

# MODULE 4: MICROSOFT DYNAMICS NAV CLIENT INSTALLATION

## Module Overview

In the previous modules, you have seen that Microsoft Dynamics NAV 2013 supports multiple client types. All client types can be installed by using Microsoft Dynamics NAV 2013 Setup.

Although the Development environment and NAS services are also considered as Microsoft Dynamics NAV 2013 clients, they are not described in this module. The module "Microsoft Dynamics NAV Server" describes how to install and manage NAS services. The Development environment is described in the module "The Developer Environment".

The Microsoft Dynamics NAV Administration Tool is a Microsoft Management Console (MMC) snap-in for creating and managing Microsoft Dynamics NAV Server instances. Therefore, it is not considered a Microsoft Dynamics NAV client. The tool is described in the module "Microsoft Dynamics NAV Server".

Microsoft Dynamics NAV 2013 uses the Microsoft software platform. Therefore, all the software prerequisites of Microsoft Dynamics NAV are part of the Microsoft software stack. For a list of software requirements for the different client types, see the module "Installation Requirements."

## Objectives

The objectives are:

- Install Microsoft Dynamics NAV 2013 in a stand-alone environment.
- Install Microsoft Dynamics NAV 2013 RoleTailored clients for Windows on a network.
- Install Microsoft Dynamics NAV Web client.
- Install Microsoft Dynamics NAV Portal Framework for Microsoft SharePoint.
- Install additional languages.
- Explain how to configure the Microsoft Dynamics NAV RoleTailored client for Windows to support WAN connections.
- Explain how to install additional interface languages for Microsoft Dynamics NAV 2013.

# Install the RoleTailored Client for Windows

### Run Setup

Microsoft Dynamics NAV 2013 can be installed on a single computer to create a stand-alone environment for demonstration and development. You can run Microsoft Dynamics NAV Setup and select the Install Demo option to create a stand-alone environment. When you select this option, the following components are installed on the computer:

- RoleTailored client for Windows
- Development environment
- Microsoft Dynamics NAV Server
- Demo database and demo license

In addition, Microsoft® SQL Server® 2008 Express Edition is installed if the computer does not already have Microsoft SQL Server installed.

However, when you deploy Microsoft Dynamics NAV 2013, you typically do not run the Install Demo option on each client computer in the network because you do not have to have a data and a server tier on each client computer. Instead, you install one of the client types on the client computers and then connect to the server tier.

The RoleTailored client for Windows (and the other client types) can be installed by using Microsoft Dynamics NAV 2013 Setup. When you install Microsoft Dynamics NAV 2013, you can select from several prepackaged installation options (each designed for a typical use or type of user) or you can perform a customized installation that fully meets your needs.

To install the RoleTailored client for Windows, select one of the following installation options:

- Client
- Developer
- Custom

The installation option determines which components are installed on the computer. For example, if you install the Client option, the RoleTailored client for Windows is installed without the Development environment. With the Developer option, the RoleTailored client for Windows, the Development environment, the Documentation, and the Microsoft Dynamics NAV Administration components are installed on the client computer.



**Note:** To install the Microsoft® Office Outlook® Add-In for Microsoft Dynamics NAV 2013, you must install Microsoft Office Outlook before you install the RoleTailored client for Windows.

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After you install the product, you can start the RoleTailored client for Windows on the **Start** menu.

### Documentation

The Documentation component includes several technical documents that can be very useful for Microsoft Dynamics NAV administrators, developers, and application setup consultants:

- Application Guides: this folder contains several documents that can help when you set up companies in Microsoft Dynamics NAV.
- Developer Guides: the Developer and IT Pro Help (devitpro.chm).
- Install Guides: the *Hardware Sizing Guide* for Microsoft Dynamics NAV and the *Security Hardening Guide*.

When you install the Document component, you can specify the destination folder for the documents on the **Specify parameters** page. The default folder is C:\Program Files (x86)\Microsoft Dynamics NAV\70, but you can change this.

### Adding and Removing Product Components

If you want to add new Microsoft Dynamics NAV components and features on a computer that already contains some components, you have to run Microsoft Dynamics NAV Setup again on that computer. Microsoft Dynamics NAV Setup automatically checks for existing components and starts in Maintenance mode.



**FIGURE 4.1: MICROSOFT DYNAMICS NAV SETUP WINDOW IN MAINTENANCE MODE**

In Maintenance mode, you can select from three options:

Option	
<b>Add/Remove Components</b>	Use this option to add or remove Microsoft Dynamics NAV product components. It also lets you customize how your installed programs run. Newly selected components are added; cleared components are removed.
<b>Repair</b>	Use this option to repair the Microsoft Dynamics NAV installation. This can be useful if the installed program files are corrupted.
<b>Uninstall</b>	Use this option to remove Microsoft Dynamics NAV from your computer.

When you select Add/Remove Components, Microsoft Dynamics NAV Setup first shows you the **Customize the installation** page (where you can select additional components or clear existing components) and then the **Specify Parameters** page (where you can enter specific configuration parameters for the newly added components). After you specify the necessary parameters, you can either **Save** the configuration to a file or click **Apply** to start the installation.



**Note:** When you uninstall Microsoft Dynamics NAV 2013, the Microsoft Dynamics NAV database is not removed. You must remove it manually. The same applies to the Microsoft Dynamics NAV license file and any other software prerequisite for Microsoft Dynamics NAV (for example, the Microsoft .NET Framework 4.0).

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### Demonstration: Install the RoleTailored Client for Windows in a Network

This demonstration shows how to install the RoleTailored client for Windows in a network.

#### 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 the **Open File - Security Warning** message appears (asking whether you want to run the setup.exe application), click **Run**.
  
3. Select the Client 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, click **Select an Installation Option**.
  - d. On the **Choose an installation option** page, click **Client**.
  - e. On the **Specify parameters** page, in the **Server Name** field, type the name of the computer where the Microsoft Dynamics NAV Server instance you want to connect to is installed.

- f. In the **Service Name** field, type the name of the Microsoft Dynamics NAV Server instance to which you want to connect.
  - g. Select **Apply** to start the installation.
- Setup now installs the RoleTailored client for Windows.

### **Demonstration: Install the Development environment**

By default, when you install the RoleTailored client for Windows by using the Client installation option, the Development environment is not installed. This demonstration shows how to add the Development environment to a computer that is running the RoleTailored client for Windows.

#### **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** in the left pane 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 the **Open File - Security Warning** message appears (asking whether you want to run the setup.exe application), click **Run**.
3. Add the Development environment (C/SIDE) component.
  - a. On the **Maintenance** page, click **Add or remove components**.
  - b. On the **Customize the installation** page, double-click the Client node to expand it.
  - c. Click the icon at the left of the **Development environment (C/SIDE)** item.
  - d. Click **Run from My Computer**.
  - e. On the **Customize the installation** page, click **Next**.
  - f. On the **Specify parameters page**, click **Apply**.

Microsoft Dynamics NAV Setup now adds the Development environment and all prerequisite software components.

### Set Up Configuration Files

When you install the RoleTailored client for Windows, you must select the components to install and specify several setup parameters to be saved to a client configuration file.

In larger networks, you have to select the components and enter the parameters on each RoleTailored client for Windows computer. This can be very time consuming and easily lead to typing errors (causing incorrect configurations).

To streamline the setup process, Microsoft Dynamics NAV Setup lets you capture and save a set of setup decisions (such as the components to install and the parameters to use) to a Setup configuration file. You can then distribute this configuration file and use it on any other computer to install the RoleTailored client for Windows. Instead of selecting the components one by one and specifying all the parameters manually, you load the Setup configuration file and continue Setup.



**Best Practice:** *In large networks, we recommend that you copy the Microsoft Dynamics NAV 2013 product DVD to a shared network folder that can be accessed from all clients. You might add a separate folder that contains the Setup configuration files for your convenience.*

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### Modify a Setup Configuration File

If you have to change an existing Setup configuration file, you can run Microsoft Dynamics NAV Setup on a computer without any Microsoft Dynamics NAV components installed. You can load it into Setup, make the desired modifications, and then save it. You do not have to install any software during this process.

Setup configuration files can also be used to install Microsoft Dynamics NAV Setup from the command line. This is illustrated in the next lesson.

### Run Setup on the Command Line

Microsoft Dynamics NAV 2013 Setup can also be run from a command prompt. On the Microsoft Dynamics NAV installation media, setup.exe is in the root directory. To start Microsoft Dynamics NAV Setup from the command line, follow these steps:

- Open a command prompt.
- Run setup.exe from the Microsoft Dynamics NAV 2013 installation media.  
This opens the Microsoft Dynamics NAV Setup wizard.



**Note:** If User Access Control is turned on, you must open the command prompt with administrative credentials. To do this, click **Start > All Programs > Accessories**. Right-click **Command Prompt**, and then click **Run as administrator**.

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You can use the following options with setup.exe.

Setup Option	Description
<b>/config &lt;setup configuration file&gt;</b>	Specifies path and file name information for a Microsoft Dynamics NAV 2013 Setup configuration file to load. This is the only required option.
<b>/help</b>	Displays Help about setup.exe options.
<b>/log &lt;log file&gt;</b>	Specifies path and file name information for a Setup log file to be created by Setup. The file must not exist before you run Setup.
<b>/quiet</b>	Specifies that Setup does not display anything on the screen. All configuration information is taken from the specified configuration file.
<b>/repair</b>	Repairs the current installation of Microsoft Dynamics NAV 2013.
<b>/uninstall</b>	Removes the current installation of Microsoft Dynamics NAV 2013.

## Install Business Web Service Components

Microsoft Dynamics NAV business web services are considered a client because they interact with the Microsoft Dynamics NAV database through Microsoft Dynamics NAV Server. However, unlike other client types, business web services cannot be installed as a separate component in Microsoft Dynamics NAV Setup: they can only be installed as part of the Microsoft Dynamics NAV Server component. In other words, if you want to install the Microsoft Dynamics NAV business web services on a computer, you have to install the Microsoft Dynamics NAV Server component first. After that, you can use the Microsoft Dynamics NAV Administration Tool to enable business web services (SOAP web services or OData web services).



### Install Business Web Services

For more information about how to install and administer Microsoft Dynamics NAV, see the module "Microsoft Dynamics NAV Server".

After you have installed the Microsoft Dynamics NAV Server and enabled web services, you can publish Microsoft Dynamics NAV pages, codeunits, and queries as web services by using the RoleTailored client.

