Microsoft Dynamics

Microsoft Dynamics GP 2015
Tenant Services Installation and Administration Guide

Contents

Introduction

Welcome to the Microsoft Dynamics™ GP Tenant Services. This documentation explains how to install and administer Tenant Services. You use Tenant Services to create a multitenant environment for Microsoft Dynamics GP. Before you begin installing and using tenant services, take a few moments to review the information presented here.

What's in this manual

The Microsoft Dynamics GP Tenant Services Installation and Administration Guide is designed to give you an in-depth understanding of how to install and administer the tenant services. Information is divided into the following parts:

- Part 1, **Tenant Services Basics**, provides an overview of Tenant Services and how you use Microsoft Dynamics GP in a multitenant environment.

- Part 2, **Installation**, describes how to install Tenant Services on the server.

- Part 3, **Configuration and Administration**, explains how to configure and maintain the Tenant Services.

To learn about creating applications that use Microsoft Dynamics GP Tenant Services, refer to the Web Client Service Reference document.

Symbols and conventions

To help you use this documentation more effectively, we've included the following symbols and conventions within the text to make specific types of information stand out.

Symbol	Description
	The light bulb symbol indicates helpful tips, shortcuts, and suggestions.
	Warnings indicate situations you should be aware of when completing tasks.
Margin notes summarize important information.	Margin notes call attention to critical information and direct you to other areas of the documentation where a topic is explained.

Convention	Description
Part 1, **Multitenant Basics**	Bold type indicates a part name.
Chapter 1, "Overview"	Quotation marks indicate a chapter name.
Installing tenant services	Italicized type indicates a section name.
`using System.IO;`	This font is used to indicate script examples.
Microsoft Message Queuing (MSMQ)	Acronyms are spelled out the first time they're used.
TAB or ALT+M	Small capital letters indicate a key or a key sequence.

Product support

Microsoft Dynamics GP technical support can be accessed online or by telephone. Go to www.microsoft.com/Dynamics and click the CustomerSource or PartnerSource link, or call 888-477-7877 (in the US and Canada) or 701-281-0555.

Part 1: Tenant Services Basics

This portion of the documentation contains introductory information that you should know before deploying the Microsoft Dynamics GP Tenant Services. The following information is discussed:

- Chapter 1, "Tenant Services Overview," introduces Tenant Services and multitenant environments.

- Chapter 2, "Tenant Services architecture," discusses how you use Tenant Services to create a multitenant environment for Microsoft Dynamics GP.

- Chapter 3, "Tenant Services preparation," discusses the planning and preparations you have to complete before you install Tenant Services.

Chapter 1: Tenant Services Overview

Microsoft Dynamics GP Tenant Services are Windows Communication Foundation (WCF) services that help you to host Microsoft Dynamics GP for more than one organization in your data center. The following topics introduce Microsoft Dynamics GP Tenant Services:

- *What are Tenant Services?*
- *What can Tenant Services do?*
- *Getting started*

What are Tenant Services?

Microsoft Dynamics GP Tenant Services are three WCF services:

- Microsoft Dynamics GP Tenant Discovery Service
- Microsoft Dynamics GP Tenant Management Service
- Microsoft Dynamics GP Tenant Public Discovery Service

You install Tenant Services when you want your data center to host Microsoft Dynamics GP for more than one organization. Each organization is called a tenant. Hosting multiple tenants enables several organizations to share servers and other resources.

Tenant Services helps you to isolate the data and configuration information for each tenant. As a result, a user is not aware that there are other users from other organizations that are also working with Microsoft Dynamics GP in a shared data center.

To work with tenant data, you use a multitenant application. A multitenant application includes a service that runs in your data center and is shared by all the tenants. When you install Tenant Services, you can use the following Microsoft Dynamics GP multitenant applications:

- Microsoft Dynamics GP Web Client
- Web Services for Microsoft Dynamics GP
- Microsoft Dynamics GP Service Based Architecture

For example, a user views data and performs operations using the Microsoft Dynamics GP web client. The user is unaware that people from other organizations are also using the shared web client infrastructure to work with other tenants.

What can Tenant Services do?

Tenant Services enables you to setup and manage a multitenant environment for Microsoft Dynamics GP. You should install Tenant Services when you want to use Microsoft Dynamics GP in the following scenarios:

1. **Host multiple organizations in a data center.**
   You want to host Microsoft Dynamics GP for multiple, unrelated organizations. For example, you create a tenant for each organization and enable the web client for each tenant.

2. **Host separate tenants for a single organization.**
   You want to host multiple Microsoft Dynamics GP tenants for a single organization. For example, you create a tenant where you perform tests of the multitenant applications. The tenant keeps the data in the test environment separate from the data in your production tenant.

Getting started

How you start depends on your role:

System administrator
If you are the system administrator, complete the following:

- Review Chapter 2, "Tenant Services architecture," to understand the components that work with Tenant Services. This information can help you to understand how Tenant Services works in a multitenant Microsoft Dynamics GP environment.

- Review Chapter 4, "Prerequisites," to determine whether your system has all the prerequisites for Tenant Services. You may need to install some additional software or complete additional configuration before installing Tenant Services.

- Review Chapter 5, "Tenant Services Installation," to acquaint yourself with the Tenant Services installation procedure.

- Review Chapter 9, "Configuring Tenants," to learn how to add tenants, users, and multitenant applications.

- Review Chapter 10, "Maintenance," to learn what you can do to change, repair, or remove an existing Tenant Services installation.

Software Developer
If you are a developer and you want to create a multitenant application, complete the following:

- Review Chapter 2, "Tenant Services architecture," to familiarize yourself with the services and components of Tenant Services. You should understand how Tenant Services enables a multitenant application to access Microsoft Dynamics GP data for a tenant.

- Determine which Tenant Service endpoint you want your application to target. To get tenant information, you can use the Tenant Discovery Service or the Tenant Public Discovery Service.

  If your application will run on a different network than where you installed Tenant Services, you have to use the Tenant Public Discovery Service.

  If your application will run on the same network where you installed Tenant Services, you can use the Tenant Discovery Service. Applications that run on the same network can also use the Tenant Management Service.

- Discuss the installation procedure with the system administrator to learn what security and port settings were used during the Tenant Services installation. If you plan to use the Tenant Public Discovery Service, verify that the service was installed.

- Review the Microsoft Dynamics GP Web Client Service Reference documentation. Use the reference to learn about the classes and operations of the Tenant Discovery Service and the Tenant Management Service.

Chapter 2: Tenant Services architecture

Before you install Tenant Services, it might help to understand multitenancy. You should also be familiar with how Microsoft Dynamics GP implements multitenancy. Information about the Microsoft Dynamics GP multitenant environment is divided into the following sections:

- *Multitenancy and Microsoft Dynamics GP*
- *Tenant Services architecture*
- *Tenant Manager and the Web Management Console*

Multitenancy and Microsoft Dynamics GP

Multitenancy is a software architecture where an application runs as a service and is used by multiple, independent organizations that are called tenants. The service runs in a single, shared physical environment. Users from several tenants can simultaneously use the application because the service logically isolates data and configuration information for each tenant.

To use Microsoft Dynamics GP in a multitenant environment, you install the following components to the servers in you data center:

- You first install Tenant Services. Tenant Services are WCF services that enable Microsoft Dynamics GP multitenant applications to logically isolate data and configuration information for each tenant.

- You install Microsoft Dynamics GP for each tenant organization. When you install Microsoft Dynamics GP you have to specify a separate, named system data base for each tenant organization.

  An important advantage of multitenancy is that you can use a single SQL Server for all the tenants.

- You install the Tenant Manager snap-in and the Web Management Console. You use the Tenant Manager to add and configure tenants and multitenant applications. The Tenant Manager uses Tenant Services to perform operations on tenants, applications, and users.

- You install a multitenant application. Microsoft Dynamics GP multitenant applications include the Microsoft Dynamics GP Web Client, Service Based Architecture, and Web Services for Microsoft Dynamics GP. Each multitenant application includes a service that is shared by all the tenants.

The following sections describe the key structural concepts in a Microsoft Dynamics GP multitenant environment.

Tenant

A tenant is an organization that can use a multitenant application to access Microsoft Dynamics GP. You use the Tenant Manager snap-in to create tenants. Each tenant has a unique name. For more information about how to add a tenant, see *To add a tenant*.

You assign a multitenant application to a tenant. You also assign a tenant user to a tenant. The tenant users assigned to a tenant can use all the multitenant applications for that tenant.

Application

A multitenant application is a client that connects to a shared service. You use a multitenant application to perform operations that use Microsoft Dynamics GP data for a specified tenant. The install includes the following multitenant applications:

* Microsoft Dynamics GP Web Client
* Web Services for Microsoft Dynamics GP
* "Microsoft Dynamics GP Service Based Architecture

You first have to use the Tenant Manager snap-in to add the application to your multitenant environment. You then use Tenant Manager to assign the application to the tenant.

After you assign an application to a tenant, you use the Tenant Manager to populate the application properties. The application properties enable you to configure the service for the specified tenant. For example, you use application properties to specify how to connect the web client to Microsoft Dynamics GP. For more information about how to add and configure applications, see Chapter 8, "Configuring Applications.".

User

A user is a person that can perform operations with tenants and multitenant applications. There are two types of users:

* Service users
* Tenant users

A service administrator is a person that has access to all tenants, multitenant applications, tenant users, and service administrators. The Tenant Services install adds two service administrators. The following table shows the type of service administrators:

Service user type	Description
Delegating user	The log on identity for the service that the multitenant application uses. For example, the login for the application pool for the Dynamics GP Web Client must be a delegating user. The delegating user enables the service to work on behalf of the logged in user. For example, access to a Tenant Services operation is based on the credentials of the logged in user and not the service identity. You cannot use the same login for both a delegating user and a service administrator. A delegating user should not be assigned to a tenant. You can have more than one delegating user.
Service administrator	A user that can add, update, or remove tenants, tenant users, multitenant applications, and service administrators. To add a service administrator, you have to add the login ID of the person to the Users list in Tenant Manager. A service administrator should not be assigned to a tenant. You can have more than one service administrator. You cannot use the same login for both a delegating user and a service administrator.

A service user is a user that has access to all tenants, multitenant applications, tenant users, and service administrators or can work on behalf of another user. The

A tenant user is a person or group that is authorized to use a multitenant application to perform operations for a tenant. You use the Tenant Manager snap-in to add a tenant user to a tenant. The following table shows the type of service users.

Tenant user type	Description
Tenant administrator	A user that can add other tenant users to a tenant. You can upgrade any tenant user to be a tenant administrator.
Tenant user	A user that is assigned to a tenant. When you assign a user to a tenant, that person is authorized to use any of the multitenant applications for that tenant. A tenant can have one or more than one tenant user. In addition, a tenant user can be associated with more than one tenant. To add a tenant user, you associate the login ID of the person or the group with the tenant.

For more information about users, see *To add users* for service administrators and *To add a tenant user* for tenant users.

Tenant Services architecture

Microsoft Dynamics GP Tenant Services is a collection of WCF services that help a multitenant application to access Microsoft Dynamics GP for a tenant. Tenant Services run on a server in your data center. You have to install Tenant Services before you can use any multitenant application. The following diagram shows how a multitenant application uses Tenant Services:
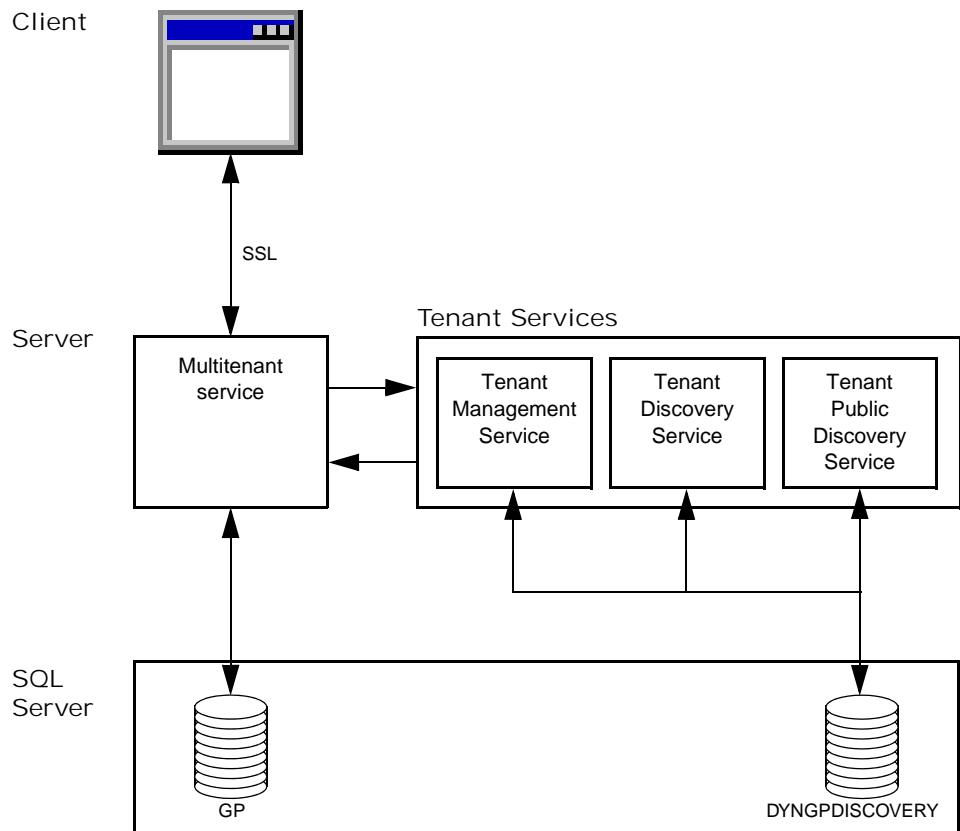
Client and the multitenant service

A multitenant application includes a client and a multitenant service. The multitenant application enables you to perform operations that use Microsoft Dynamics GP data for a specified tenant. You can use the following multitenant applications:

- Microsoft Dynamics GP Web Client
- Web Services for Microsoft Dynamics GP
- "Microsoft Dynamics GP Service Based Architecture

To start a multitenant application, you have to login to the client with the credentials of a tenant user. You must also have permissions to access Microsoft Dynamics GP data. The multitenant service uses the Tenant Discovery Service to determine whether your login ID is a tenant user. If you are not a tenant user, access to the multitenant service is denied.

