects must be recreated manually by, for example, scripting them in SQL Server Management Studio.

If you change the collation from a case-sensitive to a case-insensitive collation or from an accent-sensitive to an accent-insensitive collation, duplicates can occur in the primary keys of the tables. Duplicates can be caused by the values of the character data that is stored in the primary keys. If duplicates occur, you receive an error message and the alteration of the database collation is aborted. Therefore, we recommend that you do not change these attributes of a collation.



Note: Changing the collation can be a lengthy process, depending on the size of the database and the number of companies in the database, because the system tables and all the user table indexes that contain character data must be rebuilt.

You can restore a database by using a collation that is incompatible with the current database collation. When this happens, extended characters in data are displayed incorrectly.

Options

On the **Options** tab, you can define the database access mode and the recovery model for the database. The **Single User** option lets you restrict the number of users who can access the database. You must select this option, for example, before performing any database tests. (After the tests are complete, you must clear this option.) You can also define the recovery model of the database. This setting determines the kind of information that is written to the transaction log and therefore the kind of recovery model that you want to use in this database.

For more information about the settings on this tab, see “Altering Databases – Options tab” in the online Help.

Integration

The **Integration** tab contains database settings that influence the way Microsoft Dynamics NAV 2013 integrates with SQL Server and external tools.

For more information about the settings on this tab, see “Altering Databases – Integration tab” in the online Help.

Advanced

Use the **Advanced** tab to control the way locking is handled in the database, and to specify the **UidOffset**.

For more information about the settings on this tab, see “Altering Databases – Advanced Tab” in the online Help.

Alter a Database

When you create a database, you have to specify several settings for the new database. As soon as you have created the database, you can use the Development Environment to change the settings. To change the settings of a database, start the Development Environment and then click **File > Database > Alter**.

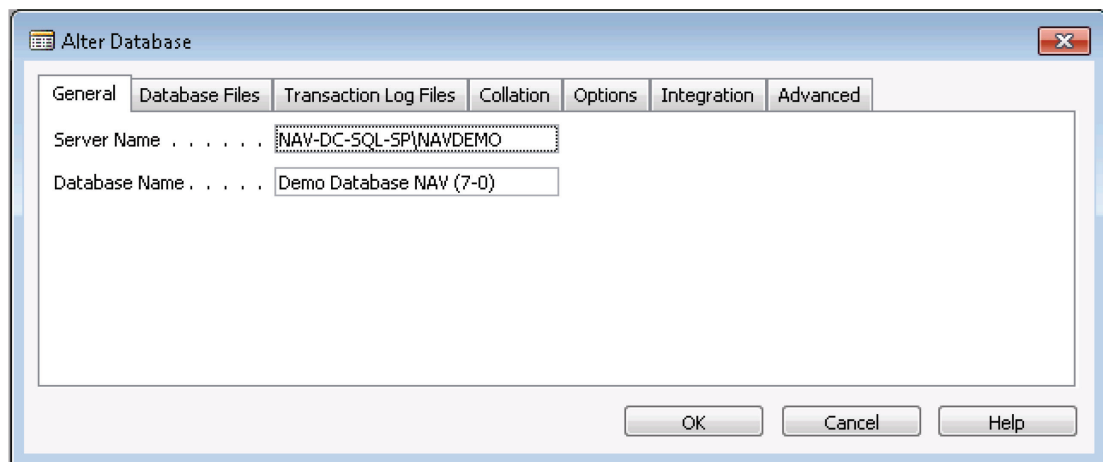


FIGURE 5.6: THE ALTER DATABASE WINDOW

In the **Alter Database** window, you can modify all settings of a database (except for the **Server Name** and **Database Name** fields). Please be aware that you have to activate the **Single User** option to change some fields.

After you have changed the fields, click **OK** to close the **Alter Database** window and apply the new settings.

Create and Restore Backup

After you have created a new (and empty) database, you can enter program objects and company data. Before you can create company data, you must import some basic data from a backup copy of the original standard database. This is the demonstration database that is included with the application. The backup must at least include the parts called **Data Common to All Companies** and **Application Objects**. Data common to all companies includes the program's report list and permission groups. When you restore the application objects, the accounting application is transferred to the database.

Microsoft Dynamics NAV has a built-in backup function that lets you create and restore a backup of a Microsoft Dynamics NAV database.