### SOAP and OData Web Services

Web services are a lightweight, industry-standard way to make application functionality available to many different external systems and users. Microsoft Dynamics NAV 2013 supports creation and publishing of Microsoft Dynamics NAV functionality as web services. You can expose pages, codeunits, or queries as web services, and even improve a page web service by adding an extension codeunit. When you publish Microsoft Dynamics NAV objects as web services, they are immediately available on the network.

Developers can publish two types of web services from Microsoft Dynamics NAV objects:

- **SOAP Web Services.** You can publish either Microsoft Dynamics NAV pages or codeunits as SOAP services.
- **OData Web Services.** You can publish either pages or queries as OData services.

OData web services are a new addition to Microsoft Dynamics NAV 2013, complementing the SOAP web services that have been available in earlier versions. A developer who plans to create Microsoft Dynamics NAV web services may have to decide which type of web service is better suited to the company's needs.

### SOAP Web Services

SOAP web services provide full flexibility for building operation-centric services. They provide industry standard interoperability. Windows Communication Framework (WCF) has supported SOAP services since its initial release in the .NET Framework 3.0, and .NET 4 adds more support and default bindings to make it easier to build SOAP services using WCF.

The most common messaging pattern in SOAP is the remote procedure call (RPC), where one network node (the client) sends a request message to another node (the server), and the server sends a response message to the client.

### **OData Web Services**

The OData standard is good for web service applications that require a uniform, flexible, general purpose interface for exposing create retrieve update delete (CRUD) operations on a tabular data model to clients. OData is less appropriate for applications that are primarily RPC oriented or in which data operations are constrained to certain prescribed patterns. OData supports Representational State Transfer (REST)-based data services. These enable resources, identified using Uniform Resource Identifiers (URIs) and defined in an abstract data model (i.e. the Entity Data Model (EDM)), to be published and edited by web clients within corporate networks and across the Internet by using simple HTTP messages. OData services are lightweight, with functionality frequently referenced directly in the URI.

.NET Framework 4.0 is enhanced with WCF Data Services, which implement all the non-NAV-specific parts of the OData stack. Visual Studio service references "understand" OData services and can generate EDM-based proxies. This enables the developer to use LINQ to write the data access logic.

Whereas SOAP web services expose a WSDL document, OData web services expose an EDMX document that contains metadata for all published web services.

OData is supported in PowerPivot, a data-analysis add-in to Microsoft Excel 2010 that provides enhanced business intelligence capabilities. PowerPivot supports sharing and collaboration on user-generated business intelligence solutions in a Microsoft SharePoint Server 2010 environment. For more information about PowerPivot, see <http://www.powerpivot.com/>.

The extensions to the Atom Publishing Protocol that are defined in the AtomPub extensions to the OData protocol documentation describe how REST-based data services can enable resources. These are identified by using URIs and defined in an abstract data model (EDM), to be published and edited by web clients within corporate networks and across the Internet by using simple HTTP messages.

In addition to the AtomPub format, the OData implementation in Microsoft Dynamics NAV 2013 also supports the JSON format, a somewhat less verbose format that may perform better in low-bandwidth environments.

### **Publish a Web Service**

After you create a web service in the RoleTailored client, you must publish the web service so that it is available to service requests over the network. Users can discover web services by pointing a browser or a tool such as Visual Studio at the computer that is running Microsoft Dynamics NAV Server and requesting a list of available services. When you publish a web service, it is immediately available over the network for authenticated users. All authorized users can access metadata for Microsoft Dynamics NAV web services, but only users who have sufficient Microsoft Dynamics NAV permissions can access actual data.



**Note:** *Codeunit and Page are valid object types for SOAP web services. Page and Query objects are valid types for OData web services.*

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### Demonstration: Publish a Page as Web Service

This demonstration shows how to publish a Page object as a web service. The page is then available as both an OData and a SOAP web service.

#### Demonstration Steps

1. Publish a Web service.
  - a. Open the RoleTailored client for Windows and connect to the CRONUS International Ltd. demonstration company.
  - b. In the Search box on your Home page in the RoleTailored client for Windows, type "Web services" and then press Enter. The Web Services page opens.
  - c. In the **Web Services** page, click **New**.
  - d. In the **Object Type** column, click **Page**, and then type "21" in the **Object ID** column and "Customer" in the **Service Name** column.



**Note:** *The service name is visible to consumers of your web service and is the basis for identifying and distinguishing web services. So, you should make the name meaningful. If you are setting up integration with Microsoft Outlook by using codeunit 5313, then you must use **DynamicsNAVsynchOutlook** as the service name.*

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- e. Select the check box in the **Published** column.
- f. Click **OK** to exit the **New - Web Services** page.

### Verify Web Service Availability

After you publish a web service, it is available on the Microsoft Dynamics NAV Server instance to which you were connected when you published. The web service is available across all Microsoft Dynamics NAV companies on the server instance, not just the one that the RoleTailored client was using to publish the web service.



**Note:** After publishing a web service, verify that the port that web service applications use to connect to your web service is open. The default port for SOAP-based web services is set to 7047. The default port for OData-based web services is 7048. The value can be configured by using the Microsoft Dynamics NAV Administration Tool. For more information about this tool, see the module "Installation Requirements".

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You can verify the availability of the web service by using a browser.

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**Note:** You must modify your Internet Explorer settings to display the actual XML for a feed instead of the feed content that has changed. To turn off the feed reading view, click **Tools > Internet Options > Content > Feeds and Web Slices > Settings** and clear the **Turn on feed reading view** check box. Restart Internet Explorer to enable the new setting.

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## Verify Availability of an OData Web Service

To check the availability of OData web services on a Microsoft Dynamics NAV Server, follow these steps:

1. Start Internet Explorer.
2. In the Address field, enter a URI in this format: `http://<Server>:<WebServicePort>/<ServerInstance>/OData`.  
For example: `http://localhost:7048/DynamicsNAV/OData`



**Note:** The company name is case-sensitive. It is optional if you only want to verify the availability of SOAP web services. When you use the web service to access data in the Microsoft Dynamics NAV database, you must include the company name.

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The browser should now show the web service that you have published, in the format of an AtomPub document:

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```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <service xmlns="http://www.w3.org/2007/app" xmlns:app="http://www.w3.org/2007/app"
  xmlns:atom="http://www.w3.org/2005/Atom" xml:base="http://localhost:7048/DynamicsNAV/OData/">
  - <workspace>
    <atom:title>Default</atom:title>
    - <collection href="Customer">
      <atom:title>Customer</atom:title>
    </collection>
    - <collection href="Company">
      <atom:title>Company</atom:title>
    </collection>
  </workspace>
</service>
```

**FIGURE 4.2: LIST OF AVAILABLE ODATA WEB SERVICES**

The figure List of Available OData Web Services shows two OData web services: Customer and Company.

To view the customers for a specific company in the database, you have to enter the URI in this format:

**http://**

**<Server>:<WebServicePort>/<ServerInstance>/OData/Company('<CompanyName>')/<CustomerWebServiceName>**

The following URI can be used to retrieve data from the CRONUS International Ltd. company through the OData web service called Customer:

**http://localhost:7048/DynamicsNAV/OData/Company('CRONUS International Ltd.)/Customer**

### Verify Availability of a SOAP Web Service

To check the availability of SOAP web services on a Microsoft Dynamics NAV Server, follow these steps:

1. Start Internet Explorer.
2. In the Address field, enter a URI in this format: `http://<Server:WebServicePort>/<ServerInstance>/WS/<CompanyName>/Services`  
For example: `http://localhost:7047/DynamicsNAV/WS/CRONUS International Ltd./Services`



**Note:** The company name is case sensitive. It is optional if you only want to verify the availability of SOAP web services. When you use the web service to access data in the Microsoft Dynamics NAV database, you must include the company name.

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The browser should now show the web service that you have published, in the format of an XML document:

```
- <discovery xmlns="http://schemas.xmlsoap.org/disco/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <contractRef ref="http://localhost:7047/DynamicsNAV/WS/SystemService"
    xmlns="http://schemas.xmlsoap.org/disco/scl" />
  <contractRef ref="http://localhost:7047/DynamicsNAV/WS/Page/Customer"
    xmlns="http://schemas.xmlsoap.org/disco/scl" />
</discovery>
```

**FIGURE 4.3: LIST OF AVAILABLE SOAP WEB SERVICES**

The figure List of Available SOAP Web Services shows two SOAP web services: Customer and SystemService.

## SystemService and Company Services

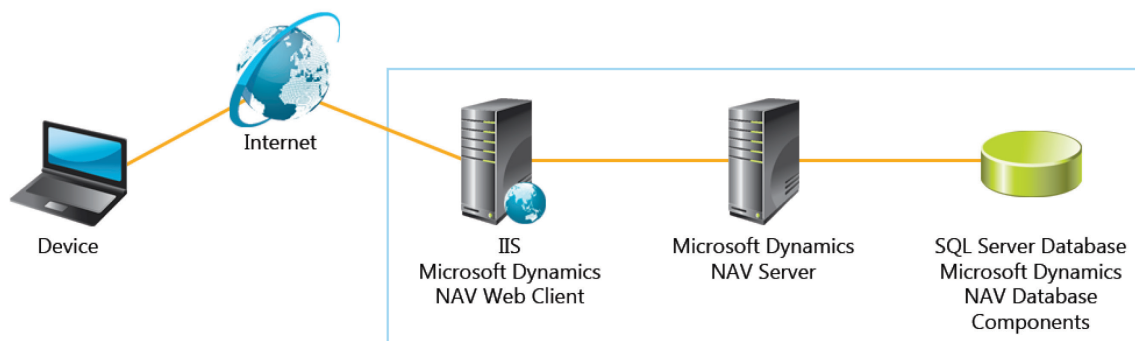
You can use the SystemService service in a SOAP web service application to retrieve a list of companies available in a specific database. A company name is typically part of the URI when you access a Microsoft Dynamics NAV web service, and the system service lets you retrieve names of available companies.

Similarly, you can use the Company service in an OData web service application to retrieve a list of companies in a specific database.

## Install Web Client

You install the Microsoft Dynamics NAV Web client on a computer that is running Internet Information Services. For the Microsoft Dynamics NAV 2013 Web client to work correctly, you must have a working connection to a Microsoft Dynamics NAV Server instance that connects to a Microsoft Dynamics NAV database.

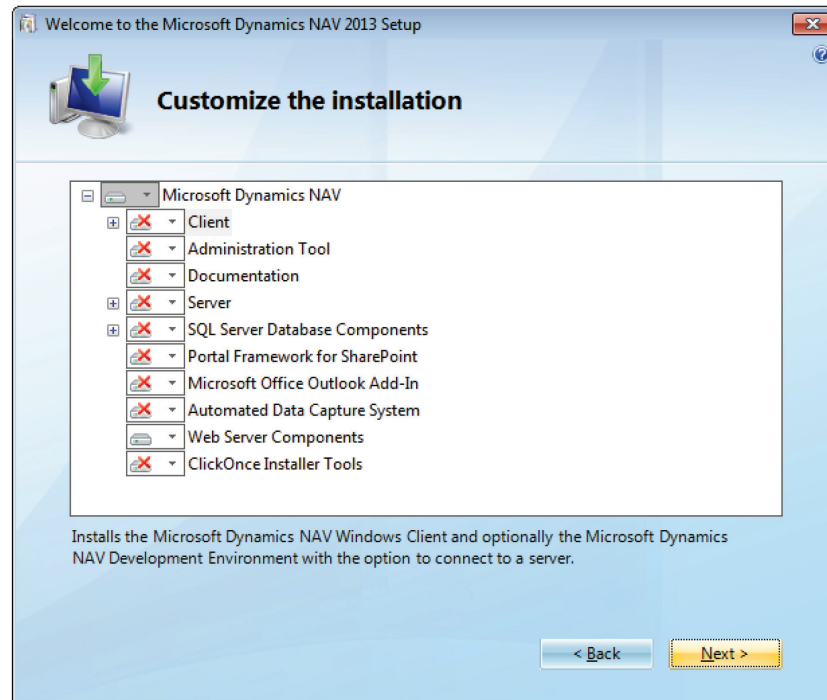
The following figure shows the components involved in the setup:



**FIGURE 4.4: MICROSOFT DYNAMICS NAV WEB CLIENT SETUP WINDOW**

### Set Up Web Client

To install Microsoft Dynamics NAV Web client, run Microsoft Dynamics NAV 2013 Setup. The Web client can be installed only as part of a Custom installation option.



**FIGURE 4.5: INSTALLING THE MICROSOFT DYNAMICS NAV WEB CLIENT WINDOW**

The Microsoft Dynamics NAV Web Server components can be installed only on a computer on which the following programs are present:

- Microsoft Internet Information Server (IIS)
- ASP.NET
- Windows Authentication

Setup installs a website for Microsoft Dynamics NAV Web client on an Internet Information Services server and configures the connection from Microsoft Dynamics NAV Web client to Microsoft Dynamics NAV Server. By default, Setup configures the Microsoft Dynamics NAV Web client to connect to a Microsoft Dynamics NAV Server instance on the same computer. The instance has the following default parameters:

- Server name: localhost
- Service instance: DynamicsNAV
- Service port: 7046

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However, you can change the default values during Setup. The connection information is saved in the web.config file of the Microsoft Dynamics NAV Web client site.

You can install Microsoft Dynamics NAV Web client on the same computer as the Microsoft Dynamics NAV Server or a separate computer. If you install Microsoft Dynamics NAV Web client on a different computer than Microsoft Dynamics NAV Server, then you must set up delegation between the Microsoft Dynamics NAV Web client and the Microsoft Dynamics NAV Server. For more information, see Set Up Delegation later in this lesson.

### Configure after Setup

After installation, you can change the configuration by modifying the web.config file.

The web.config file is an .xml file that you can edit by using a text editor, such as Notepad. By default, the web.config file is located in the C:\Programs (x86)\Microsoft Dynamics NAV\70\Web Client folder.



**Note:** After you modify the web.config file, if you have Microsoft Dynamics NAV Web client open in the Internet browser, the changes do not take effect until you close the browser and then reopen Microsoft Dynamics NAV Web client.

*Please be aware that all values must be enclosed in quotation marks.*

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The Microsoft Dynamics NAV Web client settings are included in the <DynamicsNAVSettings> tag in the web.config file. The following table describes the settings that are available in the <DynamicsNAVSettings> tag.

Setting	Description
AllowNtlm	Specifies whether NT LAN Manager (NTLM) fallback is permitted for authentication. To require Kerberos authentication, set this value to false. Values: true, false Default value: true
ClientServicesChunkSize	Sets the maximum size, in kilobytes, of a data chunk that is transmitted between Microsoft Dynamics NAV Web client and Microsoft Dynamics NAV Server. Data that is transmitted between Microsoft Dynamics NAV Web client and Microsoft Dynamics NAV Server is broken down into smaller units called chunks, and then reassembled when it reaches its destination. Values: From 4 to 80. Default: 28.



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Setting	Description
Company	<p>Sets the company to which Microsoft Dynamics NAV connects. If you do not define a company, then the system uses the company currently used by the RoleTailored client for Windows for the user.</p> <p>Values: A company defined in the Microsoft Dynamics NAV solution.</p> <p>Default value: none</p>
ClientServicesCompressionTreshold	<p>Sets the threshold in memory consumption at which Microsoft Dynamics NAV Web client starts compressing data sets. This limits amount of consumed memory. The value is in kilobytes.</p> <p>Default: 64</p>
TimeZone	<p>Sets the time zone for Microsoft Dynamics NAV Web client. The time zone applies to all date and time data that a user views or enters in the Microsoft Dynamics NAV Web client.</p> <p>Values: A time zone that is included in the registry of the computer that is running Microsoft Dynamics NAV Web client. You find the time zones in the registry under HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Time Zones. The value must match a time zone that is listed in the registry. For example, you can set the value to "Pacific Standard Time" or "Central Europe Standard Time."</p> <p>Default value: UTC</p>
Language	<p>Sets the language version of Microsoft Dynamics NAV objects to display in Microsoft Dynamics NAV Web client.</p> <p>Values: Any languages that are available for the Microsoft Dynamics NAV solution.</p> <p>Default value: en-US</p>

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Setting	Description
OpenConnectionTimeout	<p>Specifies the maximum time allowed to establish a connection from the Microsoft Dynamics NAV Web client to the Microsoft Dynamics NAV Server before the session is ended.</p> <p>The time has the format [dd.]hh:mm:ss[.ff]:</p> <ul style="list-style-type: none"><li>• dd is the number of days</li><li>• hh is the number of hours</li><li>• mm is the number of minutes</li><li>• ss is the number of seconds</li><li>• ff is fractions of a second</li></ul> <p>If you do not want a time-out, then set the value to MaxValue.</p> <p>Default value: 00:00:30</p>
ClientServicesProtectionLevel	<p>Specifies the security services used to protect the data stream between the Microsoft Dynamics NAV Web client and Microsoft Dynamics NAV Server. This value must match the value that is specified in the Microsoft Dynamics NAV Server configuration file. For more information, see <i>Configuring Microsoft Dynamics NAV Server</i></p> <p>Values: EncryptAndSign, Sign, None</p> <p>Default value: EncryptAndSign</p>
Server	<p>Specifies the name of the computer that is running the Microsoft Dynamics NAV Server.</p> <p>Default value: localhost</p>
ServerInstance	<p>Specifies the name of the Microsoft Dynamics NAV Server instance to which the Microsoft Dynamics NAV Web client connects.</p> <p>For more information, see the Microsoft Dynamics NAV Server module of this course.</p> <p>Default value: DynamicsNAV</p>

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Setting	Description
ClientServicesCredentialsType	<p>Include this key only when the Microsoft Dynamics NAV Web client uses form-based authentication to authenticate users.</p> <p>Specifies how Microsoft Dynamics NAV Web client users are authenticated when they connect to Microsoft Dynamics NAV Server.</p> <p>Set to <b>Windows</b> to use Windows authentication. Users' Windows logon credentials are used. Therefore, users are not prompted for a user name or password.</p> <p>Set to <b>UserName</b> to authenticate users with a user name and password that is set up in Microsoft Dynamics NAV. When users try to access Microsoft Dynamics NAV Web client, they are prompted for a user name and password. In Microsoft Dynamics NAV, the user name and password that is provided by a user is authenticated against an Active Directory user. This setting can be used with form-based authentication.</p> <p>Set to <b>NavUserPassword</b> to authenticate users on a user name and password that is set up in Microsoft Dynamics NAV. When users try to access Microsoft Dynamics NAV Web client, they are prompted for a user name and password. The difference between NavUserPassword and UserName is that with NavUserPassword, a user is authenticated directly against the user name and password, whereas with UserName the user is authenticated against a Windows account in Active Directory.</p> <p>You must also configure the <b>ClientServicesCredentialType</b> parameter in Microsoft Dynamics NAV Server to match the value in the Microsoft Dynamics NAV Web client configuration file. See the module "Microsoft Dynamics NAV Server".</p> <p>Values: Windows, UserName, NavUserPassword Default value: Windows</p>
ClientServicesPort	<p>Specifies the TCP port for the Microsoft Dynamics NAV Server. This is part of the Microsoft Dynamics NAV Server's URL.</p> <p>Values: 1-65535 Default value: 7046</p>

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Setting	Description
ServicesPrincipalNameRequired	<p>If this parameter is set to true, then the Microsoft Dynamics NAV Web client can only connect to a Microsoft Dynamics NAV Server instance that is associated with a service principal name (SPN).</p> <p>If this parameter is set to false, then the Microsoft Dynamics NAV Web client tries to connect to the configured Microsoft Dynamics NAV Server service, regardless of whether that service is associated with an SPN.</p> <p>Default: false</p>
SessionTimeout	<p>Specifies the maximum time that a connection between the Microsoft Dynamics NAV Web client and the Microsoft Dynamics NAV Server can remain idle before the session is ended.</p> <p>In the Microsoft Dynamics NAV Web client, this setting determines how long an open Microsoft Dynamics NAV page or report can remain inactive before it closes. For example, when the SessionTimeout is set to 20 minutes, if a user does not take any action on a page within 20 minutes, then the page closes and the following message appears: "The page has expired and the content cannot be displayed."</p> <p>The time span has the format [dd.]hh:mm:ss[.ff]:</p> <ul style="list-style-type: none"> <li>• dd is the number of days</li> <li>• hh is the number of hours</li> <li>• mm is the number of minutes</li> <li>• ss is the number of seconds</li> <li>• ff is fractions of a second</li> </ul> <p>Default value: 00:20:00</p>
HelpURL	<p>Specifies the URL that is opened by the Microsoft Dynamics NAV Help action in Microsoft Dynamics NAV Web client. By default, the URL targets the Microsoft Dynamics NAV 2013 Help in the MSDN library at <a href="http://www.msdn.com">www.msdn.com</a>. This is a public website, so to view the Help, users must have permission to access the Internet or the default help URL as a minimum.</p> <p>Values: A valid URL</p> <p>Default value: <a href="http://go.microsoft.com/fwlink/?LinkID=233742">http://go.microsoft.com/fwlink/?LinkID=233742</a></p>

## Module 4: Microsoft Dynamics NAV Client Installation

Setting	Description
DNSIdentity	<p>Specifies the subject name of the service certificate for Microsoft Dynamics NAV Server. The Microsoft Dynamics NAV Web client makes sure that the certificate that is provided during the SSL handshake contains a Domain Name System (DNS) or CommonName (CN) attribute that is equal to the DNS identity of the client. This check is performed in addition to determining the validity of the server certificate.</p> <p>Default value: There is no default value for this parameter</p>

For example: The Microsoft Dynamics NAV Server to which the Microsoft Dynamics NAV Web client connects is configured in the web.config file for the Microsoft Dynamics NAV Web client. If you want to connect the Web client to another database, you can change the Microsoft Dynamics NAV Server instance by modifying the web.config.

On the computer that is running Microsoft Dynamics NAV Web client, use any text editor, such as Notepad, to open the web.config file for edit.

By default, the web.config file is located in the \Programs (x86)\Microsoft Dynamics NAV\70\Web Client folder.

1. Locate the <NAVSettings> element.
2. Change the values for the ClientServicesPort, Server, and ServerInstance elements.

### Install IIS for Web Client

The Microsoft Dynamics NAV Web client requires IIS version 7.0 with the following features enabled:

- .NET Extensibility
- ASP .NET
- ISAPI Extensions
- ISAPI Filters
- Request Filtering
- Windows Authentication
- Static Content

This topic describes how to install and configure Internet Information Services for the Microsoft Dynamics NAV Web client. The procedure is slightly different for Windows 7 and Windows Server 2008 R2.

## Install IIS on Windows 7

1. To install IIS on Windows 7, follow these steps: Click **Start > Control Panel > Programs**.
2. Under Programs and Features, select Turn Windows features on or off.
3. In the Windows features list, expand **Internet Information Services**, and then expand **World Wide Web Services**.
4. Expand **Application Development Features**, and select the following features:
  - .NET Extensibility
  - ASP .NET
  - ISAPI Extensions
  - ISAPI Filters
5. Expand **Security**, and then select the following features:
  - Request Filtering
  - Windows Authentication
6. Expand **Common HTTP Features**, and then select the Static Content feature.
7. To install Internet Information Service (IIS) Manager, under Internet Information Services, expand Web Management Tools, and then select IIS Management Console.  
This step is optional. You use Internet Information Service IIS Manager to manage local and remote web servers and sites.
8. Click **OK** to complete the installation.
9. To verify that the web server is installed correctly, start your browser and then type "http://localhost" in the address field.

The default website opens and should display an IIS 7 image. If the IIS 7 image does not appear, then verify that you have configured static content on IIS, as described in steps above.



**Note:** To open Internet Information Services (IIS) Manager, on the **Start** menu, in the **Search Programs and Files** box, type "inetmgr", and then press **ENTER**.

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## Module 4: Microsoft Dynamics NAV Client Installation

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### Install IIS on Windows Server 2008 R2

To install IIS on Windows Server 2008 R2, follow these steps :

1. Click **Start** > **All Programs** > **Administrative Tools** > **Server Manager**.
2. In the navigation pane, click **Roles** and then click **Add Roles**.
3. In the **Before You Begin** window, click **Next**.
4. In the **Select Server Roles** window, select Web Server (IIS) and then click **Next** two times.
5. In the **Select Role Service** window, expand **Common HTTP Features**, and then select **Static Content**. Other features that are selected by default can remain selected.
6. Expand **Application Development Features**, and select the following features:
  - ASP.NET

If a message displays asking to add role services for ASP.NET, click **Add Required Role Services**.

- .NET Extensibility
- ISAPI Extensions
- ISAPI Filters

If a dialog box appears that asks you to confirm ASP.NET, click **Allow to continue**.

7. Expand **Security**, and then select the following features:
  - Windows Authentication
  - Request Filtering
8. Expand **Management Tools**, and then click **IIS Management Console**.  
This step is optional. You use IIS Manager to manage local and remote web servers and sites.
9. Click **Next**, confirm your selections, and then click **Install** to complete the installation.
10. When the installation is complete, click **Close**.
11. To verify that the web server is installed correctly, start your browser, and then type "http://localhost" in the address field.

The default website opens and should display an IIS 7 image. If the IIS 7 image does not appear, then verify that you have configured static content on IIS, as described in the steps above.



**Note:** *Internet Information Services Manager was also installed. To verify the installation, click **Start** > **Administrative Tools** > **Internet Information Service (IIS) Manager**.*

---

## Set Up Delegation

When the client device, Microsoft Dynamics NAV Web client, and Microsoft Dynamics NAV Server are on separate computers, the client device interacts with Microsoft Dynamics NAV Server through the computer that is running Microsoft Dynamics NAV Web client. Microsoft Dynamics NAV Web client is performing actions on the client device's behalf. This process is known as impersonation. Impersonation cannot be used across multiple computers. Therefore, you must set up delegation from Microsoft Dynamics NAV Web client to Microsoft Dynamics NAV Server.

Delegation occurs when a front-end service (such as Microsoft Dynamics NAV Web client or Microsoft Dynamics NAV Portal Framework for SharePoint 2010) forwards a client device request to a back-end service (in this case the Microsoft Dynamics NAV Server service) so that the back-end can impersonate the client device. Impersonation is typically used to check whether a client is authorized to perform a particular action, whereas delegation is a way of flowing impersonation capabilities, together with the client's identity, to a back-end service. You can use delegation as a Windows domain feature with Kerberos-based authentication.

Configuring delegation means explicitly configuring the Microsoft Dynamics NAV Server service to delegate its access to the database server on behalf of Microsoft Dynamics NAV Portal. To make the access more secure, specify delegation to a specific service on a specific server.

To complete the procedure in this topic, you must be a domain administrator.

To set up delegation from the front-end (running SharePoint or the Web Server Components) to the Microsoft Dynamics NAV Server, follow these steps

1. On any server in the domain, click **Start** and then click **Run**.
2. In the **Open** field, type "dsa.msc".

This opens the Active Directory Users and Computers utility.

3. In the navigation pane on the left, expand the node for the domain where you have installed the Microsoft Dynamics NAV environment.



## Module 4: Microsoft Dynamics NAV Client Installation

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4. To configure delegation, the functional level for the domain must be Windows Server 2003 or a later version. To verify the domain functional level, right-click the node for the domain where you have installed Microsoft Dynamics NAV, and then click **Raise Domain Functional Level**. If the level is not at least Windows Server 2003, then raise it to that level.
5. Expand the **Computers** node, right-click the computer that is running Microsoft Dynamics NAV Portal, and then click **Properties**.
6. On the **Delegation** tab, click **Trust this user for delegation to specified services only**, and then click **Use Kerberos only**. You must add the following services for the computer that is running Microsoft Dynamics NAV Server:

Service Type	User or Computer	Port
DynamicsNAV	NAVSERVER	7046
Host	NAVSERVER	

NAVSERVER is the name of the computer that is running Microsoft Dynamics NAV Server.

7. To add the services, click **Add**.
8. In the **Add Services** window, click **Users or Computers**.
9. In the **Enter the object names to select** box, type the name of the Microsoft Dynamics NAV Server computer and then click **OK**.
10. In the list of available services, press and hold the CTRL key, select **DynamicsNAV** for port number of the Microsoft Dynamics NAV Server and **HOST**, and then click **OK**.
11. Click **OK** to close the dialog box.



**Note:** If the account running the Microsoft Dynamics NAV server does not have sufficient credentials to register an SPN on startup, a message is added in the Windows Event Log of the NAV Server computer and the SPN must be registered manually.

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# **Install Portal Framework for SharePoint 2010**

## **What Is Microsoft Dynamics NAV Portal Framework for SharePoint 2010?**

Microsoft Dynamics NAV Portal Framework for Microsoft® SharePoint® 2010 is a web-based application framework for integrating Microsoft Dynamics NAV with Microsoft SharePoint 2010 applications. This enables users to interact with Microsoft Dynamics NAV data from a web browser. With Microsoft Dynamics NAV Portal Framework, you can display Microsoft Dynamics NAV pages and reports on SharePoint sites from which users can view, edit, and manage Microsoft Dynamics NAV data.

Microsoft Dynamics NAV Portal Framework is a set of components that you install on a server or servers running Microsoft SharePoint Foundation 2010. Then you use the Microsoft Dynamics NAV Portal Framework to build SharePoint web applications that display Microsoft Dynamics NAV pages and reports.

Developers of solutions for Microsoft Dynamics NAV Portal Framework have the same experience as those using the RoleTailored client. Developers create Microsoft Dynamics NAV objects in the development environment and implement the same metadata and business logic as RoleTailored client. A page or report that can be displayed in the RoleTailored client can also be displayed on a SharePoint site.

End-users can work with Microsoft Dynamics NAV data in a familiar SharePoint environment that uses the same appearance and behavior. Working with Microsoft Dynamics NAV pages and reports in SharePoint resembles working with the pages and reports in the RoleTailored client.

Microsoft Dynamics NAV Portal Framework is designed for occasional users who typically need an overview of their daily work status and perform fairly simple or light data entry.

### Prepare the Installation

Microsoft Dynamics NAV Portal Framework connects to a Microsoft Dynamics NAV database through a Microsoft Dynamics NAV Server instance. Microsoft Dynamics NAV Setup configures the connection to the Microsoft Dynamics NAV Server.

If you are installing Microsoft Dynamics NAV Portal Framework on a different computer than Microsoft Dynamics NAV Server, then you have to provide information about Microsoft Dynamics NAV Server during setup.

If you are installing Microsoft Dynamics NAV Portal Framework on the same computer as Microsoft Dynamics NAV Server, then Setup automatically detects the Microsoft Dynamics NAV Server instance. Therefore, you do not have to provide any information unless you want to use another instance.

Before you start to install the Portal Framework, you must follow these steps:

1. Verify the system requirements are met on the computer that you want to install Microsoft Dynamics NAV Portal Framework.
2. Obtain the following parameters for Microsoft Dynamics NAV Server.

Parameter	Description
Server Name	The name of the server that running Microsoft Dynamics NAV Server. The default is localhost.
Server Instance Name	The instance of Microsoft Dynamics NAV Server to which the Portal Framework will connect. The default is DynamicsNav.
Server Port	The communication port that is used by Microsoft Dynamics NAV Server. The default is 7046.