If your login is a tenant user, the multitenant application needs to identify the tenant you want to work with. To help specify the tenant, you see the following behaviors:

- If your login is associated with a single tenant, you are logged in to that tenant. You do not need to perform any additional action.

- If your login is associated with more than one tenant, you can get a list of available tenants. You can then choose the tenant that you want to log in to.

After you choose the tenant, the multitenant service gets configuration information that enables the service to work with Microsoft Dynamics GP data for the specified tenant. You can now use the client to perform operations for the specified tenant.

Tenant Services

Microsoft Dynamics GP Tenant Services includes three Windows Communication Foundation (WCF) services. These services enable you to add, view, and update tenants, users, and multitenant applications. The following table describes the WCF services.

Service name	Description
Microsoft Dynamics GP Tenant Discovery Service	You use the Tenant Discovery Service to get basic tenant information for a specified user and a specified multitenant application. You can use this information to select the tenant you want to work with.
Microsoft Dynamics GP Tenant Management Service	You use the Tenant Management Service to create, update, and remove tenants, multitenant applications, tenant users, and service administrators.
Microsoft Dynamics GP Public Tenant Discovery Service	You use the Tenant Public Discovery Service to get basic tenant information for a specified user or a specified tenant application. You use the public discovery service when your multitenant application has to access tenant information from the internet. By default, the public discovery service is not initially installed. You have to manually add the service either during installation or with Add/Remove Features. To help secure messages you send and receive, you have to use a security certificate and SSL to secure the service.

DYNGPDISCOVERY database

Information about tenants, users, and multitenant applications is stored in a SQL Server database. The default name for the database is DYNGPDISCOVERY. You

can specify a different name during installation. You can place the Tenant Services database on the same SQL Server you use for Microsoft Dynamics GP.

To add, update or remove records from the database, you use the Tenant Manager snap-in and the Web Management Console..

Security

The diagram shows that the client communicates with the multitenant service over a network. To help secure the information in the messages between the client and the service, you have to use security certificates and Secure Sockets Layer (SSL). You use SSL to encrypt the messages.

The Tenant Discovery Service and Tenant Management Service do not require security certificates and SSL. However, it is recommended that you use SSL with these services whenever possible.

If you use the Tenant Public Discovery Service, you are required to have a security certificate and SSL. You use the Tenant Public Discovery Service when your multitenant application is on a different network than where you installed tenant services.

To get information from any of the Tenant Services, you must provide an authenticated Windows login. Your login ID is used to determine what tenants and services you can access.

Web client example

The following illustration shows an example of how Tenant Services works with a multitenant application. The example shows Tenant Services and the Microsoft Dynamics GP Web Client.
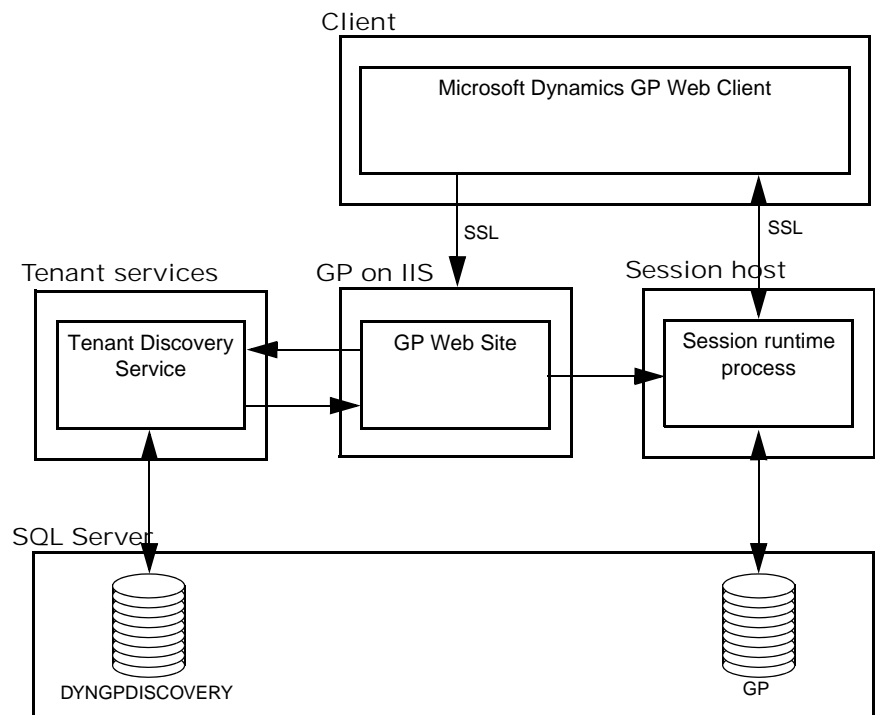
To begin, you use a web browser to start the Dynamics GP web client. The browser contacts the GP web site on your IIS web server. You are prompted to enter your login credentials and click Sign In. The service behind the GP web site queries the Tenant Discovery Service to determine whether your login credentials are authorized to use the web client. The service is called the Session Central Service.

The Session Central Service then determines whether you were previously using the web client. If an existing web client session is found, you can choose to reconnect.

If you choose to start a new web client, the Session Central Service uses the Tenant Discovery Service to get the list of tenants that you can access. The list is retrieved from the DYNGPDISCOVERY database. You then have to specify the tenant you want to use:

- If the query returns one tenant, the web client defaults to use that tenant.

- If the query returns more than one tenant, you will see a list of tenants in the browser. You select the Create Session action for the tenant you want to use.

After you choose the tenant, the Session Central Service uses the Tenant Discovery Service to get web client configuration information for that tenant. The configuration information includes how to connect to Microsoft Dynamics GP for the tenant. The Session Central Service uses the configuration information to start another service called a session runtime process.

The Session Central Service returns the URL for the session runtime process to the browser. The browser uses that URL to connect to the session runtime process and the web client appears. For more information about the web client, see the Web Client Installation and Administration Guide.

In a single tenant environment where Tenant Services are not installed, you will find a file named TenantConfiguration.xml at the root of the Session Central Service installation folder. The file contains default tenant information that is automatically used when you login to the web client.

Tenant Manager and the Web Management Console

After you install Tenant Services you will want to add tenants, multitenant applications, tenant users, and service administrators. To perform these operations, you have to install the Tenant Manager snap-in for the Microsoft Dynamics GP Web Management Console. For more information about how to install the Web Management Console, see Chapter 6, "Tenant Manager Installation."

Tenant Manager is the application you use to manage your multitenant environment. To view the Tenant Manager, you use your browser to open the Web Management Console.

The following illustration shows the architecture of the Tenant Manager. Notice how the Tenant Manager uses Tenant Management Service and Tenant Discovery Services to get and save information about tenants, multitenant applications, tenant users, and service administrators in the DYNGPDISCOVERY database.

Internet Explorer

Web management console

Tenant Manager

SSL

IIS

TenantProxy Service

WCF Services

Tenant Management Service

Tenant Discovery Service

SQL Server

DYNGPDISCOVERY
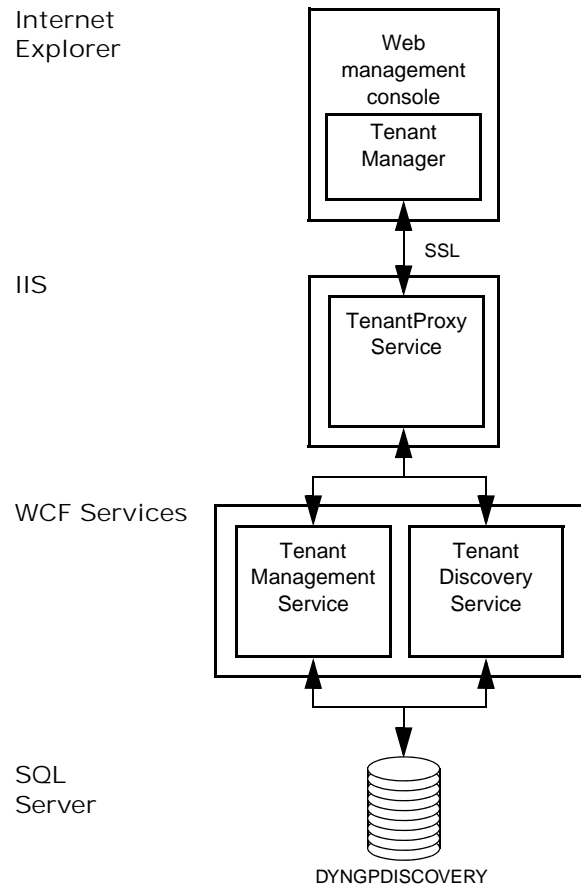
You might also notice that the Tenant Manager uses a service named Tenant Proxy Service. The Tenant Proxy Service is an intermediate service that helps the Silverlight Tenant Manager application to use the operations of the WCF Tenant Services.

Chapter 3: Tenant Services preparation

If you plan to use Microsoft Dynamics GP in a multitenant environment, you need to spend time planning how to use Tenant Services. You use Tenant Services when you want to use a multitenant application like the Web Client or web services with Microsoft Dynamics GP. If you plan to use other applications, you do not need to install Tenant Services. For example, Integration Manage would not require you to install Tenant Services.

Planning information is divided into the following sections:

- *Deployment configurations*
- *User accounts*
- *Signed security certificates*

Deployment configurations

Which configuration you choose will depend on what types of integration you need, and the server resources you have available.

Scale-out
A scale-out configuration is a multiserver deployment configuration. Typically, you use the scale-out configuration to support the Microsoft Dynamics GP Web Client. To create a multitenant environment, you have to add Tenant Services to the scale-out configuration.

You use the scale-out configuration when you expect to host more than one organization and a large number of users. To obtain optimal performance, you should use the scale-out configuration whenever possible.

The following illustration shows a basic scale-out configuration that you would use for Microsoft Dynamics GP Web Client. Notice that Tenant Services is installed on a separate server, and accesses the SQL Server over the local network.
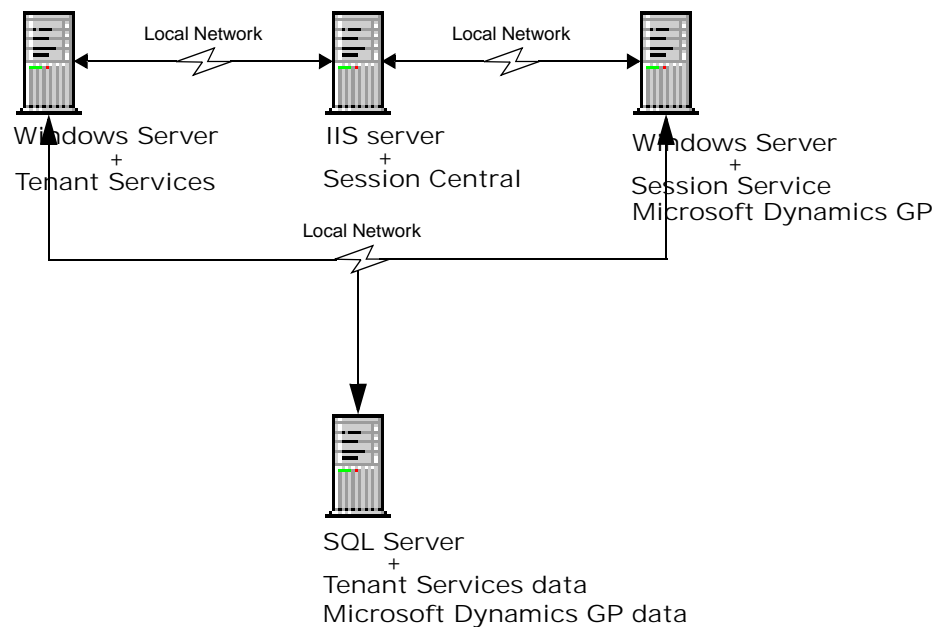
Typically, you install Tenant Services onto a separate server. However, you can put Tenant Services on any server that can be accessed by the other servers in your deployment.

In addition, you can install Tenant Services on more than one server. The separate Tenant Services installs use the same SQL Server database. This would enable you to load-balance Tenant Services and to provide additional reliability.

Also notice how the scale-out configuration includes a separate IIS server and a session host server.

The scale-out configuration provides the following advantages:

- Better performance for a large number of tenants.

- Better resistance to failure.