A database backup can consist of:

- Entire Database (including all companies in the database, data common to all companies, and application objects).
- All Companies (including data common to all companies).
- Custom (whatever you select).

After you have imported the application objects and the data common to all companies, you are ready to start creating companies in the database.

To Make a Database Backup

1. Click **Tools > Backup**, and the **Backup** window appears. You use this window to specify how extensive you want the backup to be and to create the database backup.
2. Select the type of backup that you want to make. The options are as follows: **Entire Database**, **All Companies** and **Custom**.
3. If you select **Custom**, you must select the companies that you want copied. You do this in the list of companies under **Selected Companies**. It is always a good idea to make backups of as much information as possible. If you have to restore a backup later, you do not have to restore the whole backup - you can determine how much of the backup should be restored.
4. In the **Description** field, you must give the backup a unique description.
5. In the **File Name** field, enter a name. This is the name under which the backup is saved.

Microsoft Dynamics NAV suggests a consecutive numbering and the file name extension .fbk. It is a good idea to use this system because Microsoft Dynamics NAV uses the same default when you import backups. It also gives you a quick overview of the backups that you have. The file name of the backup should include the path of the folder in which you want to store the backup.

6. As soon as you have specified the name of the backup, and the drive and the folder where you want to save the backup, click **OK** to start making the backup.

The file name of the backup includes the path (location on the disk or network). Therefore, if you enter only a file name, the backup is saved in the current folder on the current drive. This is typically in the same location as Microsoft Dynamics NAV. If you want to save the backup in a different location (because it uses too much space), you have to enter the path together with the name in the **File Name** field. To make this easier, you can click to the right side of the field to save the backup with the correct name and in the desired location.

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While the backup is being made, you can see information about the status of the database being copied (at the top of the window) and of the disk that it is being copied to. If you change your mind about proceeding with the backup, click **Cancel** at the bottom of the window. If you do not cancel it, the backup continues, and you receive a message when it is finished.



Note: We recommend that you use the Microsoft SQL Server backup function to make backups of your production databases.

In practice, you should only use the Microsoft Dynamics NAV backup functions when you create a completely new database, or when you want to restore data from a specific company in a database.

To Restore a Database Backup:

1. Click **Tools > Restore**, and a standard Windows dialog box appears. Use this window to locate the backup that you want to restore.
2. When you have located the backup, click **Open** and the **Restore** window appears. The name of the backup appears in the **File Name** field, and you can see the description and the time and date of its creation. Further down in the window, you can see what was included in the backup:
 - Entire Backup - including all the companies in the database, the data common to all companies, and all the application objects.
 - All Companies - all the companies in the database including the data common to all companies.
 - Custom - what you chose, for example, certain companies, data common to all companies, and the application objects.
3. You can restore less than the complete backup. To do this, clear the check boxes next to items that you do not want included. You must always include **Data Common to All Companies** and **Application Objects** if you are restoring the backup into a completely empty database.
4. After you have made your selection, click **OK** to start restoring the backup. A status window on the screen informs you of the progress.

Restoring the database backup itself does not usually take a long time. But because the data is packed, the subsequent process of generating the complete data can be time-consuming, depending on the amount of data.

Test a Database

You can also use the Microsoft Dynamics NAV Development Environment to determine the state of a database and to correct any database errors. To do this, click **File > Database > Test** to open the **Test Database** window.