3. If you are installing Microsoft Dynamics NAV Portal Framework on a specific web application on the SharePoint server, then obtain the port number that the web application uses.

To obtain the port number of a SharePoint web application, follow these steps:

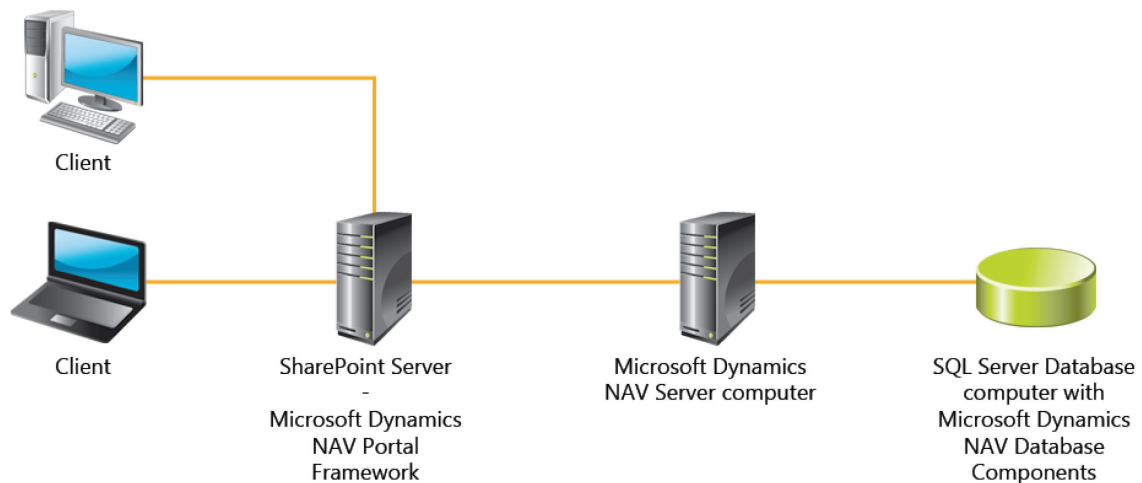
1. On the computer that is running Microsoft SharePoint 2010, click **Start > All Programs > SharePoint 2010 Central Administration**.
2. Click **Manage Web Applications** to display a list of all the SharePoint web applications.
3. In the **Port** column, locate the port number for your web application.

## Install Portal Framework for the First Time

This topic describes how to install Microsoft Dynamics NAV Portal Framework for the first time on one or more Microsoft SharePoint applications. To install Microsoft Dynamics NAV Portal Framework, run Microsoft Dynamics NAV Setup on the Microsoft SharePoint server farm or stand-alone server. Setup installs Microsoft Dynamics NAV Portal Framework on the web applications on the SharePoint server farm or stand-alone server.

For more information about Microsoft SharePoint, see <http://go.microsoft.com/fwlink/?LinkId=267426>.

The following figure shows the components involved with the setup of Microsoft Dynamics NAV Portal Framework.



**FIGURE 4.6: THE MICROSOFT DYNAMICS NAV PORTAL FRAMEWORK ARCHITECTURE**

When you run Setup, you have three options for installing Microsoft Dynamics NAV Portal Framework:

- Install Microsoft Dynamics NAV Portal Framework on a new SharePoint application.

This option creates a new SharePoint web application on the local SharePoint server farm or stand-alone server and installs the Microsoft Dynamics NAV Portal Framework. This option does not create any sites in the site collection of the newly created web application. You must create the SharePoint sites manually.

- Install Microsoft Dynamics NAV Portal Framework on all web applications on the local SharePoint server farm or stand-alone server.

## Module 4: Microsoft Dynamics NAV Client Installation

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This does not include administrative web applications, such as the SharePoint Central Administrator.

- Install Microsoft Dynamics NAV Portal Framework on a specific web application on the local SharePoint stand-alone server.

Setup installs a SharePoint solution package for Microsoft Dynamics NAV Portal Framework on the server farm or stand-alone server. SharePoint Server deploys and activates the Microsoft Dynamics NAV Portal Framework solution package on each web application that you have selected. After you run Setup, you can deploy and activate Microsoft Dynamics NAV Portal Framework on additional web applications by using SharePoint Central Administration.

To install the Microsoft Dynamics NAV Portal Framework for SharePoint, follow these steps :

1. On the computer that is running SharePoint Server, insert the Microsoft Dynamics NAV installation media into a drive, or browse to the directory that contains the Microsoft Dynamics NAV 2013 Setup program.
2. Double-click the setup.exe file to start the Microsoft Dynamics NAV Setup wizard. If you have already installed one or more Microsoft Dynamics NAV components on the computer, you see the **Maintenance** page instead of the **Welcome** page. In this case, click **Add or remove components**, and then skip ahead to the **Customize the Installation** page step.
3. Click **Next**.
4. To accept the license terms, click **I accept**.
5. On the Microsoft Dynamics NAV Setup page, click **Choose an installation option**.
6. On the **Choose an Installation Option** page, click **Custom**.
7. On the **Customize the Installation** page, select the check box next to **Portal Framework for SharePoint**, and then click **Run from My Computer**.
8. Click **Next** to open the **Specify parameters** page.
9. On the **Specify parameters** page, under Server, set the **Server Name**, **Service Name**, and **Server Port** fields for the Microsoft Dynamics NAV Server instance to which you want to connect.
10. Under **SharePoint Components**, do one of the following:
  - To create a new web application on the SharePoint server and install Microsoft Dynamics NAV Portal Framework for the new web application, set the **Web Application** parameter to **Install for a new web application**. The remaining parameters are not used.



**Note:** A port number is automatically assigned to the web application by SharePoint Server.

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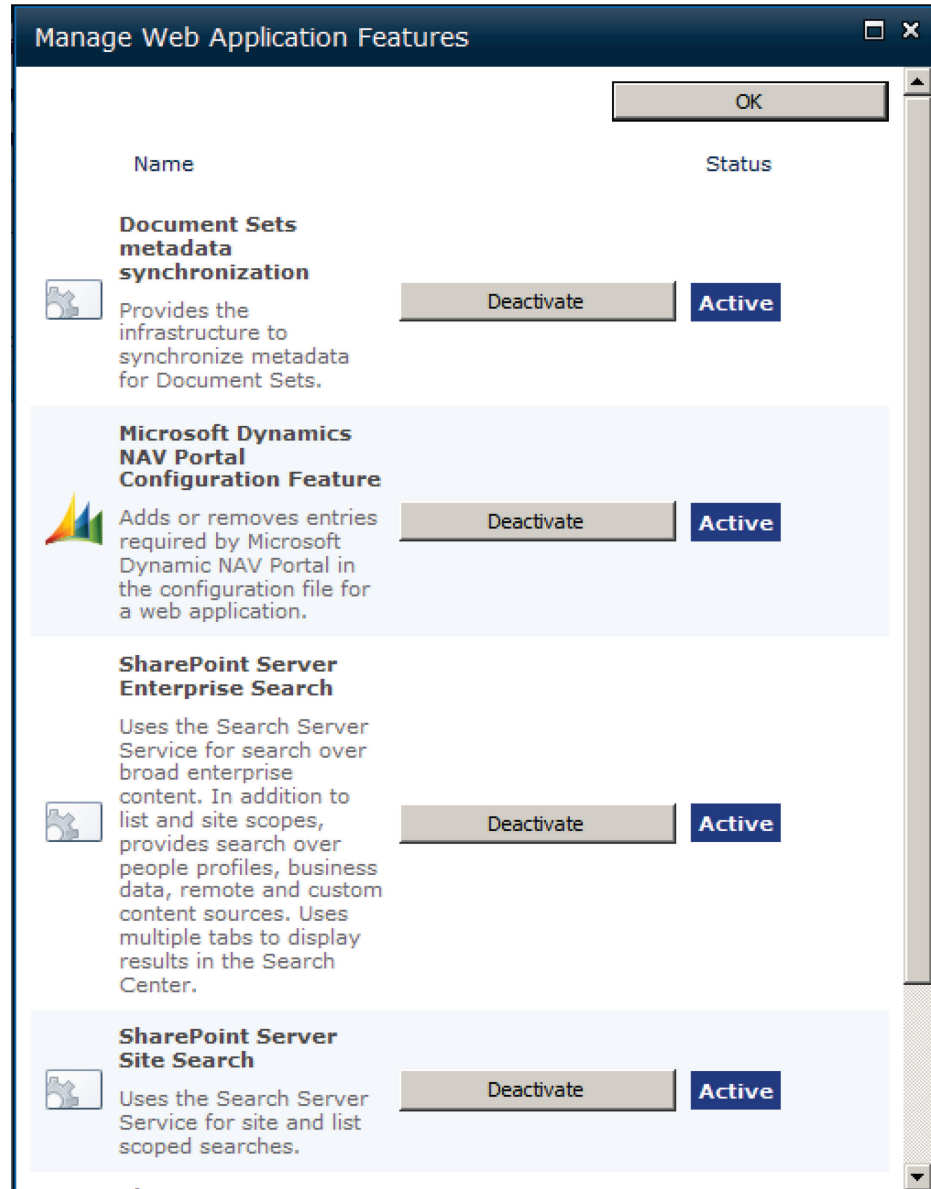
- To install Microsoft Dynamics NAV Portal Framework for all web applications on the SharePoint server, set the **Web Application** parameter to **Install for all web applications**. The remaining parameters are not used.
  - To install Microsoft Dynamics NAV Portal Framework for a specific web application on the SharePoint server, set the **Web Application** parameter to **Install for one web application** and the **Port** parameter to the port number of the web application.
11. Specify a name and a port for Microsoft Dynamics NAV Server. You must have a valid Microsoft Dynamics NAV Server connection to successfully work with the Microsoft Dynamics NAV database.
  12. Click **Apply** to complete the installation.
  13. When the Setup program is finished, click **Close**.
  14. If SharePoint Server, Microsoft Dynamics NAV Server, and SQL Server database components are installed on separate computers, then you must set up delegation between SharePoint Server and the Microsoft Dynamics NAV Server.

## Verify Installation

You can use the SharePoint Central Administration web application to view the status of Microsoft Dynamics NAV Portal Framework on a SharePoint web application.

To verify the Microsoft Dynamics NAV Portal Framework installation, follow these steps:

1. On the computer that is running SharePoint Server, click **Start** and then click **All Programs**.
2. Click Microsoft SharePoint 2010 Products, and then click SharePoint 2010 Central Administration.
3. In Central Administration, under Application Management, click Manage Web Applications.
4. Click the web application that you want to view, and then click Manage Features.  
The status of Microsoft Dynamics NAV Portal Configuration Feature should be OK and Active.



**FIGURE 4.7: THE MANAGE WEB APPLICATION FEATURES WINDOW IN MICROSOFT SHAREPOINT SERVER 2010**

### **Deploy and Activate Microsoft NAV Portal Framework on SharePoint Web Applications**

After you first install Microsoft Dynamics NAV Portal Framework on one or more SharePoint web applications, you can use SharePoint Central Administration to deploy and activate Microsoft Dynamics NAV Portal Framework on other web applications. When you install Microsoft Dynamics NAV Portal Framework, Microsoft Dynamics NAV Setup installs a SharePoint solution package for Microsoft Dynamics NAV Portal Framework on the server farm or stand-alone server. Using SharePoint Central Administration, you deploy the solution package to a web application. After the solution package is deployed, you must activate the Microsoft Dynamics NAV Portal Framework feature on the web application before you can start to display Microsoft Dynamics NAV content on sites of the web application.

#### **Deploy Microsoft Dynamics NAV Portal Framework to a Web Application**

To deploy the Microsoft Dynamics NAV Portal Framework to a SharePoint web application, follow these steps:

1. Open SharePoint Central Administration.
2. Click **System Settings**.
3. On the **System Settings** page, under **Farm Management**, click **Manage farm solutions**. The **Solution Management** page lists all the solutions that are installed and available at the farm level. The Microsoft Dynamics NAV Portal Framework solution is **microsoftdynamicsnavportal.wsp**.
4. Click **microsoftdynamicsnavportal.wsp**.
5. On the **Solution Properties** page, click **Deploy Solution**.
6. On the **Deploy Solution** page, in the **Deploy When?** section, click **Now** to deploy the solution immediately, or **At a specified time** to deploy the solution later. If you click **At a specified time**, then use the calendar button and time boxes to set the date and time to deploy the solution.
7. In the **Deploy to?** section, in the **Choose a Web application to deploy this solution** field, enter the web application to deploy to.
8. Click **OK** to start the deployment.

When the deployment is completed, the **Solution Management** page appears. If Microsoft Dynamics NAV Portal Framework is deployed successfully, the **Status** of **microsoftdynamicsnavportal.wsp** is **Deployed**.



### Activate Microsoft Dynamics NAV Portal Framework on a Web Application

After you have deployed the Portal Framework solution, you can activate it on a web application. To activate the it, follow these steps :

1. Open SharePoint Central Administration.
2. Click **Application Management**.
3. On the **Application Management** page, under **Web Applications**, click **Manage web applications**.

The **Web Applications** page lists all the SharePoint web applications that are available on the server.

4. Select the web application, and then, in the ribbon, click **Manage Features**.
5. In the **Manage Web Application Features** window, click **Activate**.
6. When Microsoft Dynamics NAV Portal Framework is activated, the **Status** changes to **Active**.
7. Click **OK** when done.

### Set Up Delegation

When SharePoint Server, Microsoft Dynamics NAV Server, and SQL Server database components for Microsoft Dynamics NAV are installed on separate computers, you must configure delegation between SharePoint Server and Microsoft Dynamics NAV Server. Delegation works as follows: a front-end service forwards a client request to a back-end service so that the back-end service can also impersonate the client. Impersonation is typically used to check whether a client is authorized to perform a particular action, whereas delegation is a way of flowing impersonation capabilities, together with the client's identity, to a back-end service. You can use delegation as a Windows domain feature with Kerberos-based authentication.

Configuring delegation means explicitly configuring the Microsoft Dynamics NAV Server service to delegate its access to the database server on behalf of Microsoft Dynamics NAV Portal. To make the access more secure, specify delegation to a specific service on a specific server.

## Installation and Configuration in Microsoft Dynamics® NAV 2013

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To complete the procedure in this topic, you must be a domain administrator.

To set up delegation from SharePoint Server onto Microsoft Dynamics NAV Server, follow these steps

1. On any server in the domain, click **Start** and then click **Run**.
2. In the **Open** field, type "dsa.msc".

This opens the Active Directory Users and Computers utility.

3. In the navigation pane on the left, expand the node for the domain where you have installed the Microsoft Dynamics NAV environment.
4. To configure delegation, the functional level for the domain must be Windows Server 2003 or a later version. To verify the domain functional level, right-click the node for the domain where you have installed Microsoft Dynamics NAV, and then click **Raise Domain Functional Level**. If the level is not at least Windows Server 2003, then raise it to that level.
5. Expand the **Computers** node, right-click the computer that is running Microsoft Dynamics NAV Portal Framework for Microsoft SharePoint 2010, and then click **Properties**.
6. On the Delegation tab, click Trust this user for delegation to specified services only and then click Use Kerberos only.  
You must add the following services for the computer that is running Microsoft Dynamics NAV Server:

Service Type	User or Computer	Port
DynamicsNAV	NAVSERVER	7046
Host	NAVSERVER	

NAVSERVER is the name of the computer that is running Microsoft Dynamics NAV Server.

7. To add the services, click **Add**.
8. In the Add Services window, click Users or Computers.
9. In the **Enter the object names to select** box, type the name of the Microsoft Dynamics NAV Server computer, and then click **OK**.
10. In the list of available services, press and hold the CTRL key, select **DynamicsNAV** for port number of the Microsoft Dynamics NAV Server and **HOST**, and then click **OK**.
11. Click **OK** to close the dialog box.



**Note:** If the account running the Microsoft Dynamics NAV server does not have sufficient rights to register an SPN on startup, a message is added in the Windows Event Log of the NAV Server computer and the SPN must be registered manually.

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### Configure Portal Framework after Setup

After you install Microsoft Dynamics NAV Portal Framework, configuration settings are stored in the web.config files of the SharePoint applications.

Each SharePoint application has its own web.config file. By default, the web.config file is located on the computer that is running Microsoft SharePoint Foundation Server 2010 in the c:\inetpub\wwwroot\wss\VirtualDirectories\portnumber folder. The *portnumber* indicates the port that is assigned to the web application. For information about identifying a port number, see the Prepare the Installation topic in this lesson.

When you install Microsoft Dynamics NAV Portal Framework on a SharePoint application, the web.config file is modified to include a <DynamicsNAVSettings> tag. The <DynamicsNAVSettings> tag contains several settings that configure the communication between Microsoft Dynamics NAV Portal Framework and Microsoft Dynamics NAV Server.

#### Settings in the Web.Config File

The web.config file is an .xml file that you can edit by using any text editor.

The following table describes the settings that are available in the <DynamicsNAVSettings> tag of web.config file.

Setting	Description
<b>AllowNtlm</b>	Specifies whether NT LAN Manager (NTLM) fallback is permitted for authentication. To require Kerberos authentication, set this value to <b>false</b> . Values: true, false Default value: true


## Installation and Configuration in Microsoft Dynamics® NAV 2013

Setting	Description
<b>ClientServicesChunkSize</b>	<p>Sets the maximum size, in kilobytes, of a data chunk that is transmitted between Microsoft Dynamics NAV Portal Framework and Microsoft Dynamics NAV Server. Data that is transmitted between Microsoft Dynamics NAV Portal Framework and Microsoft Dynamics NAV Server is broken down into smaller units called chunks and then reassembled when it reaches its destination.</p> <p>Values: Between 4 and 80. Default: 28.</p>
<b>ClientServicesCompressionThreshold</b>	<p>Sets the threshold in memory consumption at which Microsoft Dynamics NAV Portal Framework starts compressing data sets. This limits amount of consumed memory. The value is in kilobytes.</p> <p>Default: 64</p>
<b>ClientServicesPort</b>	<p>Specifies the TCP port for the Microsoft Dynamics NAV Server. This is part of the Microsoft Dynamics NAV Server's URL.</p> <p>Values: 1-65535 Default value: 7046</p>
<b>ClientServicesProtectionLevel</b>	<p>Specifies the security services used to protect the data stream between the Microsoft Dynamics NAV Portal Framework and Microsoft Dynamics NAV Server. This value must match the value that is specified in the Microsoft Dynamics NAV Server configuration file. For more information, see the Configuration topic in the Microsoft Dynamics NAV Server lesson in the Microsoft Dynamics NAV Server module.</p> <p>Values: EncryptAndSign, Sign, None Default value: EncryptAndSign</p>
<b>Company</b>	<p>Sets the company in Microsoft Dynamics NAV to connect to. If you do not define a company, then the company currently used by the RoleTailored client for Windows for the user is used.</p> <p>Values: A company defined in the Microsoft Dynamics NAV solution. Default value: none</p>


## Module 4: Microsoft Dynamics NAV Client Installation

Setting	Description
<b>HelpURL</b>	<p>Specifies the URL that is opened by the Microsoft Dynamics NAV Help action. This is available on Microsoft Dynamics NAV pages in SharePoint sites that are running Microsoft Dynamics NAV Portal Framework. By default, the URL targets the Microsoft Dynamics NAV 2013 Help in the MSDN library at <a href="http://www.msdn.com">www.msdn.com</a>. This is a public website. Therefore, to view the help, users must have permission to access the Internet or the default help URL as a minimum.</p> <p>Default value:  <a href="http://go.microsoft.com/fwlink/?LinkID=233742">http://go.microsoft.com/fwlink/?LinkID=233742</a></p>
<b>Language</b>	<p>Sets the language version of Microsoft Dynamics NAV objects to display on Microsoft SharePoint sites of a web application. For more information about languages, see Languages and Regional Settings.</p> <p>Values: Any languages that are available for the Microsoft Dynamics NAV solution.</p> <p>Default value: en-US</p>
<b>Server</b>	<p>Specifies the name of the computer that is running the Microsoft Dynamics NAV Server.</p> <p>Default value: localhost</p>
<b>ServerInstance</b>	<p>Specifies the name of the Microsoft Dynamics NAV Server instance to which the Microsoft Dynamics NAV Portal Framework connects.</p> <p>For more information, see the NAV Server Administration Tool topic in the Server Administration lesson in the Microsoft Dynamics NAV Server module.</p> <p>Default value: DynamicsNAV</p>
<b>ServicePrincipalNameRequired</b>	<p>If this parameter is set to true, then the Microsoft Dynamics NAV Portal Framework can only connect to a Microsoft Dynamics NAV Server instance that is associated with a service principal name (SPN).</p> <p>If this parameter is set to false, then the Microsoft Dynamics NAV Portal Framework tries to connect to the configured Microsoft Dynamics NAV Server service, regardless of whether that service is associated with an SPN.</p> <p>For more information about SPNs, see the topic "Set Up Delegation."</p> <p>Default: false</p>

## Installation and Configuration in Microsoft Dynamics® NAV 2013

Setting	Description
<p><b>SessionTimeout</b></p>	<p>Specifies the maximum time that a connection between the Microsoft Dynamics NAV Portal Framework and the Microsoft Dynamics NAV Server can remain idle before the session is ended.</p> <p>On a SharePoint site, this setting determines how long an open Microsoft Dynamics NAV page can remain inactive before it closes. For example, when the <b>SessionTimeout</b> is set to 20 minutes, if a user does not take any action on a page within 20 minutes, then the page closes and it is replaced with the following message: "The page has expired and the content cannot be displayed."</p> <p>The time span has the format [dd.]hh:mm:ss[.ff]:</p> <ul style="list-style-type: none"> <li>• dd is the number of days</li> <li>• hh is the number of hours</li> <li>• mm is the number of minutes</li> <li>• ss is the number of seconds</li> <li>• ff is fractions of a second</li> </ul> <p>Default value: 00:20:00</p>
<p><b>ShowReportViewerExportOptions</b></p>	<p>This parameter applies to the Print Preview for Microsoft Dynamics NAV reports on SharePoint sites. It specifies whether to show the options for saving a report as a Microsoft Excel, Microsoft Word, or Acrobat (PDF) file.</p> <p>If this parameter is set to true, then the save as Excel, Word, and PDF options appear in the Print Preview.</p> <p>Default: false</p> <hr/> <p> <b>Note:</b> To display reports, Microsoft Report Viewer must be configured in the web.config file of the SharePoint application. By default, Microsoft Report Viewer is configured. For more information, see the Help topic "How to: Configure Microsoft Report Viewer on a Microsoft SharePoint Application."</p>

## Module 4: Microsoft Dynamics NAV Client Installation

Setting	Description
UnknownSpnHint	<p>Specifies whether to use server principal name when establishing the connection between the Microsoft Dynamics NAV Portal Framework and Microsoft Dynamics NAV Server. This setting is used to authenticate the Microsoft Dynamics NAV Server, and it prevents the Microsoft SharePoint Foundation server from restarting when it connects to Microsoft Dynamics NAV Server for the first time. You set the value, depending on the value of the ServicePrincipalNameRequired key.</p> <p>Value: The value has the following format:</p> <pre>(net.tcp://NavServer:Port/ServerInstance/Service)=NoSpn SPN</pre> <ul style="list-style-type: none"> <li>• NavServer is the name of the computer that is running the Microsoft Dynamics NAV Server.</li> <li>• Port is the port number on which the Microsoft Dynamics NAV Server is running.</li> <li>• ServerInstance is the name of the Microsoft Dynamics NAV Server instance.</li> <li>• NoSpn SPN specifies whether to use an SPN. If the ServicePrincipalNameRequired key is set to <b>false</b>, then set this value to NoSpn. If the ServicePrincipalNameRequired key is set to <b>true</b>, then set this value to Spn.</li> </ul> <p>Default value: (net.tcp://localhost:7046/DynamicsNAV/Service)=NoSpn</p> <p>If you set this key to the wrong value, then during startup, the Microsoft Dynamics NAV Portal Framework determines a correct value automatically. This causes the Microsoft SharePoint Foundation Server to restart.</p> <hr/> <p> <b>Note:</b> For most installations, you do not have to change this value. Unlike the RoleTailored client, this setting is not updated automatically. If you want to change the default value, you must change it manually.</p> <hr/>

## Support Wide Area Network Connections

### Deployment Scenario

The Microsoft Dynamics NAV 2013 RoleTailored client for Windows supports secured connections to Microsoft Dynamics NAV Server over a wide area network (WAN). In this scenario, the RoleTailored client for Windows and Microsoft Dynamics NAV Server can be in the same or separate Active Directory domains.

Implementing secured client connections over a WAN requires administration on both the Microsoft Dynamics NAV Server and the client. The previous module describes the different steps that are needed to configure the Microsoft Dynamics NAV Server to support WAN connections:

- Create a root certification authority (CA) and a server certificate.
- Install the server certificate on the Microsoft Dynamics NAV Server computer.
- Create a certificate revocation list for the root CA.
- Install the certificate revocation list on the Microsoft Dynamics NAV Server.
- Grant access to the certificate's private key to the service account of Microsoft Dynamics NAV Server.
- Modify the configuration file to support logon over a WAN.

For more information about certificates, see the Wide Area Network Connections topic in the, "Microsoft Dynamics NAV Server".

This module describes how to configure the Microsoft Dynamics NAV Server to support logon over a WAN.



**Note:** *Implementing remote logon requires changing the credential type for the Microsoft Dynamics NAV Server instance involved. Consider using a dedicated Microsoft Dynamics NAV Server instance for remote connections so that this change does not affect local users.*

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### Configure Client Computer

With the chain trust configuration, only the root CA and the certificate revocation list must be installed for the client computer. Afterward, you must modify the client configuration file.



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### Install the Root CA on the Client Computer

This procedure is identical to the procedure for installing the root CA on the Microsoft Dynamics NAV Server.

1. On the client, on the Windows Taskbar, click **Start > Run**.
2. In the **Run** dialog box, enter the following command:

```
mmc
```

3. In Microsoft Management Console, click **File > Add/Remove Snap-in**.
4. In the **Add or remove snap-ins** dialog box, in the **Available snap-ins** list, select **Certificates** and then click **Add**.
5. In the **Certificates snap-in** dialog box, click **Computer account** and then click **Next**.
6. In the **Select Computer** pane, click **Local computer: (the computer this console is running on)** and then click **Finish**.
7. Click **OK** to close the **Add or Remove Snap-ins** dialog box.
8. In the left pane of MMC, expand the **Certificates (Local Computer)** node.
9. Expand the **Trusted Root Certification Authorities** node, right-click the **Certificates** subfolder, select **All Tasks**, and then click **Import**.
10. In the **Certificate Import Wizard**, on the **Welcome** page, click **Next**.
11. On the **File to Import** page, click **Browse**.
12. Locate the RootNavServiceCA.cer certificate file, select the file, and then click **Open**.
13. On the **File to Import** page, click **Next**.
14. On the **Certificate Store** page, accept the default selection, and then click **Next**.
15. On the **Completing the Certificate Import Wizard** page, click **Finish**.

### Install the Certificate Revocation List on the Client Computer

After you have installed the root CA, you must also install the certificate revocation list on the client. A certificate revocation list is required because WCF applications check the revocation list when validating certificates.

1. On the client, on the Windows Taskbar, click **Start > Run**.
2. In the **Run** dialog box, enter the following command:

```
mmc
```

3. In Microsoft Management Console, click **File > Add/Remove Snap-in**.
4. In the **Add or remove snap-ins** dialog box, in the **Available snap-ins** list, select **Certificates** and then click **Add**.
5. In the **Certificates snap-in** dialog box, click **Computer account** and then click **Next**.
6. In the **Select Computer** pane, click **Local computer: (the computer this console is running on)** and then click **Finish**.
7. Click **OK** to close the **Add or Remove Snap-ins** dialog box.
8. In the left pane of MMC, expand the **Certificates (Local Computer)** node.
9. Expand the **Trusted Root Certification Authorities** node, right-click the **Certificates** subfolder, select **All Tasks**, and then click **Import**.
10. In the **Certificate Import Wizard**, on the **Welcome** page, click **Next**.
11. On the **File to Import** page, click **Browse**.
12. In the File Type field, select Certificate Revocation List (\*.crl).
13. Locate the RootNavServiceCA.crl certificate revocation list file, select the file, and then click **Open**.
14. On the **File to Import** page, click **Next**.
15. On the **Certificate Store** page, accept the default selection and then click **Next**.
16. On the **Completing the Certificate Import Wizard** page, click **Finish**.

### Modify the Client Configuration File to Support WAN Logins

The RoleTailored client for Windows and Microsoft Dynamics NAV Server must be configured to use the same credential type. The default credential type for the RoleTailored client for Windows is Windows. In a WAN connection deployment, the credential type must be changed to **Username**. In addition, you must add certificate information.

The client configuration cannot be changed by using the Server Administration Tool. To modify the client configuration file, you must edit it using a text editor, for example Notepad.

In Windows 7, Windows Vista, or Windows Server 2008, the location of the client configuration file is C:\Users\*username*\AppData\Local\Microsoft\Microsoft Dynamics NAV (where *username* represents the Windows user name). By default, this file is hidden. Therefore, you may have to change your folder options in Windows Explorer to view hidden files.

1. Open the ClientUserSettings.config configuration file.
2. Modify the following settings.

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Key	New Value	Description
ClientCredentialType	UserName	The Default value is Windows. When you change it to <b>UserName</b> , users who connect to the server are prompted for user name and password credentials.
DnsIdentity	The subject name of the server certificate.	The default value is <b>&lt;identity&gt;</b> .  You should set the key to match the subject name of the server certificate.  When you create a server certificate by using the makecert.exe tool, you can specify the subject name by adding the -n parameter.

3. Save and close the ClientUserSettings.config file.

When you start the RoleTailored client for Windows, you are prompted for a valid user name in the format domain\username and password for the server domain (even if the client computer is in the same as the Microsoft Dynamics NAV server).

## Add Client Languages

Explain how to install additional interface languages for Microsoft Dynamics NAV 2013.

### Use Language Modules

In a Multilanguage-enabled application such as the RoleTailored client for Windows, you can view the text in any language that is added to the application.

To view Microsoft Dynamics NAV 2013 in multiple languages, install one or more language modules. This topic describes language modules in Microsoft Dynamics NAV 2013.

A language module contains the following:

- Translated strings for the user interface (UI) in the Development environment.

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- Translated strings for the UI in the RoleTailored client for Windows.
- Translated strings for the database.
- Translated strings for Microsoft Dynamics NAV Server, such as for logs and error reporting.
- Translated strings for the Microsoft Office Outlook Add-in for Microsoft Dynamics NAV.
- Translated strings for charts on Role Centers in the RoleTailored client for Windows.
- Localized versions of the client Help.

Language modules are binary files that you cannot modify with external tools.

If you have customized Microsoft Dynamics NAV 2013, then after you install the appropriate language module, you should also translate the strings for the objects that you added or modified. This is covered in the course *C/SIDE Introduction in Microsoft Dynamics NAV 2013*.

### Language Subfolder

When you install a language module, a subdirectory for the language is created in the Microsoft Dynamics NAV folder structure. The .stx, .etx, .chm, and .hh files for each language are automatically installed in the subfolder. The name of the subdirectory is the three-letter language code (abbreviated name) that is used by Windows for the particular language.

### Install Language Modules

To install language modules in Microsoft Dynamics NAV 2013, you must first download the language module from the Language Modules for Microsoft Dynamics NAV 2013 website. (This requires a PartnerSource logon.) Afterward you install the following different components separately:

- Server
- RoleTailored client for Windows
- Development environment
- Database
- (optional) Microsoft Office Outlook

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### Server Component

To install the server component of a language module, follow these steps:

1. On the computer that is running Microsoft Dynamics NAV Server, locate where you downloaded the language module.
2. Run the .exe file to unzip the language module files.
3. In the Server folder, run `Server.Local.<country/region code>.<language code>.msi`.
4. In Control Panel, click **Administrative Tools**, and then click **Services** to open the Services snap-in.
5. In the list of services, right-click **Microsoft Dynamics NAV Server** and then click **Restart**.

### RoleTailored Client Component

To install the RoleTailored client component of a language module, follow these steps:

1. Confirm that you have installed the server component of the language module before you install the RoleTailored client component.
2. On the computer that is running the RoleTailored client, locate where you downloaded the language module.
3. In the RoleTailoredClient folder, run `RoleTailoredClient.Local.<country/region code>.<language code>.msi`.
4. (optional) To import a localized chart for a Role Center, do the following:
  - a. In the development environment client, open Object Designer.
  - b. On the **File** menu, click **Import**.
  - c. In the Import Objects window, locate where you downloaded the language module, browse to the RoleTailored Client folder, and then locate the Charts folder.
  - d. Select the chart that you want to add to a Role Center, and then click Open.

By default, this overwrites an existing chart page that has the same ID.

- e. Personalize a Role Center to use the chart part.

## Development environment Component

To install the development environment component of a language module, follow these steps:

1. On the computer that is running the development environment, locate where you downloaded the language module.
2. In the ClassicClient folder, run ClassicClient.Local.<country/region code>.<language code>.msi.
3. Install the database component of the language module by using the following procedure.

## Database Component

To install the database component of a language module, follow these steps:

1. Verify that the license that you are using allows you to compile objects.
2. In the development environment client, open Object Designer.
3. In Object Designer, click **All**.
4. On the **Edit** menu, click **Select All**.
5. On the **Tools** menu, point to **Language Module** and then click **Import**.
6. In the **Language Module Import** window, locate where you downloaded the language module, browse to the Database folder, select the .flm file, and then click **Open**.
7. With all objects selected, on the **Tools** menu, click **Compile**.

## Microsoft Office Outlook Component

To install the Microsoft Office Outlook component of a language module, follow these steps:

1. On the computer that is running the development environment, locate where you downloaded the language module.
2. In the OutlookAddIn folder, run OutlookAddIn.Local.<country/region code>.<language code>.msi.

## Lab 4.1: Create a Setup Configuration File

### Scenario

Tim wants to install the RoleTailored client for Windows on five computers in the network. On four computers he wants to install the RoleTailored client for Windows without the Development environment. On one computer, he wants to install the RoleTailored client for Windows together with the Development environment. The Microsoft Office Excel Add-in and Microsoft Office Outlook Add-in will be installed on all computers. Tim starts by creating a Setup configuration file that he can use to do the installation.

Because the new computers have not been delivered yet, Tim prepares the Setup configuration file on the Microsoft Dynamics NAV Server computer.

### Exercise 1: Create Setup File

#### Task 1: Start Microsoft Dynamics NAV Setup

##### *High Level Steps*

1. Insert the Microsoft Dynamics NAV 2013 product DVD in the DVD drive.
2. Start Microsoft Dynamics NAV Setup.

##### *Detailed 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** in the left pane 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 the **Open File - Security Warning** dialog box appears (asking whether you want to run the setup.exe application), click **Run**.

## Task 2: Select the Installation Option

### *High Level Steps*

1. Select the installation option.

### *Detailed Steps*

1. Select the installation option.
  - a. In the **Welcome to the Microsoft Dynamics NAV 2013 Setup** window, on the **Maintenance** page, select **Add or remove components**.
  - b. On the **Customize the installation** page, click the **Client** node to expand it.
  - c. Click the icon at the left of the **Development environment (C/SIDE)** component.
  - d. Select **Not Available**.
  - e. Click the icon at the left of the **Microsoft Office Excel Add-in** component.
  - f. Select **Run from My Computer**.
  - g. Click the icon at the left of the **Microsoft Office Outlook Add-in** component.
  - h. Select **Run from My Computer**.
  - i. Click the icon at the left of the **Administration Tool** node.
  - j. Select **Not Available**.
  - k. Repeat the previous two steps for the **Documentation, Server, SQL Server Database Components, Portal Framework for SharePoint, Automated Data Capture Systems, NAV Web Server Components, and ClickOnce Installer Tools** components.
  - l. On the **Customize the installation** page, click **Next**.

## Task 3: Specify Configuration Parameters

### *High Level Steps*

1. Specify configuration parameters.

### *Detailed Steps*

1. Specify configuration parameters.
  - a. On the **Specify parameters** page, in the **Server Name** field, enter **NAV-DC-SQL-SP**.
  - b. Verify that the **Client Services Port** is set to 7046 and the **Add rule to Firewall** field is set to **Yes**.



### Task 4: Save the Configuration File

#### **High Level Steps**

1. Save the configuration parameters to file.

#### **Detailed Steps**

1. Save the configuration parameters to file.
  - a. On the **Specify Parameters** page, click **Save**.
  - b. In the **Save As** dialog box, browse to the Desktop folder.
  - c. In the **File Name** box, enter the name of the configuration file. We recommend that you use short but meaningful names. In this case, enter **NAV2013\_RTC\_Live**.
  - d. In the **Save As** dialog box, click **Save**.
  - e. On the **Specify Parameters** page, click **Close** to exit Microsoft Dynamics NAV 2013 Setup.
  - f. In the **Setup** dialog box, click **Yes**.

## Lab 4.2: Set Up the RoleTailored Client for Windows from the Command Line

### Scenario

The new computers were delivered. Tim has added the computers to the domain and has installed Microsoft Office. He also copied the Microsoft Dynamics NAV 2013 Product DVD to a shared folder (called SOFTWARE) on the NAV-DC-SQL-SP server and copied the NAV2013\_RTC\_Live.xml Setup configuration file to the local c:\temp folder on each of the five computers. He can now start to install the RoleTailored client for Windows.

### Exercise 1: Install the RoleTailored Client for Windows without the Development environment

#### Exercise Scenario

Tim wants to install the RoleTailored client for Windows without the Development environment component on four computers. He can use the Setup configuration file from the previous lab to do this. Because he does not want to run through the Setup wizard on each computer, he decides to run Setup by using the command prompt and in quiet mode. If he does this, he does not have to run through the Setup wizard manually.

#### Task 1: Open a Command Prompt

##### High Level Steps

1. Open a command prompt.

##### Detailed Steps

1. Open a command prompt.
  - a. On the Windows Taskbar, click **Start > All Programs > Accessories > Command Prompt**.

#### Task 2: Start Microsoft Dynamics NAV Setup

##### High Level Steps

1. Start Microsoft Dynamics NAV Setup.

##### Detailed Steps

1. Start Microsoft Dynamics NAV Setup.
  - a. Enter the following command:

```
\\NAV-DC-SQL-SP\software\setup.exe /config "c:\temp\NAV2013_RTC_Live.xml" /quiet
```

- b. Wait for the Setup program to finish.

### **Task 3: Close Command Prompt**

#### ***High Level Steps***

1. Close the command prompt.

#### ***Detailed Steps***

1. Close the command prompt.
  - a. At the command prompt, type "exit" and press Enter to close the command prompt window

### **Exercise 2: Install the RoleTailored Client for Windows Together with the Development environment**

#### ***Exercise Scenario***

Tim must install the RoleTailored client together with the Development environment component on one computer. He wants to use the same Setup configuration file to do this, because it contains the correct configuration parameters for the RoleTailored client for Windows. However, because the Development environment component was not selected when the configuration file was created, Tim must customize this installation.

### **Task 1: Open a Command Prompt**

#### ***High Level Steps***

1. Open a command prompt.

#### ***Detailed Steps***

1. Open a command prompt.
  - a. On the Windows Taskbar, click **Start >All Programs >Accessories > Command Prompt**.

### Task 2: Start Microsoft Dynamics NAV Setup

#### High Level Steps

1. Start Microsoft Dynamics NAV Setup.

#### Detailed Steps

1. Start Microsoft Dynamics NAV Setup.
  - a. Enter the following command:

```
\\NAV-DC-SQL-SP\software\setup.exe /config "c:\temp\NAV2013_RTC_Live.xml"
```

### Task 3: Customize the Installation

#### High Level Steps

1. Choose the installation option.

#### Detailed Steps

1. Choose the installation option.
  - a. In 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, click **Customize installation**.

If you select **Install preconfigured Product components**, Setup installs the product components exactly as saved in the Setup configuration file. Because the Development environment (C/SIDE) component was not selected in the configuration file, you must customize the installation. Therefore, click **Customize installation**.
  - d. On the **Customize the installation** page, click the **Client** node to expand it.
  - e. Click the icon at the left of the **Development environment (C/SIDE)** component.
  - f. Select **Run from My Computer**.
  - g. On the **Customize the installation** page, click **Next**.
  - h. On the **Specify parameters** page, click **Apply**.
  - i. Click **OK** to close the **Microsoft Dynamics NAV Setup** window.

### **Task 4: Close Microsoft Dynamics NAV Setup**

#### ***High Level Steps***

1. Exit Microsoft Dynamics NAV Setup.

#### ***Detailed Steps***

1. Exit Microsoft Dynamics NAV Setup.
  - a. Click **Close** to close the **Microsoft Dynamics NAV Setup** window.

## Module Review

### *Module Review and Takeaways*

This module describes the installation of Microsoft Dynamics NAV 2013 client types. As an administrator, it is helpful to know the following:

1. How to install the full RoleTailored client for Windows for demonstration purposes.
2. How to install the RoleTailored client for Windows on a network.
3. How to install the Microsoft Dynamics NAV Web client.
4. How to install the Microsoft Dynamics NAV Portal Framework for Microsoft SharePoint.