- Easier maintenance. You make changes to the tenant services without having to take your multitenant environment offline.

In multiserver configuration you can use a firewall to shield the tenant services from outside access. In the web client example, access to the tenant services is provided by the Session Central Service on the web server.

For additional security you can also have a firewall between the tenant service, the session host server and the SQL Server. The firewall can provide additional security by further restricting access to the SQL Server.

Single-server

An alternate configuration adds Tenant services to a single-server deployment. In this configuration, you install Tenant Services on the same server as Microsoft Dynamics GP and the SQL Server. The following illustration shows the configuration for a single server:
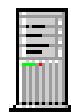
IIS Server
SQL Server
     +
Microsoft Dynamics GP data
Tenant Services data
     +
Tenant Services
Session Central Service
Session Service
Microsoft Dynamics GP

This configuration is best suited for development and evaluation environments where the number of tenants and users is expected to be small.

User accounts

You will need at least two user accounts during the installation of tenant services. For the multiple-server installation, you have to use domain accounts. For the single-server installation, you can use machine accounts. Ideally, these user accounts should have limited privileges, and a password that does not expire.

Create the user accounts before you start installing the Microsoft Dynamics GP Tenant Services. You must have user accounts for the following:

Tenant Services Installation
The login you use to install Microsoft Dynamics GP Tenant Services is added as a service administrator. You can use this login to access the Tenant Manager snap-in of the Web Management Console where you can add tenants, multitenant applications, and user to your multitenant environment.

Service login IDs
You have to specify a user account as the login ID for the Tenant Discovery Service, Tenant Management Service, and the Tenant Public Discovery Service. Use a different user account than you use to install Tenant Services. The service logins are given SQL permissions to the tenant database.

Tenant Manager
If you install the Microsoft Dynamics GP Web Management Console and the Tenant Manager snap-in, you have to specify a login ID for the IIS application pool. You can use the same user account that you use for the service login IDs.

The user account that you specify for the application pool will be added as a delegating user for Tenant Services. You should not use this login for a service administrator, tenant administrator, or tenant user.

You cannot use the login of a service administrator as a delegating user. If you try to use the same login for both, you will not be able to use the Tenant Manager snap-in of the Web Management Console.

Signed security certificates

You can use security certificates and secure sockets layer (SSL) to help improve the security of data being transmitted to the Tenant Services. You will use the security certificate when you install Tenant Discovery Service, Tenant Management Service, and the Tenant Public Discovery Service. In addition, you use a security certificate to help secure the web site that hosts the Web Management Console and the Tenant Manager snap-in.

The easiest way to implement SSL for Tenant Services is to get a signed security certificate. To get a signed security certificate, you purchase it from a third-party supplier. When you use a third-party signed security certificate the third-party handles the certificate validation when users connect to the site. No additional action is needed by the users.

The following sections describe the types of signed security certificates that you can use.

Single domain

This type of security certificate is issued for a specific machine. For example, you could get a security certificate issued for the machine with the following name:

•   GPTenantServices.contoso.com

You would typically use this type of certificate when installing your multitenant environment in a single machine configuration. This is the least expensive type of certificate to purchase.

Multiple domain

This type of security certificate is issued for a set of specific machines. You must know the machine names at the time that you purchase the security certificate. For example, you could get a security certificate issued that you use with the following machine names:

•   GPTenantServices.contoso.com
•   GPweb.contoso.com
•   GPServiceHost1.contoso.com
•   GPServiceHost2.contoso.com

You would typically use the multiple domain certificate when installing Tenant Services in a scale-out configuration. The certificate would contain an entry for each machines that will be part of your configuration. This security certificate is more expensive because the same certificate can be used on multiple machines.

Wildcard

This type of security certificate is not issued for specific machines. Instead, it is issued for a specified domain. The security certificates can be used for any machines that follow the naming convention of the domain. For example, if you purchased a wildcard certificate for the *.contoso.com domain, any machine in that domain (such as GPTenantServices.contoso.com) could use the wildcard certificate.

You would typically use the wildcard certificate when installing a multitenant Microsoft Dynamics GP environment in the scale-out configuration. The wildcard certificate is especially useful when you expect to add additional machines to the configuration but do not know the names at the time you are purchasing the certificate. The extra flexibility does come with a cost. Wildcard certificates are the most expensive signed certificate.

The certificate must list "Server Authentication" as one of its intended purposes. To view the intended purpose, use the Certificates snap-in for the Microsoft Management Console and view the Intended Purpose column.

Part 2: Installation

This portion of the documentation explains how to install the Microsoft Dynamics GP Tenant Services. The following information is discussed:

- Chapter 4, "Prerequisites," describes the software required and the actions you must perform before you install the Microsoft Dynamics GP Tenant Services.

- Chapter 5, "Tenant Services Installation," describes the steps to install Tenant Services.

- Chapter 6, "Tenant Manager Installation," describes the steps to install the Tenant Manager and the Web Management Console.

Chapter 4: Prerequisites

Before installing Microsoft Dynamics GP Tenant Services, there are several prerequisites you must check. This portion of the documentation describes the software requirements and the additional steps to perform before installing Tenant Services. The following topics are discussed:

- *Operating system*
- *User accounts*
- *Security group*
- *SQL Server*
- *Security Certificates*
- *Internet Information Services (IIS)*

Operating system

To install Microsoft Dynamics GP Tenant Services, the computer must be running the 64-bit version of Windows Server 2008 R2 (Standard or Enterprise) or later..

User accounts

You will have to have domain user accounts that you can use during the install. Before you begin the install, you need to create the following accounts:

1. **Create the service administrator account.**
   Select or create the domain user account that you will use to install Tenant Services. The install will add the account as a service administrator for Tenant Services. The user account must be in the Administrators security group on the server where you will install Tenant Services.

   In addition, you will use this login when you first open the Web Management Console. You can then use the Tenant Manager snap-in to add other service administrator accounts.

2. **Create an account for the services and application pool.**
   Select or create a user account that you can use as the log on ID for the Tenant Discovery Service, Tenant Management Service, Tenant Public Discovery Service, and the DynGPWebMgmt application pool for the Web Management Console.

   You should not use the same account that you use to install Tenant Services. The log on account for the application pool has to be a delegating user. You cannot have an account that is both a service administrator and delegating user.

Security group

Security groups are used to specify which users are allowed to access the Microsoft Dynamics GP Web Management Console. You use the security group to grant your tenant service administrator access to the Tenant Manager snap-in. You also have to add tenant administrator accounts to the group.

You can also use a domain group to specify who has access to the Tenant Manager snap-in.

To create the security group, complete the following steps:

1. **Start Server Manager.**
   Start Server Manager on the computer where you install the Web Management Console and the Tenant Manager snap-in.

2. **Expand Groups in Local Users and Groups.**
   Expand Configuration, expand Local Users and Groups, and then click Groups. Right-click Groups and then click New Group. The New Group windows opens.

3. **Type the group name and description.**
   Enter a name that uniquely identifies the group. For example, you enter TSUsers for the group name.

   You can enter a description of the group but it is not required.

4. **Click Add to add a member to the group.**
   To add a member to the group, click Add. You use Select Users, Computers, Service Accounts, or Groups to enter the login ID you want to add to the group. Click Check Names to validate the ID. Click OK to add the specified user to the group.

   You should add the login IDs of the service user accounts that you created earlier to the group.

5. **Create the group.**
   Click Create. The group is added to the list of groups. The group contains the member or members you specified in the previous step. Click Close to close the New Group window.

SQL Server

Identify the SQL Server you want Tenant Services to use. Tenant Services stores information about tenants, users, and multitenant applications in a database. When you configure Tenant Services, you will specify the SQL Server where you want to add the database.

You need Microsoft SQL Server 2012 or higher. SQL Server can be on the same machine where you install Tenant Services or on a separate machine within the domain. In addition, you can use the same SQL Server that you use for Microsoft Dynamics GP data.

Security Certificates

Get the security certificates for your servers. The following steps describe how to determine what security certificates you need and where to place the files.

1. **Obtain the security certificate.**
   Get the security certificate (.cer) file from the third-party certificate supplier.

Component	Description
Tenant Services	If you will install Tenant Services to a separate machine in a scale-out configuration, you have to obtain a security certificate for that machine. If you will install Tenant Services in a single-server or similar configuration and you already have a security certificate for that server, you do not need another.
Web Management Console with the Tenant Manager snap-in	If you will install the Web Management Console and the Tenant Manager snap-in on a separate web server, you have to obtain a security certificate for that machine. If you will install the Tenant Manager on the web server you use for the web client, you do not need another security certificate.

2. **Place the security certificate on the Tenant Services server.**
   Place your Tenant Services security certificate file in a location that you can access from the machine where you plan to install Tenant Services.

3. **Place the security certificate on the web server.**
   Place the web server security certificate file in a location that you can access from the machine where you plan to install the Web Management Console and the Tenant Manager snap-in.

Internet Information Services (IIS)

After you install Tenant Services, you have to install the Tenant Manager snap-in for the Microsoft Dynamics GP Web Management Console. The Tenant Manager is the web application that you use to add and configure tenants, users, and multitenant applications.

The Web Management Console requires a web server where you have installed IIS 7.5 or later. If you plan to install the Microsoft DynamicsGP web client, you can also use that web server to host the Web Management Console.

To install IIS on a Windows Server 2008 R2 machine, complete the following steps:

1. **Open the Server Manager.**

2. **Click Roles.**

3. **Click Add Roles.**
   The Add Roles Wizard opens. Click Next.

4. **Select the Web Server role.**
   Click Web Server (IIS) in the list of Server Roles. Click Next to continue.

5. **Click Next to close the Introduction screen.**

6. **Select the role services.**
   In addition to the default role service that appear in the Select Role Services window, you have to click ASP.NET. If you are asked to add role services required for ASP.NET, click Add Required Role Services.

   Click Windows Authentication in the Security list. Click Next.

7. **Click Install.**
   In the Confirm Installation Selections window, click Install. The specified role and role services are added to the server.

8. **Click Close.**
   After the installation is complete, click Close.

Chapter 5: Tenant Services Installation

This portion of the documentation describes how to install Microsoft Dynamics GP Tenant Services. The following information is discussed:

- *Install the security certificate*
- *Install Tenant Services*
- *Configure the Tenant Services database*
- *Upgrading an earlier installation*
- *What to do next*

Install the security certificate

If you are adding Tenant Services to a scale-out configuration for the Microsoft Dynamics GP web client installation, you have to supply a security certificate for the server where you want to install Tenant Services. To install a security certificate onto the server, complete the following procedure:

1. **Verify you are logged in with administrator privileges.**
   The user you are currently logged in as must be in the Administrator group for the computer on which you are installing Tenant Services.

2. **Open the Run prompt.**
   Choose Start > Run or press Window-R.

3. **Open the Microsoft Management Console.**
   In the Open field, type MMC and the click OK.
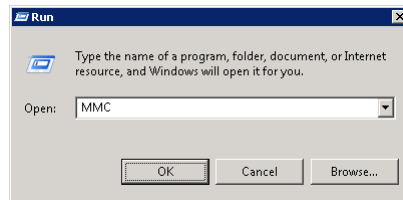
4. **Open the Add or Remove Snap-ins window.**
   In the Microsoft Management Console, open the File menu and choose Add/Remove Snap-in.

5. **Add the Certificates snap-in.**
   In the Add or Remove Snap-ins window, choose the Certificates snap-in from the Available snap-ins list, and then click Add.

6. **Specify the computer account.**
   In the Certificate snap-in dialog box, choose Computer account, and then click Next.

7. **Select to manage the local computer.**
   In the Select Computer dialog box, choose Local computer, and then click Finish.

8. **Add the snap-in to the console.**
   In the Add or Remove Snap-ins window, click OK.

9. **Expand Personal in the Certificates node.**
   In the left pane, expand the Certificates (Local Computer) node, and then expand the Personal node.
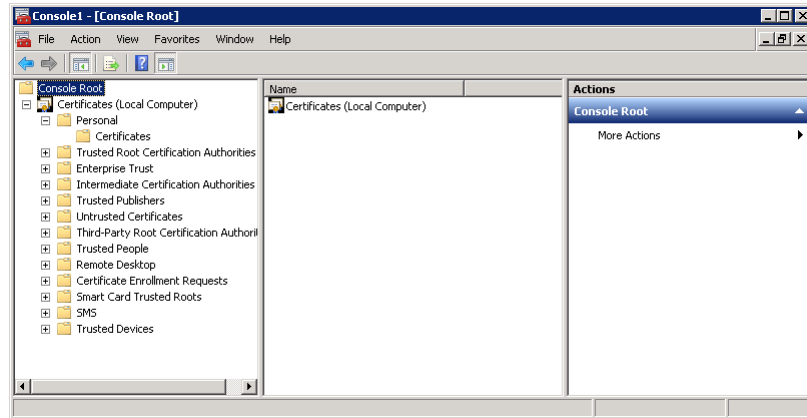
10. **Start the certificate import wizard.**
    Under Personal, right-click the Certificates node, click All Tasks, and then click Import. When the Certificate Import Wizard appears, click Next.

11. **Specify the security certificate file.**
    In the File to Import screen, click Browse. Navigate to the location where placed the security certificate (.cer) file that you got for the tenant server. Select the .cer file, and click Open.

12. **Import the security certificate.**
    In the Certificate Import Wizard, click Next.