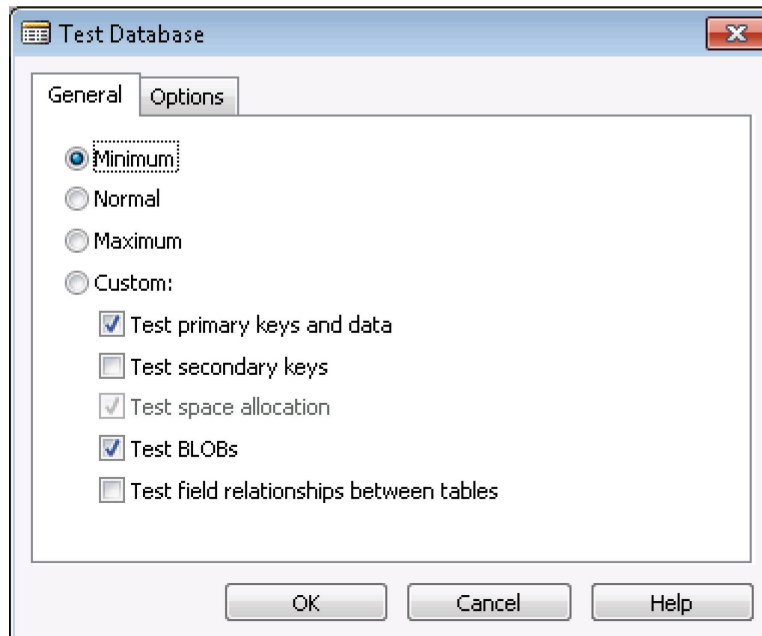


FIGURE 5.7: TESTING A DATABASE WINDOW

In the **Test Database** window, you can specify the extent of the test by selecting one of these options: **Minimum**, **Normal**, **Maximum**, **Custom**.

When you make a selection, the system selects the individual tests that make up the test you have selected. The following table lists the features that are tested during the different tests.

Test Type	Test Fields	Features Checked
Minimum	Test primary keys and data.	All records in all tables can be read. Records are sorted in ascending order according to the primary key. All fields are correct in relation to the field type.

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Test Type	Test Fields	Features Checked
	Test BLOBs.	All BLOBs (fields for pictures - on an item card, for example) can be read.
Normal	Test primary keys and data.	All records in all tables can be read. Records are sorted in ascending order according to the primary key. All fields are correct in relation to the field type.
	Test secondary keys.	All secondary keys in all tables can be read. Records are sorted in ascending order according to the secondary key. All fields are correct in relation to the field type.
	Test space allocation.	All space in the database is either free or used by a sorting key.
	Test BLOBs.	All BLOBs (fields for pictures - on an item card, for example) can be read.
Maximum	All the fields included in the Normal test plus the following:	
	Test relationships between primary and secondary keys.	The connection between the primary and secondary keys is correct.
	Test field relationships between tables.	All fields that have relationships to another table can be accessed from the table to which they are related.

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Test Type	Test Fields	Features Checked
Custom	The same fields as the Maximum test, but you can cancel the tests that you do not want to run	Whatever you select.

Primary and secondary keys are sometimes described as indexes and are used, for example, when you sort information. The keys determine how information in a table is ordered. You switch keys when you want to sort according to a different key.



Note: The **Test space allocation** test cannot be executed when there is more than one user on the system. If you select a test that includes it, and there are other people on the system, space allocation is not tested even though the rest of the test is executed as usual.

On the **Options** Tab in the **Test Database** window, you can specify how the output from the database test is managed. The output from the database test consist of the errors messages that are generated. These can be handled as follows:

- **Screen:** The error messages are displayed on the screen. Every time that an error message appears, you must click **OK** before the test continues. This can be troublesome if the test generates many messages.
- **Event Log:** The error messages are written in the operating system's event log. For more information about the event log, see the operating system's documentation.
- **File:** The error messages are written to a text file. Click the field to specify the name and location of the text file.

If you select **Event Log** or **File**, the database test is not interrupted and does not take so long. You can then review any error messages that were generated and repair the things that caused them.

As soon as you have started the test, a window appears that contains information about the test status.



Best Practice: Before you run any test, configure Development Environment to write test results to a file so that you do not have to acknowledge screen messages for every error found. To do this, open the **Options** tab in the **Test Database** dialog box, click **File**, and type or browse to a path and file name.

Database Information

In the **Database Information** window, you can see the current status of your database. For example, you can see the size of the database and whether it consists of several files. You cannot enter anything in the window. The information is mainly interesting to technical personnel. To open the window, click **File > Database > Information**.

The window has two Tabs:

Tab / Field	Description
General / Database Server	The full name of the SQL Server where the Microsoft Dynamics NAV database is stored. You cannot edit the value in this field.
General / Database Name	The name of the Microsoft Dynamics NAV database that is currently open. You cannot edit the value in this field.
General / SQL Edition	The edition of SQL Server that is running on the database server. You cannot edit the value in this field.
General / Server Instance	The server instance name and server port of Microsoft Dynamics NAV Server. This is the server that is used to run objects in the current database. Choose the field to change the server instance. For more information, see "Managing Microsoft Dynamics NAV Server Instances" and "How to: Change the Microsoft Dynamics NAV Server Instance" in the online Help.
Options / Licensed Sessions	The maximum number of sessions that can be connected to the database with the current license. To view the current Microsoft Dynamics NAV sessions, in the RoleTailored client for Windows, in the Search box, type "Sessions", and then click the related link.