13. **Verify the certificate store.**
    In the Certificate Store screen, verify that the certificate is being added to the Personal store. Click Next.

14. **Complete the import.**
    Click Finish to complete the import process.

15. **Close the Microsoft Management Console window.**

Install Tenant Services

To install Tenant Services, complete the following procedure:

1. **Start the Tenant Services installer.**
    To install the Tenant Services, run Setup from the Microsoft Dynamics GP install media. Click Tenant Services and then click Install.
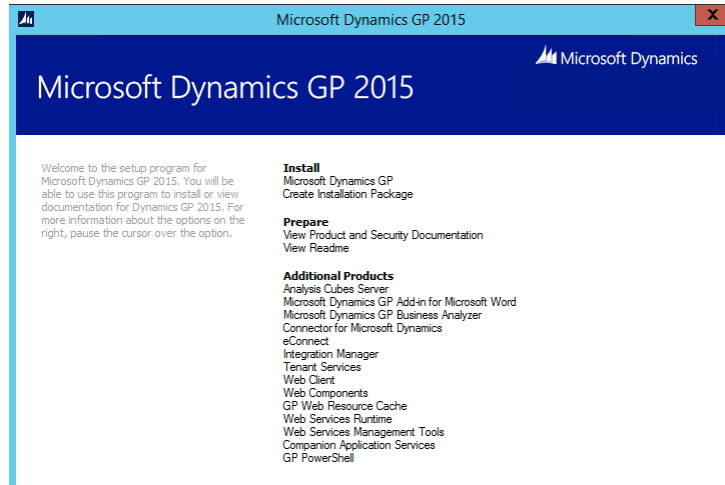
    You can also start the install by opening the AdProd folder on the install media, expand TenantServices, and then double-click TenantServices.

2. **Install prerequisites.**
    If you see a window that prompts you to install prerequisite components, click Install. If you previously installed Tenant Services, Microsoft Dynamics GP, or another product, you might not see this window.

3. **Review the license agreement.**
    After reviewing the license agreement, mark the option to accept the terms. Click Next to continue.
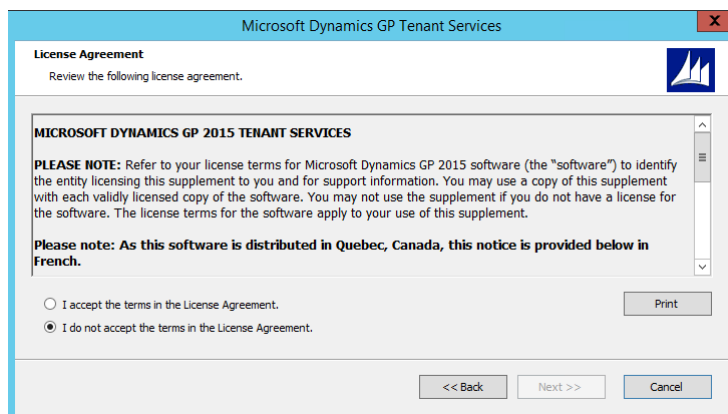
4. **Specify the components to install**.
   Select the features you would like to install.
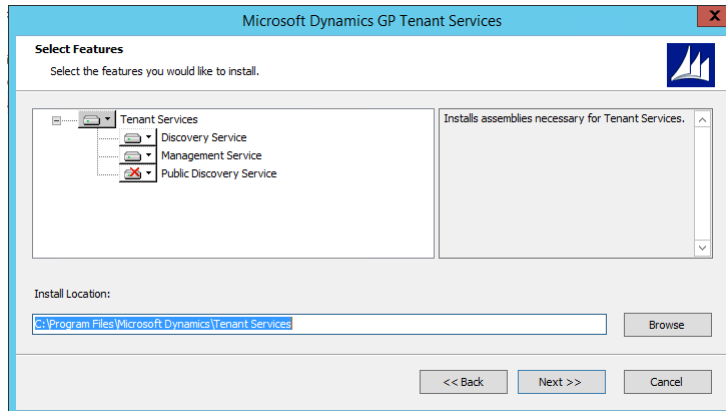
The install allows you to select from the following features:

Name	Description
Tenant Discovery Service	Installs the Tenant Discovery Service. The default is to install this service.
Tenant Management Service	Installs the Tenant Management Service. The default is to install this service.
Tenant Public Discovery Service	Installs the Tenant Public Discovery Service. The public discovery service is optional. The default is to not install this service. You install the Tenant Public Discovery Service when you have multitenant applications other than Microsoft Dynamics GP that get tenant information from outside your domain.

When you click a button for a feature, a pop-up menu of options appears. Refer to the following table for information about each option.

Option	What happens
Run from My Computer	Installs the feature on the local hard disk. This option installs the feature but not sub features.
Run all from My Computer	Installs the feature and all of its sub features.
Not Available	Do not install the selected feature. You can install the feature later using Add or Remove Programs.

To include a feature, click the button and select "Run from My Computer" To exclude a feature, click the button and select "Not Available"

5. **Configure the Tenant Discovery Service settings.**
   To install the discovery service you have to specify the following settings:

Setting	Description
Port	The default port value is 48630. If the port is in use, the next available port is selected. In addition, you can enter the port number that you want the service to use.

Setting	Description
Certificate	Specify a security certificate when you want the connections to the service to use SSL. A certificate is optional. The default value is Not Selected. If you do not specify a certificate, SSL will not be used to encrypt messages to and from the service. To review information about available certificates, click the certificate in the drop-down list, and then click the View button. A dialog window opens that provides detailed information about the certificate.
Host name	The fully qualified domain name of the server where you have installed the security certificate.
Domain	Enter the domain name associated with login ID you want to use with the service.
User name	Specify the login name for the service.
Password	Enter the password for the specified login ID.

Click Next to continue.

6. Configure the Tenant Management Service settings.
To install the management service you have to specify the following settings:

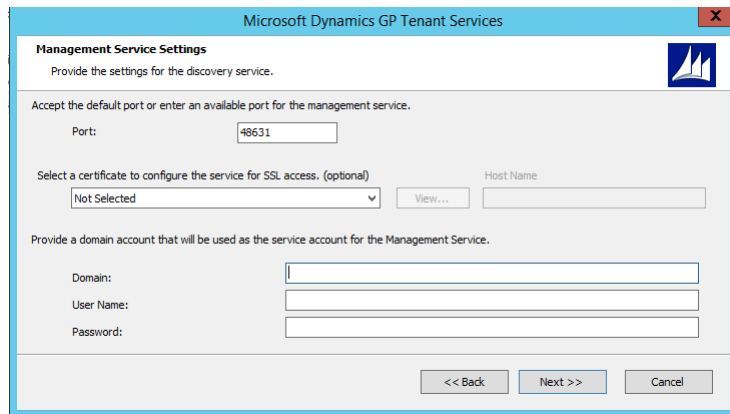| Setting	Description
Port	The default port value is 48631. If the port is in use, the next available port is selected. In addition, you can enter the port number that you want the service to use.
Certificate	Specify a certificate when you want the connections to the service to use SSL. A certificate is optional. The default value is Not Selected. If you do not specify a certificate, SSL will not be used to encrypt messages to and from the service. To review information about available certificates, click the certificate in the drop-down list, and then click the View button. A dialog window opens that provides detailed information about the certificate.
Host name	The fully qualified domain name of the server where you have installed the security certificate.
Domain	Enter the domain name associated with login ID you want to use with the service.
User name	Specify the login name for the service.
Password	Enter the password for the specified login ID.

Click Next to continue.

7. Configure the Tenant Public Discovery Service settings,
If you specified that you want to install the public discovery service, you have to supply the following settings:

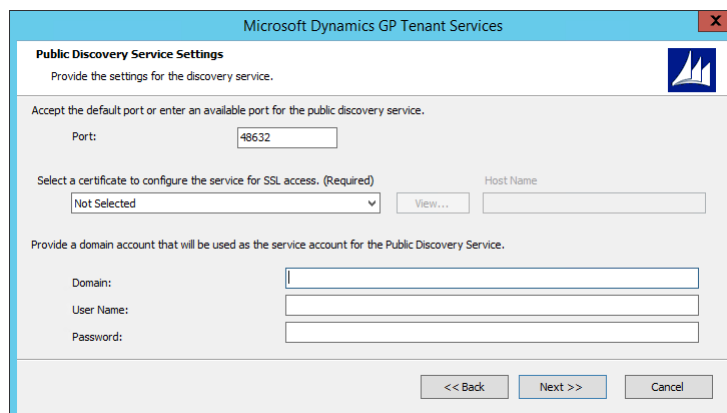| Setting	Description
Port	The default port value is 48632. If the port is in use, the next available port is selected. In addition, you can enter the port number that you want the service to use.
Certificate	If you install the public discovery service, you have to use SSL. SSL insures that messages to and from the service are encrypted. Specify the security certificate you want the service to use. If you do not specify a certificate, you will not be able to proceed with the install. To review information about available certificates, click the certificate in the drop-down list, and then click the View button. A dialog window opens that provides detailed information about the certificate.
Host name	The fully qualified domain name of the server where you have installed the security certificate.
Domain	Enter the domain name associated with login ID you want to use with the service.
User name	Specify the login name for the service.
Password	Enter the password for the specified login ID.

Click Next to continue.

8. **Start the installation.**
    Click Install to begin the installation process. The install will run for several minutes.
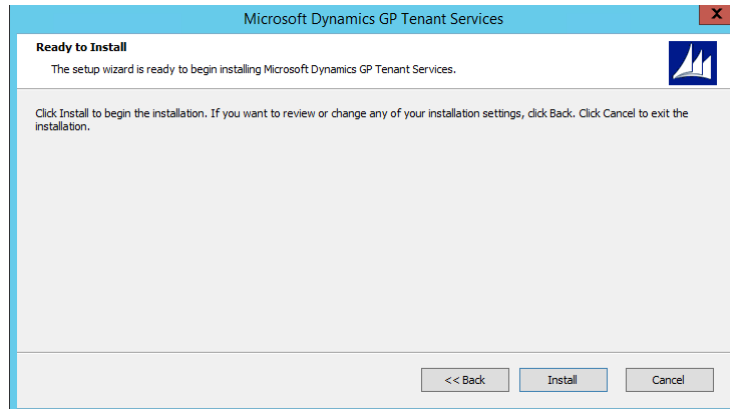
9. **Complete the installation.**
    Once the installation completes, you can choose to run the Tenant Service Configuration Wizard. To start the wizard, click Run the Microsoft Dynamics GP Tenant Services Configuration Wizard. Click Exit.
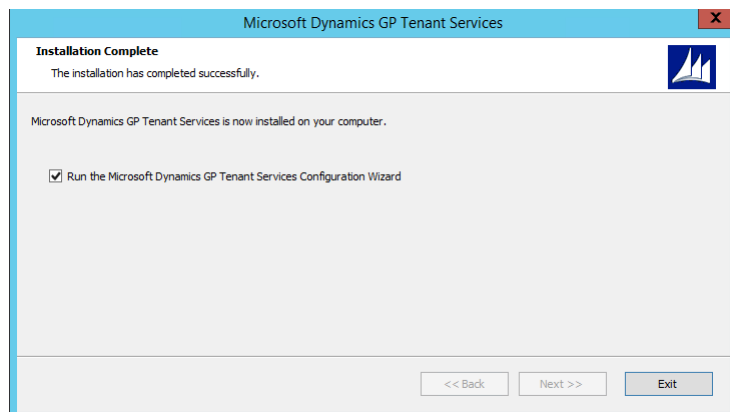
Configure the Tenant Services database

After you install Tenant Services, you have to specify a database that the services can use. The tenant services store configuration information for tenants, users, and multitenant applications in the specified database.

You use the Tenant Services Config Wizard to specify the database for Tenant Services. The wizard enables you to specify the Microsoft SQL Server and database you want to use for the tenant service. To use the wizard, complete the following steps:

1. **Start the Tenant Services Configuration Wizard**
   Click Start, click Administrative Tools, and then click Tenant Services Config Wizard. The Microsoft Dynamics GP Tenant Services Configuration Wizard opens. Click Next.
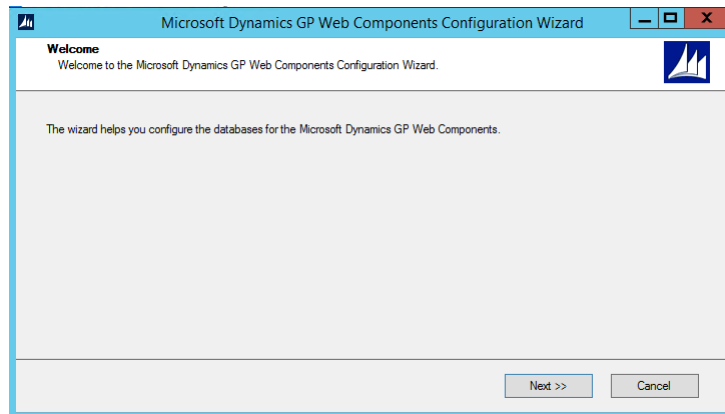
2. **Specify the SQL Server.**
   Enter the machine name of the SQL Server where you want to put the Tenant Services database.

3. **Specify the name of the database.**
   The wizard adds the DYNGPDISCOVERY database to the specified server.
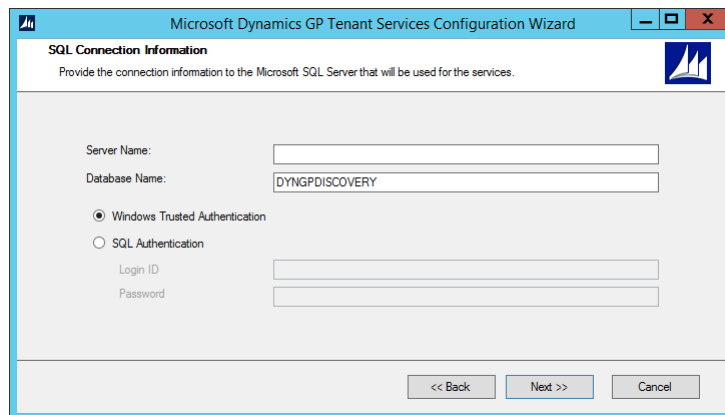
4. **Specify the type of authentication you use with the SQL server.**
   The default uses Windows Trusted Authentication. You can use Windows Trusted Authentication when your login has permissions to add a database to the specified SQL server.

   If you click to use SQL Authentication, you have to provide the Login ID and password you want to use to connect to the specified SQL server.

   Click Next.

5. **Confirm the configuration.**
   If you are asked to confirm the configuration, click Next.

6. Click Exit.
Click Exit to close the wizard. The Tenant Services database is installed and ready to use.

Upgrading an earlier installation

If you have a Tenant Services installation from an earlier release of Microsoft Dynamics GP, you can upgrade it to the current version. The same upgrade method is used whether you are upgrading to a new major version or just applying a service pack. The upgrade makes changes to the following services:

- Microsoft Dynamics GP Tenant Discovery Service
- Microsoft Dynamics GP Tenant Management Service
- Microsoft Dynamics GP Tenant Public Discovery Service

To upgrade Tenant Services, complete the following steps:

1. Verify the user you are logged in as.
You must be in the Administrator role for the computer on which you are upgrading the installation.

2. Open a command prompt window
Click Start >> All Programs >> Accessories, right-click Command Prompt, and then click Run as administrator. The Command Prompt window opens.

3. Find the install file for the upgrade.
The installer for the Tenant Services upgrade is found in the \AdProd\TenantServices\Updates folder of the Microsoft Dynamics GP installation media.

In the Command Prompt window, change folders to the location where you found the upgrade install file.

4. Start the upgrade.
In the Command Prompt window, type the name of the install file and press Enter. Watch the Command Prompt window to see when the upgrade is done.

5. Start the Tenant Services Configuration Wizard.
After you run the upgrade, you should run the Microsoft Dynamics GP Tenant Services Configuration Wizard. To run the wizard, click Start >> All Programs >> Administrative Tools >> Tenant Service Config Wizard. After the Microsoft Dynamics GP Tenant Services Configuration Wizard opens, click Next.

6. Verify the SQL connection information
The wizard shows the existing SQL connection information for Tenant Services. Verify the following values and then click Next:

- Server name
- Database name
- Type of authentication

For more information about the wizard, see *Configure the Tenant Services database*.

7. Close the Tenant Services Configuration Wizard
Click Exit to close the wizard.

8. **Verify Tenant Services restarted.**
    Open Server Manager, expand Configuration, and then click Services. Verify that the Microsoft Dynamics GP Tenant Discovery Service and the Microsoft Dynamics GP Tenant Management Service have started.

After you upgrade the Tenant Services, you should also upgrade the Tenant Manager snap-in and the Microsoft Dynamics GP Web Management Console. To learn more about the Tenant Manager upgrade, see *Upgrading an earlier installation* in the Tenant Manager Installation section.

What to do next

After you install and configure Microsoft Dynamics GP Tenant Services, consider taking the following steps:

*   Install or upgrade the Tenant Manager snap-in for the Microsoft Dynamics GP Web Management Console. You use the Tenant Manager to create, update, and remove tenants, users, and multitenant applications. For information about how to install the Tenant Manager snap-in, see Chapter 6, "Tenant Manager Installation".

*   Learn about developing multitenant applications that use the Microsoft Dynamics GP Tenant Services. To learn about the services and the application programming interface (API) they provide, find and review the Microsoft Dynamics GP Web Client Services Reference.

Chapter 6: Tenant Manager Installation

This portion of the documentation describes how to install the Microsoft Dynamics GP Web Management Console and the Tenant Manager. You use the Tenant Manager to view and update tenants, users, and multitenant applications in a multitenant environment.

You can also add the Tenant Manager to an existing Web Management Console. You use Add/Remove Features to add the Tenant Manager to the Web Management Console.

The following information describes how to install the Web Management Console and the Tenant Manager:

- *Add the security certificate to the web site*
- *Configure the web site to use SSL.*
- *Install Tenant Manager and the Web Management Console*
- *Configure the Web Management Console database*
- *Upgrading an earlier installation*
- *Start the Tenant Manager*
- *What to do next*

Add the security certificate to the web site

Before you install the Web Management Console, specify the security certificate for the site. To add the certificate, complete the following steps:

1. **Verify you are logged in with administrator privileges.**
    The user you are currently logged in as must be in the Administrator group for the computer on which you are installing the Tenant Manager.

2. **Start IIS Manager.**
    In Administrative Tools, open Internet Information Services (IIS) Manager.

3. **Specify the computer.**
    In the left pane, click the computer name.

4. **Open Server Certificates.**
    In the IIS group, double-click Server Certificates.

Select the computer name and then open Server Certificates
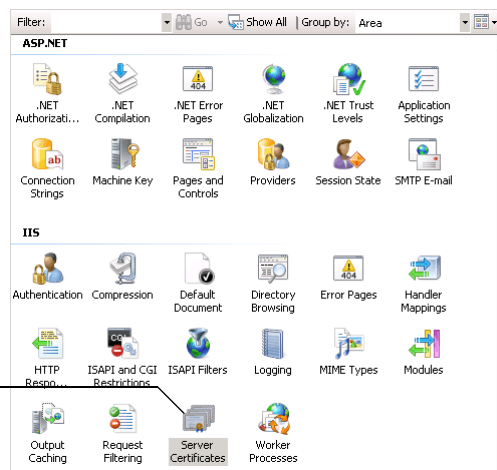
5. **Click Complete Certificate Request.**
In the Actions pane, click Complete Certificate Request. The Complete Certificate Request window opens.

6. **Specify the certificate file for the web server.**
Click the browse button, navigate to the location where you placed the security certificate (.cer) file you obtained from the third-party certificate supplier.

7. **Specify a name for the certificate.**
Type a name in the Friendly name field. Enter a name that easily identifies the certificate.

8. **Import the security certificate.**
To import the security certificate, click OK.

Configure the web site to use SSL.

The web site you use for the Microsoft Dynamics GP Web Management Console can be configured to use SSL. To use SSL, complete the following steps:

1. **Specify the site on the web server.**
In Internet Information Services (IIS) Manager, expand the Sites group in the left pane. Click the web site that you are configuring to use SSL. For example, click the Default Web Site.

2. **View Bindings for the web site.**
In the Actions pane, click Bindings. The Site Bindings window appears.

3. **Open the Add Site Bindings window.**
In the Site Bindings window, click Add.
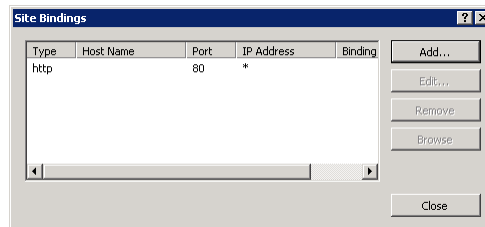
4. **Specify the binding type and choose the security certificate.**
In the Add Site Bindings window select https for the type. In the SSL certificate, click the name of the security certificate that you added earlier. Click OK.
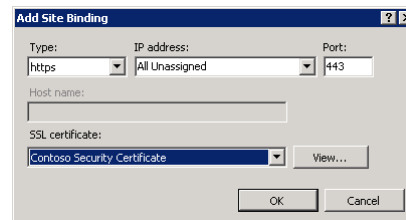
5. **Close the Site Bindings window.**
Click Close.

Install Tenant Manager and the Web Management Console

To install the Tenant Manager and the Web Management Console, complete the following steps:

1. **Start the MIcrosoft Dynamic GP installer.**
   Start the installer on the server that has the web site you want to use for the Web Management Console.

2. **Click Web Client**
   In the list of Additional Products, click Web Client, and then click Install.

3. **Review the License Agreement.**
   Review the License Agreement. To continue the install, click to accept the terms of the agreement. Click Next.

4. **Specify the type of install.**
   In the Install Options window, click Custom. The Select Features window opens.
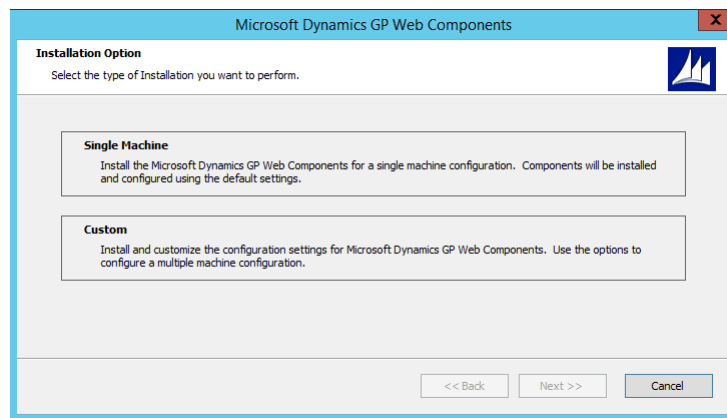
5. **Specify Tenant Manager for the Web Management Console.**
   In the Select Features window, click the Web Management Console and Tenant Manager drop down lists and click Run from My Computer. Click Service Based Architecture and Web Client drop down lists and click Not Available.

The following illustration shows how to install the Web Management Console and the Tenant Manager.
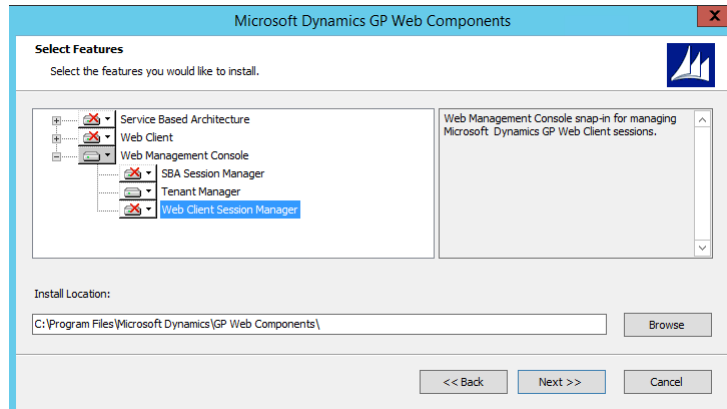
If you add Tenant Manager to an existing Web Management Console, do not make changes that set Session Central, Web Site, Web Client Session Manager, or Session Server to Not Available. You should leave the existing values.

Specify the install location for the Web Management Console. You can use the default location or specify another folder. Click Next.

6. **Specify the name of the Web com[ponents.**
   Enter the name of the SQL server where you want the database to appear. You can keep the default name for the database or specify the name you want to use.

   Specify the type of authentication you use with the SQL Server. If the user installing the Web Management Console has sufficient privileges, you can use Windows Trusted Authentication. Otherwise, you should use SQL Authentication and supply a SQL Login ID and Password for a SQL user account with sufficient privileges. Click Next.

   Enter the name of your web management console user group in the Web Management Console Users text box. Click Next.
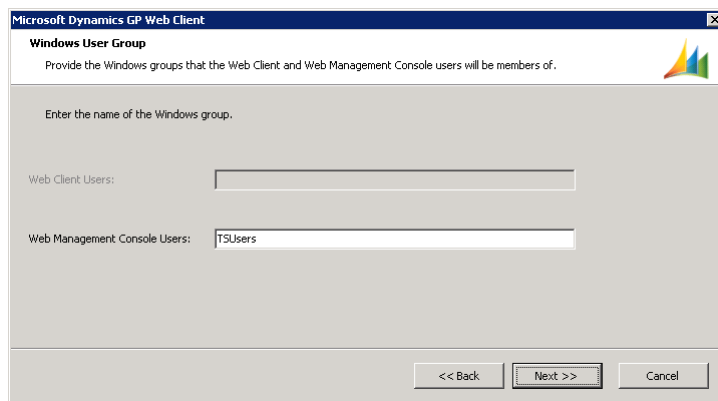
7. Specify the name of the Web Management Console user group.
Enter the name of your web management console user group in the Web Management Console Users text box. Click Next.

8. Specify the URL for the discovery and management services.
In the Tenant Configuration window, click the checkbox labeled Deploy for multiple tenants.

Enter the URL for the discovery and management services. The URL should use the format of the following URLs.

- https://<servername>:<port>/TenantDiscoveryService
- https://<servername>:<port>/TenantManagementService

To get the URL for the Tenant Discovery Service you can use the Microsoft.Dynamics.MultitenantService.Discovery.config file. The baseAddress node contains the URL of the service. The file is found in the c:\Program Files\Microsoft Dynamics\Tenant Services\DiscoveryService folder on the server where you installed Tenant Services. To get the URL for the Tenant Management Service, you can use the Microsoft.Dynamics.MultitenantServices.Management.config file. The file is found in the c:\Program Files\Microsoft Dynamics\Tenant Services\ManagementService folder.