Database Information (Tables)

The **Database Information (Tables)** window lists all the tables in the database. You can use this information to check how efficiently the database is being used.

To open this window click **File > Database > Information**, then click **Tables** at the bottom of the **Database Information** window that appears.

Each table has a set of values that tells you how much the database is used.

For more information, see "Database Information (Tables)" in the online Help.

Managing Companies

Companies

Microsoft Dynamics NAV can access only one logical database at a time, but this database can be divided into one or more companies. A company is a "sub database," and its primary use is to separate and group data in the same database. A company bundles one or more data tables together into a logical superstructure that is identified by the company name.

In principle, you can create as many companies as you want in a database. But in practical terms, you are limited by the space on the server and in the database that you are using (and the number of companies included in the Microsoft Dynamics NAV license file). A company does not require a fixed amount of space, and as you can see in the **New Company** window, you do not have to allocate a certain number of kilobytes (KB) to it. But as you gradually enter more and more data into the company, less room remains in the database.

You can use the Development Environment to do the following:

- Create a new company in a database.
- Delete an existing company in a database.
- Change the name of an existing company.

To delete or rename an existing company, you must first open it in the Development Environment.

Open a Company

To open a company in a database, run the Development Environment and then click **File > Company > Open** to open the **Companies** window. This window lists all the companies to which you have access in the current database. To open a company, select the company name in the list and then click **OK**.

Even when you click **File > Company > Open** for the first time and you have not already created any companies, there can be a company for you to open (if you are using the database that contains the demonstration company). This is the company that is included with the program. It contains a complete version of Microsoft Dynamics NAV and gives examples of how to set up various types of data. For example, it contains a chart of accounts, a list of customers, some items, and posted entries.

It can be helpful to spend some time learning about the program by investigating the demonstration company. You can recognize the demonstration company because its name starts with CRONUS.

You can use the demonstration company in two ways. If you want to see all the facilities in the system (including those for which you have not purchased permissions), you must use the license file that is included with the demonstration company. It is called `cronus.flf`, and you can select it by clicking **Tools > License Information > Change**.

When you examine the demonstration company with your own license file, you see only the functions that your license file allows. Your personal license file is called `fin.flf`. You can select it in the same manner as the demonstration license file. If you work in a larger network, the license file is typically something your system manager provides for you.

For more information about how to open companies, see "How to: Open Companies" in the online Help.

Delete a Company

Periodically, you might have to delete a company in the database. To do this, open the company in the Development Environment and then click **File > Company > Delete**. The program asks you to confirm (two times) that you want to delete the company. To delete the company, confirm that you want to delete the company.

When you delete a company, the whole company including all the data that it contains is deleted. If you have made reports and customizations, they are not deleted. They are saved in the database.

It is not as dangerous to delete a company as it is to delete a database. However, we recommend you make a backup before you delete it.

When you choose to delete the company in this manner, the system asks you two times whether you really want to delete the company.

For more information about how to delete companies, see "How to: Delete Companies" in the online Help.

Create a Company

In principle, you can create as many companies as you want, but in practical terms you are limited by the space on the server and in the database that you are using. A company does not use a fixed amount of space, and as you can see in the **New Company** window, you do not have to allocate a certain number of kilobytes (KB) to it. But as you gradually enter more and more data into the company, less room remains in the database.

To create a company, start the Development Environment and open the database where you want to add a new company. Click **File > Company > New** to open the **New Company** window. In the **Company Name** field, enter the name of the new company. Click **OK** to close the **New Company** window.

You can give the company any name that you want. But if you create a company whose name starts with CRONUS (all in uppercase letters) while you work under a demonstration license file, the company automatically becomes a demonstration company, with all the restrictions that implies (you can only post between November and February, and so on).

The company name can have no more than 30 characters. The company name is case-sensitive, that is, it differentiates between uppercase and lowercase letters. So, you can have one company called COMPANY and another called Company.

When you create the company name, remember that it is written at the top of various reports, so write it exactly as you want it to appear.

For more information about how to create companies, see "How to: Create Companies" in the online Help.

Rename a Company

If you make a mistake while entering the name of a new company, or if you want a different one, you can always rename it. To do this, open the company in the Development Environment and then click **File > Company > Rename** to open the **Rename Company** window. Replace the current name with the new name and then click **OK** to close the window.

Before you rename a company, verify that you are working in the company that you want to rename and that you are the only user who has access to the company.

Renaming a company that has been used and already contains data can take some time.

When you work in the demonstration database that is included with the program, using the `cronus.flf` license file, you can only change the company name to one that begins with CRONUS (with uppercase letters).

For more information about renaming companies, see “How to: Rename Companies” in the online Help.

Managing Licenses

The Demo License

When you install the RoleTailored client for Windows, the demo license is automatically installed. The demo license works with the CRONUS demo database, has serial number 000, and includes granule 540. The license allows access to the whole base application and limited access to the development system.

At first, Microsoft Dynamics NAV uses `CRONUS.flf`, which is the demonstration license file. All license files that are not demonstration license files are named `FIN.flf`. The demonstration license file has a different name so that it cannot be mistakenly overwritten.

When the demo license is installed, you can do the following:

- Start up to two concurrent client sessions on any platform.
- Create up to two companies.
- Support an unlimited number of web users.
- Run with databases of up to 500 MB.
- Run in any supported language.
- Use all application functionality, including add-in products, local extensions, and customizations in current and earlier versions. This means that you can run, but not modify, all object types within the range 1 to 99,999,999.
- Run and modify table 18, forms 21 and 22, report 101, and XMLports 99,008,503 and 99,008,510.
- Run, modify, and create fields 99,990 to 99,999, form 99,999, report 99,999, and MenuSuite 90.

However, the demo license does not offer you unlimited access to the Microsoft Dynamics NAV application.

Constraints of the Demo License

The demo license does not allow you to do the following:

- Import objects in text format, except for form and report ID 99,999.
- Make more than 4,000 transactions in a database.
- Enter dates in months other than November, December, January, and February.

A transaction is any action that requires interaction with the database. This includes posting an order, posting a worksheet, and synchronizing a record.

Country/Region Versions

When you run a country/region version of Microsoft Dynamics NAV, the license must correspond to the country/region version that you have installed.

Any license can be available in different country/region versions. For example, Spanish license ES 4.00 SP2 completely installed can only run with a license serial number ES-ZA-xxx-xxxxx-x; Spanish license ES 4.00 SP2 database that has a W1 4.00 SP2 completely installed can only run with a license serial number W1-ZA-xxx-xxxxx-x.

License Information

The **License Information** window shows the contents of the current license file. The information displayed includes the license number, the name of the license owner, which application granules are included, and when the license expires. Typically when you are working, your own serial number and the name of your company appears in the window.

You do not have to use the **License Information** window in your daily work with companies. However, if you have to speak to your dealer about expanding the program, special modifications, or any problems, you have to open it. To open the window, click **Tools > License Information**.

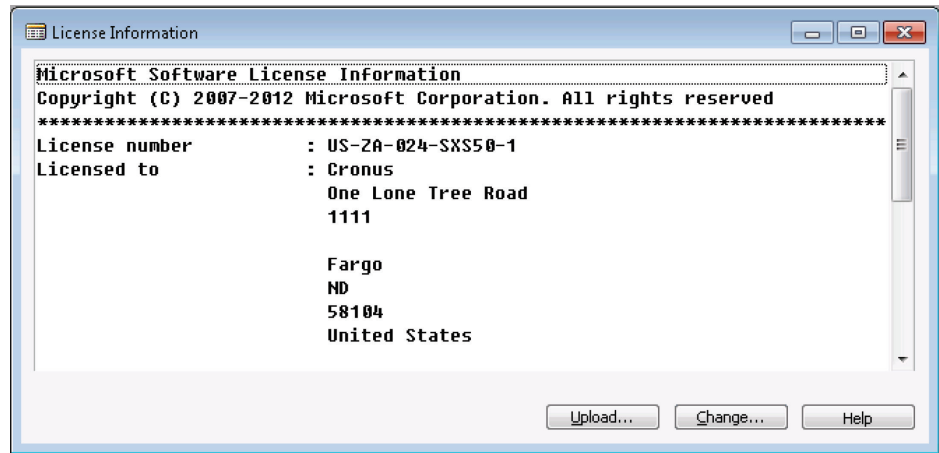


FIGURE 5.8: THE LICENSE INFORMATION WINDOW

The buttons in the **License Information** window are as follows:

Button	Description
Upload	Used to upload your license file to the SQL Server that you want to access. The license information is used by all the client computers that connect to this server unless a database license file is being used.
Change	Used for a temporary change of license file. This function makes sure that the change is not saved the next time that you start the program, and your old license file is used. You must make sure that you use this if you want to use the demonstration license file cronus.fff. Otherwise, you may overwrite your own license file.