9. **Specify the web site for the Web Management Console.**
   Click the web site in the drop down list where you want to install the Web Management Console. The Web Site Configuration shows the settings for the web client web site.

Enter the domain, name, and password for login identity you want to use for the application pool. Click Next.

10. **Specify the database for the Web Management Console.**
    Enter the name of the SQL server where you want the database to appear. You can keep the default name for the database or specify the name you want to use.

    Specify the type of authentication you use with the SQL Server. If the user installing the Web Management Console has sufficient privileges, you can use Windows Trusted Authentication. Otherwise, you should use SQL Authentication and supply a SQL Login ID and Password for a SQL user account with sufficient privileges. Click Next.

11. **Begin the install.**
    Click Install to continue with the installation.

12. **Click Exit.**
    When the install is complete, click Exit to close the install window.

Configure the Web Management Console database

To use the Web Management Console, you first have to configure a data store. To create the database that you specified during the install, you run the Web Client Components Wizard.

1. **Start the wizard.**
   Start the Microsoft.Dynamics.GP.Web.ConfigurationWizard application. You can use Windows Explorer to find the application. Typically, the install places the application in the following folder: c:\Program Files\Microsoft Dynamics\GP Web Components\

   To start the wizard, double click the application. The following window appears.
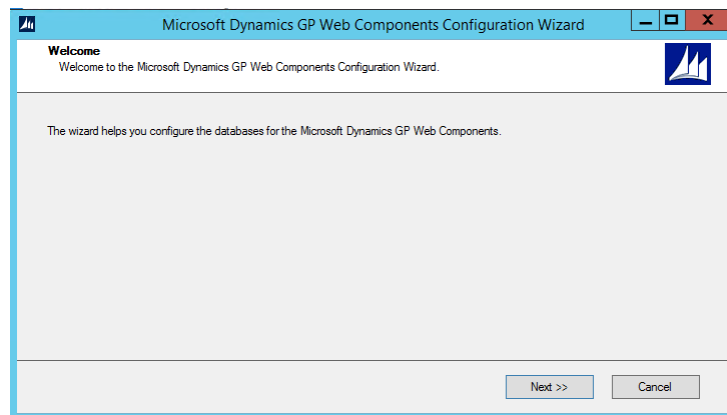
2. **Specify the type of authentication you use with the SQL server.**
   The default uses Windows Trusted Authentication. You can use Windows Trusted Authentication when your login has permissions to add a database to the specified SQL server.

   If you click to use SQL Authentication, you have to provide the Login ID and password you want to use to connect to the specified SQL server.

   Click Next.

3. **Create the Web Components database.**
   In the Configuration Status and Action window, click Next.
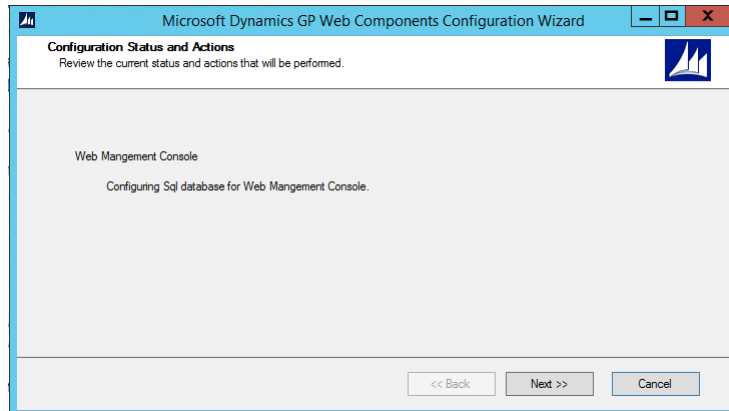
4. **Click Exit to close the wizard.**
   After the wizard runs, click Exit to close the window.

Upgrading an earlier installation

If you have a Tenant Manager installation from an earlier release of Microsoft Dynamics GP, you can upgrade it to the current version. The same upgrade method is used whether you are upgrading to a new major version or just applying a service pack.

To upgrade the Tenant Manager snap-in, you run the Web Components upgrade. The upgrade can also make changes to any of the following components that are installed on the server:

- Session Management snap-in
- GP Web Management Console
- Web site for the Web Management Console
- Web site for the GP Web Client
- GP Session Central Service
- GP Session Services

To upgrade Tenant Manager, complete the following steps:

1. **Verify the user you are logged in as.**
   You must be in the Administrator role for the computer on which you are upgrading the installation.

2. **Open a command prompt window**
   Click Start >> All Programs >> Accessories, right-click Command Prompt, and then click Run as administrator. The Command Prompt window opens.

3. **Find the install file for the upgrade.**
   The installer for the Tenant Manager upgrade is found in the \AdProd\WebComponents\Updates folder of the Microsoft Dynamics GP installation media.

   In the Command Prompt window, change folders to the location where you found the upgrade install file.

4. **Start the upgrade.**
    In the Command Prompt window, type the name of the install file and press Enter. Watch the Command Prompt window to see when the upgrade is done

5. **Start the Web Components Configuration Wizard.**
    After you run the upgrade, you should run the Dynamics GP Web Components Configuration Wizard. To run the wizard, click Start >> All Programs >> Administrative Tools >> Dynamics GP Web Components Configuration Wizard. After the Dynamics GP Web Components Configuration Wizard opens, click Next.

6. **Verify the SQL connection information**
    The wizard shows the existing SQL connection information for the Web Management Console. Verify the following values and then click Next:

    *   Server name
    *   Database name
    *   Type of authentication

7. **View the Configuration Status and Actions.**
    Click Next.

8. **Close the Web Client Configuration Wizard.**
    Click Exit to close the wizard.

    For more information about the Web Client Configuration Wizard, see *Configure the Web Management Console database*.

9. **Clear the cache of your web browser.**
    You have to clear the cache of the web browser you use to connect to the Tenant Manager and the Web Management Console. In Internet Explorer, click Settings, Safety, and Delete browsing history. Click Temporary Internet files, click Cookies, and then click Delete.

> *Repeat this step on any machine where you use the web browser to view the Web Management Console. If you do not clear the cache, you might not see the upgrade or you might encounter an error while trying to open the Tenant Manager snap-in.*

For more information about the Web Components upgrade, see the Microsoft Dynamics GP Web Client Install and Administration Guide.

Start the Tenant Manager

After you install the Tenant Manager console, you have to specify the services you want to manage. To configure the Tenant Manager, complete the following steps:

1. **Open Internet Explorer.**
   You must be logged in with an ID that you specified as a service administrator for the Tenant Services. Use the login ID that you used to install Tenant Services.

2. **Enter the address of the Microsoft Dynamics GP Web Management Console.**
   The default address for the Web Management Console is:

   https:*//ServerName:PortNumber/*WebManagementConsole

   The address requires that you specify the following information:

URL component	Description
ServerName	The fully-qualified domain name (FQDN) for the server that hosts the web site. The name must match the name you used when you requested the security certificate that you applied to the site when setting up SSL.
PortNumber	The port for the web site that you are using. If you chose to install on the default web site (port 80) then you do not need to supply the port number.

   A typical URL to access the Microsoft Dynamics GP Web Management Console looks similar to the following:

   https://gpweb.contoso.com/WebManagementConsole

3. **View the Web Management Console home page.**
   The home page appears is the browser. The left pane of the console is the Navigation pane that shows the snap-ins that the console contains. The Tenant Manager should appear at the bottom of the Navigation Pane.
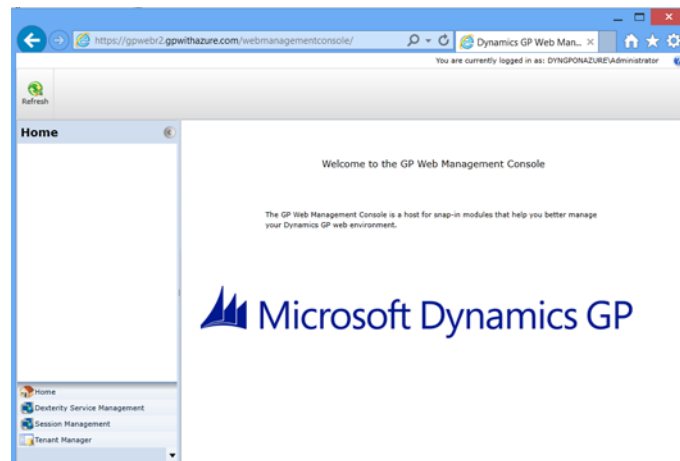
4. **Click Tenant Manager.**
    Click the Tenant Manager in the navigation pane of the Web Management Console. The Tenant Manager opens in the console.

5. **Specify the URL for the Tenant Management Service.**
    You have to specify the URL for the Tenant Management Service. Enter the URL in the dialog window and press Enter.

    The following example shows the format of the URL:

    http://<servername>:<port>/TenantManagementService
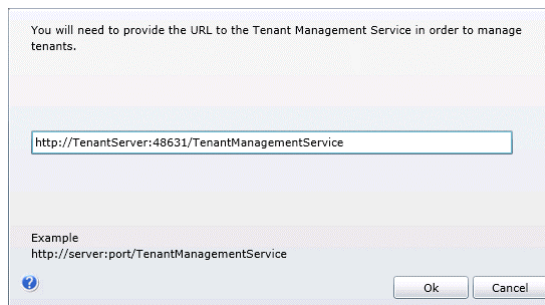
To get the URL, use the Microsoft.Dynamics.MultitenantServices.Management.config file. The baseAddress node contains the URL of the service. The file is found in the c:\Program Files\Microsoft Dynamics\Tenant Services\ManagementService folder on the server where you installed Tenant Services.

6. **View the Tenant Manager snap-in.**
    In the Navigation pane of the console, click Tenant Manager. The Tenant Manager snap-in opens in the console..

    The navigation pane shows a list that includes Tenants, Users, Applications, and Exceptions. To view or update manage tenants, you use the buttons in the ribbon.
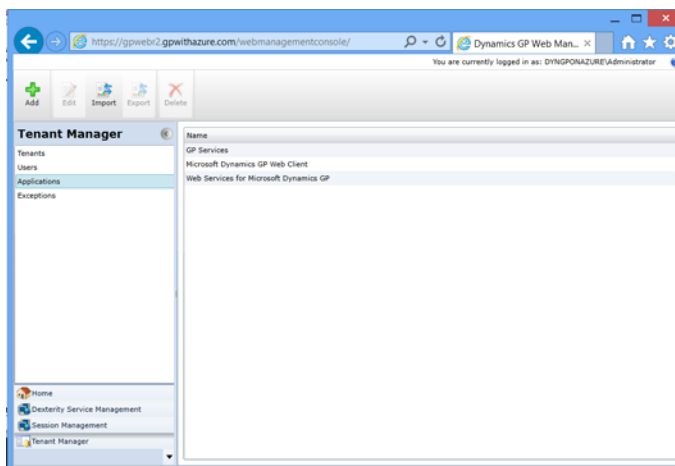
What to do next

After you install and configure Microsoft Dynamics GP Tenant Services, consider taking the following steps:

- If you installed the Web Management Console and Tenant Manager on a separate machine from the where you installed Session Central, you have to restart the Session Central service. This enables the Session Central service to use the additional security.

- Use the Microsoft Dynamics GP Web Management Console to create, update, and remove tenants, users, and multitenant applications. For more information, see Chapter 9, "Configuring Tenants," .

- Learn about actions you will need to take to configure and maintain the Microsoft Dynamics GP Tenant Services components that you installed. Details are found in Part 3, **Configuration and Administration**.

Part 3: Configuration and Administration

This portion of the documentation explains the configuration and maintenance options for Microsoft Dynamics GP Tenant Services. To complete the steps in the following sections, you have to use the Tenant Manager snap-in of the Microsoft Dynamics GP Web Management Console. For information about how to install the Tenant Manager, see Chapter 6, "Tenant Manager Installation."

The following information is discussed:

- Chapter 7, "Configuring Users," describes how you add and maintain service administrator and delegating users.

- Chapter 8, "Configuring Applications," describes how you add and maintain multitenant applications in a multitenant environment.

- Chapter 9, "Configuring Tenants," describes how you add and maintain tenants.

- Chapter 10, "Maintenance," describes how to make changes to an existing Tenant Services installation.

- Chapter 11, "Troubleshooting," describes how to resolve common issues with the Tenant Services.

Chapter 7: Configuring Users

After installing Microsoft Dynamics GP Tenant Services, you can add or update information about the users you want to administer Tenant Services. To view, add, update, or remove users, you use the Tenant Manager snap-in of the Web Management Console. To complete any of the following procedures, you have to log in to the Tenant Manager snap-in as a service administrator.

The following sections describes how to add, configure, and remove service administrators and delegating users:

- *To add users*
- *To update a user*
- *To remove a user*

To add users

The following steps describe how to add a service administrator or delegating user.

1. **Open the security group on the tenant server.**
   Open Server Manager. Expand Configuration, expand Local Users and Groups, and then click Groups. In the list of Groups, find the security group that you added for Tenant Services. Double-click the group and the group properties window opens.

2. **Click Add to add a member to the group.**
   To add a member to the group, click Add. You use Select Users, Computers, Service Accounts, or Groups to enter the login ID you want to add to the group. Click Check Names to validate the ID. Click OK to add the specified user to the group.

3. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following: https://<web server name>/WebManagementConsole/

4. **Click Tenant Manager.**
   You click Tenant Manager to open the snap-in in the Web Management Console. Click Users in the navigation pane.

5. **Click Add.**
   Click Add in the ribbon of the Web Management Console. The Add User window opens.

6. **Specify the required information for the user.**
   The following table shows the information you need to provide for a new user.

Field	Description
Name	Specify a name for the user.
Identity	Specify the login ID of the user. You should use the format of *domain\alias or alias@domainname*.
User Type	Specify whether the user is a service administrator or a delegating user. A service administrator has access to all tenants, users, and multitenant applications. A delegating user is used to 'work on behalf' of another user. The default value is service administrator.
Status	Specify whether the user is active. Click Inactive if you do not want the specified login to have access to Tenant Services. The default value is Active.
Get protected application settings	Specify whether application properties that are marked as Protected are retrieved for the user.

7. **Click Save.**
   To add the user, click the Save button.

To update a user

The following steps describe how to update an existing service administrator or delegating user.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://<web server name>/WebManagementConsole/

2. **Click Tenant Manager.**
   You click Tenant Manager to open the snap-in in the Web Management Console. Click Users in the navigation pane.

3. **Click the user and then click Edit.**
   Click the name of the user, and then click Edit in the ribbon of the Web Management Console. The User Properties window opens.

4. **Update the properties for the user.**
   The following table shows the information you can update.

Field	Description
Name	Specify a name for the user.
Authentication Type	Specify the authentication type. Typically, you use Windows authentication.
Identity	Specify the login ID of the user. You should use the format of *domain\username.*
User Type	Specify whether the user is a service administrator or a delegating user. A service administrator has access to all tenants, users, and multitenant applications. A delegating user is used to 'work on behalf' of another user.
Status	Specify whether the user is active. Click Inactive if you do not want the specified login to use tenant services or the Web Management Console. The default value is Active.
Get protected application settings	Specify whether application properties that are marked as Protected are retrieved for the user. The default value is unmarked.

5. **Click Save.**
   To update the properties for the user, click the Save button.

To remove a user

You can remove a service administrator or delegating user from your multitenant environment.

⚠ *Take care when removing delegating users that you do not delete a login that is in use with an application pool. If you remove the user, the application pool will no longer be able to use any of the tenant services.*

The following steps describe how to remove a service administrator or delegating user.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://<web server name>/WebManagementConsole/

2. **Click Tenant Manager.**
   Click Tenant Manager to open the snap-in in the Web Management Console. To view the available user, click Users in the navigation pane.

3. **Click the name of the user.**
   The Tenant Manager shows a list of available users. Click the name of the user you want to remove.

4. **Click Delete.**
   Click the Delete button in the tenant manager ribbon of the Web Management Console. The user is removed from the list of users.

5. **Open the security group on the tenant server.**
    Open Server Manager. Expand Configuration, expand Local Users and Groups, and then click Groups. In the list of Groups, find the security group that you added for Tenant Services. Double-click the group and the group properties window opens.

6. **Click Remove to delete the member from the group.**
    Click the member you want to remove, and then click Remove. Click OK to close the group properties window.

Chapter 8:   Configuring Applications

After installing Microsoft Dynamics GP Tenant Services, you can specify the multitenant applications you want your tenants to use. To add, update, or remove a multitenant application, use the Tenant Manager snap-in of the Web Management Console. To complete any of the following procedures, you have to log in to the Tenant Manager snap-in as a service administrator.

The following sections describes how to add, update, export, import, and remove multitenant applications:

- *To add an application*
- *To update an application*
- *To export application information*
- *To import an application*
- *To remove an application*

To add an application

You have to specify the application properties for the multitenant application. You use the application properties to specify the instance of Microsoft Dynamics GP for a tenant.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
   Click Tenant Manager to open the snap-in in the Web Management Console. Click Applications in the navigation pane.

3. **Click Add.**
   Click the Add button in the tenant manager ribbon of the Web Management Console. The Add Application window opens.
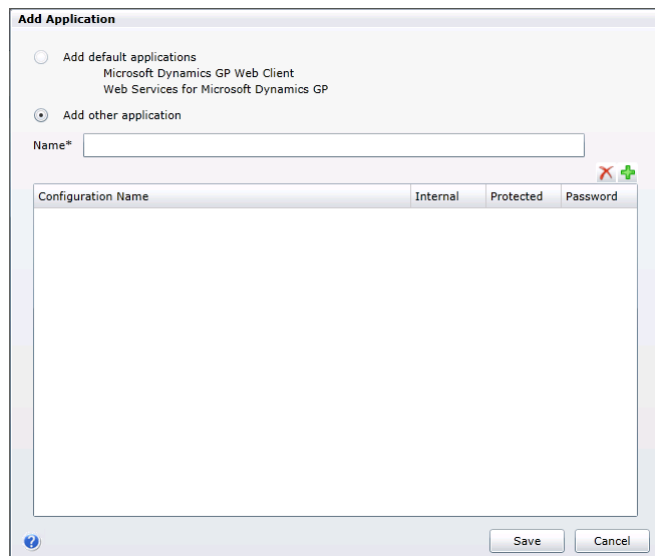
4. **Specify whether to add the default applications or another application.**
   To add the Microsoft Dynamics GP default applications, click Add default applications. This enables the following multitenant applications to support tenants:

   - GP Services
   - Microsoft Dynamics GP Web Client
   - Web Services for Microsoft Dynamics GP

   To add another multitenant application, click Add other application, and then type the name of the application.

5. **Add the application properties for the application.**
   You have to specify a name for each application property for the specified multitenant application.

   If you specified to add the default applications, you do not have to add application properties. Continue to the next step.

   Click the Add button. An application property is added. Provide the following information.

Property	Description
Configuration Name	Type the name for the property. The name will appear when you have to configure the multitenant application for a tenant.
Internal	Specify whether the property is an internal property. The default is to mark the checkbox.
Protected	Specifies that the property will not be retrieved unless the user account has been configured to display protected properties.
Password	Specifies that the property is a password value and will be encrypted when it is stored.

6. **Click Save.**
   To save the application information you added, click Save. The new multitenant application appears in the list of applications in the Web Management Console.

To update an application

The following steps describe how to add or remove an application property for an existing multitenant application.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
   You click Tenant Manager to open the snap-in in the Web Management Console. Click Applications in the navigation pane.

3. **Click Edit.**
   Click the Edit button in the ribbon of the Web Management Console. The Application Properties window opens.
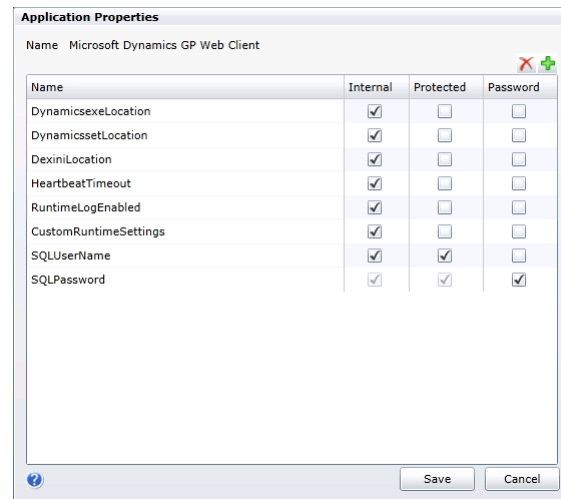
4. **Click the buttons to add or remove application properties.**
   To add a new named property, click the Add button and provide the name. You should also specify whether the property is an internal setting.

   To remove a property, click the property name in the list of properties and then click the Delete button. The property is removed from the list.

   Take care when removing application properties. If you remove an application property, the multitenant application may no longer run for any tenant. Changes to applications should be completed by the person that added the application.

5. **Click Save.**
   To save the change you made, click Save. The Application Properties window closes.

To export application information

You can create a file that contains the configuration information for a multitenant application. You can later import that file on another server to quickly add the application to a different multitenant environment.

The following steps show how to export an application.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
   Click Tenant Manager to open the snap-in in the Web Management Console. Click Applications in the navigation pane.

3. **Specify the application.**
   Click the name of the multitenant application you want to export.

4. **Click Export.**
   Click the Export button in the Tenant Manager ribbon of the Web Management Console. The Application Properties window opens.

5. **If you are asked to confirm the export, click OK.**
   If you receive a File Download security warning, click OK. The Save As window opens.

6. **Specify a name and location for the file.**
   Use the Save As window to specify a name and location for the file. Be sure to leave the file type as .adf.

7. **Click Save.**
   The Save As window closes and the file appears in the folder that you specified.

To import an application

If you have an .adf file that contain configuration information for a multitenant application, you can import the application to Tenant Services. You have to first put the .adf file in a folder that is accessible from your Tenant Services machine.

The following steps show how to import a multitenant application.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
   You click Tenant Manager to open the snap-in in the Web Management Console. Click Applications in the navigation pane.

3. **Click Import.**
   Click the Import button in the ribbon of the Web Management Console. The Open window appears.

4. **Navigate to the folder that contains your application definition file.**
   Click the name of the .adf file that you want to import. Click Open.
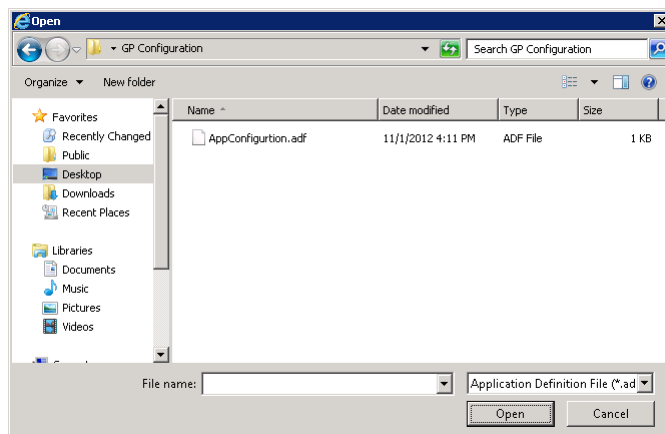
5. **Verify the application was imported.**
    View the list of Applications in the Tenant Manager. The multitenant application should appear in that list.

To remove an application

You can remove a multitenant application from Tenant Services.

⚠️ *When you remove the multitenant application, the application can no longer be used for any of the tenants for which the application has been configured. You should not delete a multitenant application until you confirm that no tenants are using that application.*

The following steps describe how to remove a multitenant application.

1. **Start the Web Management Console.**
    In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

    https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
    You click Tenant Manager to open the snap-in in the Web Management Console. To view the available applications, click Applications in the navigation pane.

3. **Click the name of the application.**
    The Web Management Console shows a list of available multitenant applications. Click the name of the application you want to remove.

4. **Click Delete.**
    Click the Delete button in the tenant manager ribbon of the Web Management Console. The multitenant application is removed from the list of applications.

Chapter 9: Configuring Tenants

After you install Microsoft Dynamics GP Tenant Services, you can add tenants, tenant users, and the multitenant applications for each tenant. To add, configure, or remove tenants, you use the Tenant Manager snap-in of the Web Management Console.

The following sections describes how to add, configure, and remove tenants, tenant users, and multitenant applications:

- *Before you start*
- *To add a tenant*
- *To add a tenant user*
- *To add and configure a tenant application*
- *To update or remove a tenant*
- *To update or remove tenant users*
- *To update or remove tenant applications*

Before you start

Before you add a tenant, you might have to install a new instance of Microsoft Dynamics GP. To add an instance of Microsoft Dynamics GP, you customize the name of the instance during the install. You have to provide a unique name for each instance of Microsoft Dynamics GP in your multitenant environment.

For example, the default name for the first instance of Microsoft Dynamics GP is GP2013. You can use this instance with the first tenant in your multitenant environment.

To add an second instance of GP to a multitenant environment, you use the Microsoft Dynamics GP installer. The following illustration shows the Instance Selection window from the install. To add a new GP instance to your multitenant environment, click Create new instance, and then type a name that uniquely identifies that instance. Notice how the instance name is specified as CONTOSO.
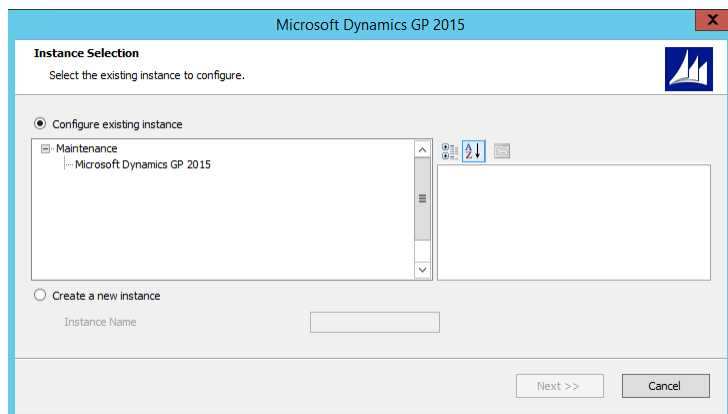
You also have to specify a name for the system database for the new instance. The following illustration shows how to specify the SQL Server and the name of the system database for the Contoso instance of GP.
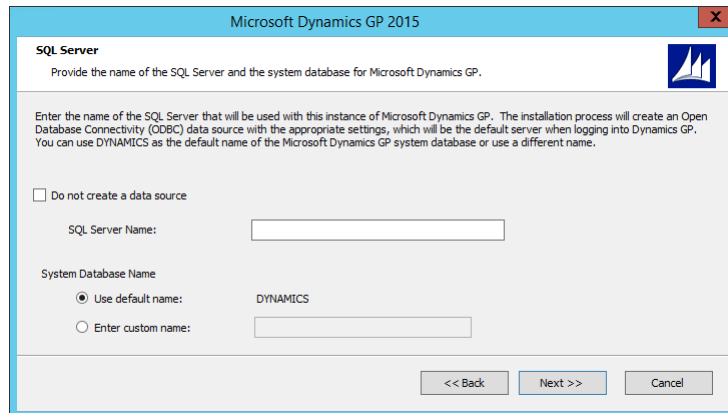
Typically, you use the GP instance name in the application property of an multitenant application for a tenant. For example, the Microsoft Dynamics GP Web Client has the DynamicsexeLocation property that specifies the instance for the web client.