Microsoft Dynamics NAV warns you before your license expires. If you let the license on the server expire, you will be unable to access the server. However, you can use the **Change** function to access the server by using an alternative (renewed) license file (and then upload the new license file).

Each of the two functions uses the same type of standard Windows dialog to locate the license file. When you have located the license file, click **Open** to have the system upload or change the license file.

Upload the License

After an administrator or a Microsoft Certified Partner first installs Microsoft Dynamics NAV, the next step is to install the license file that is supplied by Microsoft. You install the license by uploading it to the Microsoft SQL Server that runs the Microsoft Dynamics NAV database.



Note: You can also upload the license by using the PowerShell API. For more information about this, see the Microsoft Dynamics PowerShell module in this course.

Uploading the license file is typically something that you do once for each database installation, not once for each client installation. The license file is saved in the Microsoft SQL Server master database and applies to all Microsoft Dynamics NAV databases on that instance of SQL Server.

However, Microsoft Dynamics NAV lets you upload a license for a specific database only. In this case, the license file is saved in the Microsoft Dynamics NAV database and applies only to that database. To save the license file in the database, be aware of the following:

- You must have the Per Database license granule (2020) in your license.
- You must activate the Save license in database option in the New Database or Alter Database window.

Upload the License to an Instance of SQL Server (All Databases)

The following procedure shows how to upload the license file to SQL Server.



Note: On a computer that is running any version of Windows with User Access Control enabled, you must start the Development Environment with administrative credentials. Right-click **Microsoft Dynamics NAV 2013 Development Environment** on the Start menu, and then click **Run as administrator**.

1. Start the Development Environment.
2. Verify that you are connected to your database. On the **File** menu, click **Database > Open**.
3. On the **Tools** menu, click **License Information**.
4. In the **License Information** window, click **Upload**.

5. In the **Upload License File** dialog box, browse to and open the license file.
The following message appears: "The Server license was successfully uploaded".
6. Restart the Development Environment to activate the license if you want to use it to work in the Development Environment.

Upload a License File for a Specific Database Only

To upload a license file for a specific database only, you must use the **Alter Database** window:

1. In the Development Environment, on the **File** menu, click **Database > Alter**.
2. In the **Alter Database** window, click **Integration**, and then select **Save license in database**.
3. Click **OK** to close the **Alter Database** window.
4. In the **Upload License File** dialog box, browse to and open the license file.

Managing Objects

The Development Environment can be used to modify the application or create new application areas.

Object Designer

When you run the Development Environment and open a database, you see the **Object Designer** window.

The **Object Designer** window is the single entry-point to the Integrated Development Environment of Microsoft Dynamics NAV 2013. It is the starting point for modifying the application and for creating new application areas.

In the Object Designer, you can create new Microsoft Dynamics NAV objects and modify existing objects. You can also import and export Microsoft Dynamics NAV objects in different formats. More information about how to create, modify, import, and export objects, is covered in the course *C/SIDE Introduction in Microsoft Dynamics NAV 2013*.

If you close the **Object Designer** window, you can open it in the following ways:

- Click **Tools > Object Designer**.
- Press Shift+F12.

Lab 5.1: Create a Development Environment

Scenario

To this point, Tim has created two databases: a production database (with the real company data) and a test database (which is a recent copy of the production database). He plans to update the test environment every Saturday by restoring a full backup of the production database in the test environment. (The existing test environment will be overwritten.) Tim suddenly realizes that Mort is also using the test environment for his development activities. Therefore, he cannot overwrite the test database without destroying Mort's work. Tim decides to create a third environment, the Development Environment. To make sure that he keeps all approved customizations, Tim plans to take the application objects from the production database.

Exercise 1: Make a Backup of the Production Database

Task 1: Start the Development Environment

High Level Steps

1. Start Microsoft Dynamics NAV 2013 Development Environment.

Detailed Steps

1. Start Microsoft Dynamics NAV 2013 Development Environment.
 - a. Click **Start > All Programs > Microsoft Dynamics NAV 2013 Development Environment**.

Task 2: Open the Production Database

High Level Steps

1. Open the production database.

Detailed Steps

1. Open the production database.
 - a. Click **File > Database > Open**.
 - b. In the **Server Name** field, enter the name of the SQL Server that runs the production database. In this case: NAV-DC-SQL-SP.
 - c. In the **Database Name** field, enter NAV_DEMO2013_LIVE.
 - d. In the **Authentication** drop-down list, select Windows Authentication.
 - e. Click **OK** to close the **Open Database** window.

Task 3: Select Backup Type

High Level Steps

1. Start backup procedure.

Detailed Steps

1. Start backup procedure.
 - a. Click **Tools > Backup**.
 - b. In the **Backup** window, select the **Custom** option.
 - c. In the **Selected Companies** list, make sure that the CRONUS International Ltd. company is selected.
 - d. Make sure that the **Data common to all companies** and **Application Objects** options are selected.
 - e. In the **Description** field, type a short description for the backup. In this case, you can type "LIVE DB Backup – To Create DEV DB".
 - f. In the **File Name** field, type the path and file name for the backup. In this case, you can type "C:\Users\Administrator\Desktop\CH5_LIVEDB.fbk".

Task 4: Start Backup

High Level Steps

1. Start backup.

Detailed Steps

1. Start backup.
 - a. In the **Backup** window, click **OK** to start the backup procedure.
 - b. When the backup has finished, a message appears on the screen. Click **OK** to close the message.

Task 5: Close the Production Database

High Level Steps

1. Close the production database.

Detailed Steps

1. Close the production database.
 - a. Click **File > Database > Close** to close the production database.

Exercise 2: Create a New Database

Exercise Scenario

Tim creates a new database for development.

Task 1: Connect to the SQL Server

High Level Steps

1. Connect to the SQL Server.

Detailed Steps

1. Connect to the SQL Server.
 - a. Click **File > Database > New**.
 - b. In the **Server Name** field, type the name of the SQL Server where you want to create the database. In this case, type "NAV-DC-SQL-SP".
 - c. In the **Authentication** field, select Windows Authentication.
 - d. Click **OK** to connect to the SQL Server.

Task 2: Create a Database

High Level Steps

1. Create a new database.

Detailed Steps

1. Create a new database.
 - a. On the **General** tab, in the **Database Name** field, enter NAV_DEMO2013_DEV.
 - b. On the **Collation** tab, click the **Case-sensitive** check box to clear the selection.
 - c. On the **Options** tab, in the **Recovery model** field, select **Simple**.
 - d. Click **OK** to create the database.

Exercise 3: Restore a Backup in the Development Database

Task 1: Open the Development Database

High Level Steps

1. Open the development database.

Detailed Steps

1. Open the development database.
 - a. Click **File > Database > Open**.
 - b. In the **Server Name** field, enter NAV-DC-SQL-SP.

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- c. In the **Database Name** field, enter NAV_DEMO2013_DEV.
- d. In the **Authentication** field, select Windows Authentication.
- e. Click **OK** to open the database.

Task 2: Select the Backup File to Restore

High Level Steps

1. Select the backup file to restore.

Detailed Steps

1. Select the backup file to restore.
 - a. Click **Tools > Restore**.
 - b. In the **Restore** dialog box, browse to the CH5_LIVEDB.fbk backup file (in the C:\Users\Administrator\Desktop folder).
 - c. In the **Restore** dialog box, click **Open**.

Task 3: Restore Application Objects and Common Data

High Level Steps

1. Restore Application Objects and Common Data.

Detailed Steps

1. Restore Application Objects and Common Data.
 - a. In the **Restore** window, click the **Selected Companies** field to clear the selection.
 - b. Make sure that the **Data common to all companies** and **Application Objects** options are selected.
 - c. Click **OK** to start the restore.
When the restore is finished, you receive the "The 'LIVE DB – Create DEV Env.' Backup was successfully restored" message.
 - d. Click **OK** to close the message.

Task 4: Close the Development Database

High Level Steps

1. Close the development database.

Detailed Steps

1. Close the development database.
 - a. Click **File > Database > Close** to close the development database.

Lab 5.2: Restore Company Data

Scenario

When Mort opens the development database, he notices that there is no company and no company data in the database (except for the common data). He can create a new company but then he still has to enter data himself. Mort asks Tim to restore the company data from the production or the test database in the development database.

Exercise 1: Restore a Company in the Development Database

Task 1: Open the Development Database

High Level Steps

1. Open the development database.

Detailed Steps

1. Open the development database.
 - a. In the Microsoft Dynamics NAV 2013 Development Environment, click **File > Database > Open**.
 - b. In the **Server Name** field, enter NAV-DC-SQL-SP.
 - c. In the **Database Name** field, enter NAV_DEMO2013_DEV.
 - d. In the **Authentication** field, select Windows Authentication.
 - e. Click **OK** to open the database.

Task 2: Select the Backup File to Restore

High Level Steps

1. Select the backup file to restore.

Detailed Steps

1. Select the backup file to restore.
 - a. Click **Tools > Restore**.
 - b. In the **Restore** dialog box, browse to the CH5_LIVEDB.fbk backup file (in the C:\Users\Administrator\Desktop folder).
 - c. In the **Restore** dialog box, click **Open**.

Task 3: Restore a Company

High Level Steps

1. Restore a company.

Detailed Steps

1. Restore a company.
 - a. In the **Restore** window, click the **Custom** option.
 - b. In the **Selected Companies** list, select the CRONUS International Ltd. company.
 - c. Click **OK** to start the restore.
When the restore is finished, you receive the "The 'LIVE DB – Create DEV Env.' Backup was successfully restored" message.
 - d. Click **OK** to close the message.

Task 4: Close the Development Database

High Level Steps

1. Close the development database.

Detailed Steps

1. Close the development database.
 - a. Click **File > Database > Close** to close the development database.

Lab 5.3: Alter the Database

Scenario

When he starts developing, Mort notices that all new controls, variables, and text constants are assigned IDs starting from 1,000,000,000. This makes it difficult to trace the origin of a specific control. To structure his customizations, Mort want to assign IDs starting from 90,000. So, he asks Tim to change the **Start ID (UidOffset)** parameter for the development database.

Exercise 1: Change the Start ID (UidOffset) Parameter

Task 1: Open the Development Database

High Level Steps

1. Open the development database.

Detailed Steps

1. Open the development database.
 - a. In the Microsoft Dynamics NAV 2013 Development Environment, click **File > Database > Open**.
 - b. In the **Server Name** field, enter NAV-DC-SQL-SP.
 - c. In the **Database Name** field, enter NAV_DEMO2013_DEV.
 - d. In the **Authentication** field, select Windows Authentication.
 - e. Click **OK** to open the database.

Task 2: Alter the Database

High Level Steps

1. Open the **Alter Database** window.
2. Change the database setting.

Detailed Steps

1. Open the **Alter Database** window.
 - a. Click **File > Database > Alter**.
2. Change the database setting.
 - a. On the **Advanced** Tab, in the **Start ID (UidOffset)** field, type "90000".
 - b. Click **OK** to close the **Alter Database** window.

Task 3: Close the Development Database

High Level Steps

1. Close the development database.

Detailed Steps

1. Close the development database.
 - a. Click **File** > **Database** > **Close** to close the development database.

Module Review

Module Review and Takeaways

The Development Environment lets you manage databases, companies, objects, and licenses.

Test Your Knowledge

Test your knowledge with the following questions.

1. Which functions does the **License Information** window have?
 - Import, Export
 - Upload, Import, Export, Change, Delete
 - Upload, Import, Export, Change
 - Upload, Change
 - Upload, Download
2. How many companies can you create in a Microsoft Dynamics NAV database?
 - 1
 - 2
 - 5
 - 99
 - Unlimited
3. What is TRUE about the Development Environment?
 - It can be installed as an alternative for the RoleTailored client.
 - It connects to the Microsoft Dynamics NAV database through Microsoft Dynamics NAV Server.
 - It has a multilanguage-enabled user interface.
 - It must be used to manage database users.
 - It is the recommended tool for making backups of production databases.

Test Your Knowledge Solutions

Module Review and Takeaways

1. Which functions does the **License Information** window have?
 - Import, Export
 - Upload, Import, Export, Change, Delete
 - Upload, Import, Export, Change
 - Upload, Change
 - Upload, Download
2. How many companies can you create in a Microsoft Dynamics NAV database?
 - 1
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 - 99
 - Unlimited
3. What is TRUE about the Development Environment?
 - It can be installed as an alternative for the RoleTailored client.
 - It connects to the Microsoft Dynamics NAV database through Microsoft Dynamics NAV Server
 - It has a multilanguage-enabled user interface.
 - It must be used to manage database users.
 - It is the recommended tool for making backups of production databases.