To add a tenant

This section of the documentation shows how to add a tenant. The sections that follow show how to add a tenant user and a multitenant application to the tenant. To add a tenant, you have to log in as a service administrator to the Tenant Manager snap-in of the Web Management Console.

The following steps describe how to add and configure a tenant.

1. **Start the Web Management Console.**
    In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

    https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
    Click Tenant Manager in the navigation pane. The snap-in opens in the Web Management Console. Click Tenants in the navigation pane.
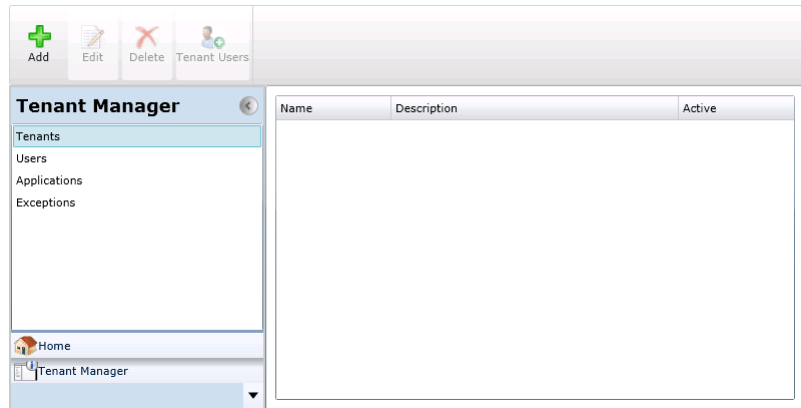
3. **Click Add.**
   Click Add in the ribbon of the Web Management Console. The Add Tenant window opens.

4. **Specify the tenant properties.**
   The following table describes the properties you have to provide:

Property	Description
Name	Specify the name for the tenant.
Description	Specify a brief description for the tenant.
Status	Specify whether the tenant is active or inactive. If the the tenant is inactive, the multitenant application will not be accessible.

5. **Click Save.**
   To save your tenant, click the Save button. The Add Tenant window closes.

To add a tenant user

The following steps describe how to add a tenant user to a tenant that you created earlier. Before you begin, click the tenant name in the list of tenants that appears in the Tenant Manager snap-in.

1. **Click the Tenant Users button.**
    Click the Tenant Users button in the ribbon of the Web Management Console. The Tenant Users window opens.

2. **Click the Add button above the Add the tenant users section.**
    Click Add (the green plus) to create a new tenant user in the list of tenant users.

3. **Populate the properties for the tenant user.**
    The following table describes the properties you use to add a tenant user:

Property	Description
Name	Specify a name for the tenant user.
Identity	Specify the login ID or security group name for the tenant user if the tenant user is a Windows Account. The login ID can use the domainname\alias or alias@domainname format. Use the format that the user will enter when logging in to the multitenant application. Specify the login ID or domain name for the tenant user if the tenant user is an Organizational Account. The login ID will use the alias@domainname format. A domain name will allow any users with a login ID in that domain name access to this tenant. (i.e. *@domainname)

Property	Description
Admin	Specify whether the tenant user is a tenant administrator. A tenant administrator can use the Tenant Manager snap-in of the Web Management Console to add or remove tenant users.
	To add a tenant administrator, mark the checkbox. To give a tenant administrator access to the Web Management Console, you also have to add the login ID for that user to the security group being used for the Web Management Console.
Status	Specify whether the user is active or inactive. An inactive user cannot use the multitenant applications. The default value is Inactive.

To add more tenant users, click the Add button and repeat this step.

4. Click Save.
When you have added all the tenant users, click Save.

To add and configure a tenant application

The following procedures describe how to associate a multitenant application to a tenant that you added earlier. Before you begin, click the tenant name in the list of tenants that appears in the Tenant Manager snap-in.

To associate a multitenant application with a tenant, you have to first add the application to your multitenant environment. To learn more about how to add a multitenant application, see To add an application on page 57.

Select the application
The following steps describe how to associate a multitenant application with a tenant.

1. Display the list of tenants.
Click Tenant Manager in the navigation pane of the Web Management Console. Click Tenants in the navigation pane, and then select the tenant you want to work with.

2. Edit the tenant properties.
Click the Edit button in the ribbon of the Web Management console. The Tenant Properties window opens.

3. View the list of applications.
The Application Settings section of the Tenant Properties windows shows the list of available multitenant applications. By default, none of the applications are selected.

If you install the Microsoft Dynamics GP default applications you will see the following list:

• GP Services
• Microsoft Dynamics GP Web Client
• Web Services for Microsoft Dynamics GP

4. Select the application you want to use with the tenant.
Click the checkbox in the Selection column for the application you want to associate with the tenant.

For example, the following illustration associates the Microsoft Dynamics GP Web Client with a tenant.

Configure the application

The following steps describe how to configure the properties of the multitenant application that you specified in the previous section.

1. **Click the application you want to configure.**
   When you click the application, the application properties for that application appear in the section below the selection list.

   The following illustration shows the properties for the Microsoft Dynamics GP Web Client application.

2. **Specify the value for each property.**
   In the list of properties, specify the configuration value for each property.

   For example, the following table show the properties and configuration values for the Microsoft Dynamics GP Web Client. For more information about how to install and configure the Web Client application, see Chapter 12, "Configuring the Web Client."

Name	Value
DynamicsexeLocation	c:\Program Files (x86)\Microsoft Dynamics\GP2015\

Name	Value
DynamicssetLocation	c:\Program Files (x86)\Microsoft Dynamics\GP2015\Dynamics.set
DexiniLocation	c:\Program Files (x86)\Microsoft Dynamics\GP2015\Data\Dex.ini
HeartbeatTimeout	0.20:00:00
RuntimeLogEnabled	false
CustomRuntimeSettings	ScriptLogEnabled=false|TimingLogEnabled=false|SqlLogEnabled=false
SQLUserName	The name for the SQL login that was specified to be used for the web client when the Microsoft Dynamics GP web client runtime was installed.
SQLPassword	The password for the SQL login being used for the web client.
RuntimeProcessUserName	The name of the Windows account that the runtime process will run as when a user logs in using an Organizational Account. You only need to provide a value if you are using Organizational Accounts.
RuntimeProcessPassword	The password for the Windows account used to run the runtime process.

3. **Click Save.**
   To save the application information for the tenant, click the Save button.

To update or remove a tenant

This section describes how to make the following types of changes to an existing tenant:

- Change tenant property values.
- Remove a tenant.

To complete the following procedures, you have to log in to the Tenant Manager snap-in as a service administrator.

Change tenant properties
The following steps describe how to update existing tenant information.

1. **Start the Web Management Console.**
   In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
   The Tenant Manager snap-in opens in the Web Management Console. Click Tenants in the navigation pane.

3. **Click the name of the tenant.**
   The Tenant Manager snap-in shows a list of available tenants. Click the name of the tenant you want to update.

4. **Click Edit.**
Click Edit in the ribbon of the Web Management Console. The Tenant Properties window opens. You can change the value of the following properties:

Property	Description
Name	Specify the name for the tenant.
Description	Specify a brief description for the tenant.
Status	Specify whether the tenant is active or inactive. If the the tenant is inactive, the multitenant application will not be accessible.

Remove a tenant

You can remove an existing tenant from a multitenant environment. To remove a tenant, you have to log in to the Tenant Manager as a service administrator.

The following steps describe how to remove a tenant.

1. **Start the Web Management Console.**
In a browser, open the Web Management Console. To start the Web Management Console, you use a URL similar to the following:

https://*ServerName:PortNumber*/WebManagementConsole/

2. **Click Tenant Manager.**
You click Tenant Manager to open the snap-in in the Web Management Console. To view the available tenants, click Tenants in the navigation pane.

3. **Click the name of the tenant.**
The Web Management Console shows a list of available tenants. Click the name of the tenant you want to remove.

4. **Click Delete.**
Click the Delete button in the tenant manager ribbon of the Web Management Console. The tenant is removed from the list of tenants.

To update or remove tenant users

This section describes how to make the following types of changes to an existing tenant:

• Change tenant user property values.
• Deactivate or remove a tenant user.

To complete the following procedures, you have to log in to the Tenant Manager snap-in as a service administrator or a tenant administrator.

Change tenant user properties

The following steps describe how you change the status of tenant user.

1. **Click the Tenant Users button.**
Click the tenant name in the list of tenants and then click the Tenant Users button in the ribbon of the Web Management Console. The Tenant Users window opens and lists the tenant users. Select one of the users.

2. **Display the user application settings.**
   Expand the User Application Settings section of the window to display the settings for the selected user.

3. **Change the name of the tenant user.**
   Click Name and enter the name for the tenant user.

4. **Change the identity for the tenant user.**
   Click Identity and enter the login name for that tenant user.

5. **Change whether the user is tenant administrator.**
   Use the Admin checkbox to indicate whether the user is a tenant administrator.

   • Mark the checkbox to make the user a tenant administrator.
   • Clear the checkbox to remove tenant administrator privileges for the user.

6. **Change the value in Status drop down list.**
   Use the Status value to specify whether an user is active or inactive.

   • To make a tenant user inactive, click the drop down list and select Inactive. The specified user will no longer be able to use the multitenant applications for the tenant.

   • To make the tenant user active, click the drop down list and select Active. The specified user can now use the multitenant applications associated with the tenant.

7. **Specify application property values for the tenant user.**
   Click the application in the Application Settings list. The properties for the specified multitenant application appear. Click the property that you want to set for the tenant user and enter a value.

If you do not specify a property value, the tenant user defaults to the application property settings that you specified when you configured the multitenant application for the tenant.

For example, you set the RuntimeLogEnabled property of the Web Client application to true. The change enables logging for that tenant user. Activity by other tenant users is not recorded in the log file.

8. **Click Save.**

Remove a tenant user
The following steps describe how to remove a tenant user.

1. **Click the Tenant Users button.**
   Click the tenant name in the list of tenants and then click the Tenant Users button in the ribbon of the Web Management Console.

2. **Specify the user in the Tenant Users list.**
   Click the user name in the Tenant Users list.

3. **Click Delete.**
   Click the delete button (the red X) above the list of tenant users. The specified tenant user is removed from the list. That user will no longer be able to login to that tenant.

To update or remove tenant applications

This section describes how to make the following types of changes to an existing tenant:

• Add, or remove a multitenant application.
• Update the application properties of an multitenant application.

To complete the following procedures, you have to log in to the Tenant Manager snap-in as a service administrator.

Add or remove an application
The following steps describe how to change the multitenant applications that are associated with a tenant.

1. **Open the Tenant Properties window.**
   Click the tenant name in the list of tenants, and then click the Edit button in the ribbon of the Web Management Console. The Tenant Properties window opens.

2. **View the list of available applications.**
   The Application Settings section of the Tenant Properties window shows the list of available multitenant applications. Click the application you want to change.

3. **Click the application.**
   You use the checkbox in the Selection column to add or remove applications for the tenant.

   • To add an application, mark the checkbox in the Selection column. After you add an application, you must configure the properties for that application.

- To remove an application, unmark the checkbox in the Selection column.

4. **Click Save.**
    To save the tenant information, click the Save button of the Tenant Properties window.

Change application configuration

The following steps describe how to change the application properties for a multitenant application.

1. **Open the Tenant Properties window.**
    Click the tenant name in the list of tenants, and then click the Edit button in the ribbon of the Web Management Console. The Tenant Properties window opens.

2. **Click the application you want to configure.**
    Click the application in the Application Setting list. The properties for that application appear as a list below the Application Settings section of the Tenant Properties window.

3. **Specify a value for each property.**
    In the list of properties, click the property you want to change. Enter the value to use for the property.

    For example, the following illustration shows how to change the value of the Heartbeat Timeout property for the Microsoft Dynamics GP Web Client application for the specified tenant. Notice how the other properties keep their existing values.

Tenant Properties

Name*	Tenant01
Description	First tenant
Status	Active ▾

Application Settings

Selection	Names
☑	Microsoft Dynamics GP Web Client
☐	Web Services for Microsoft Dynamics GP

Name	Value
DynamicsexeLocation	C:\Program Files (x86)\Microsoft Dynamics\GP2013\Dynamics.exe
DynamicssetLocation	C:\Program Files (x86)\Microsoft Dynamics\GP2013\Dynamics.set
DexiniLocation	C:\Program Files (x86)\Microsoft Dynamics\GP2013\Data\Dex.ini
HeartbeatTimeout	0.00:00:00
RuntimeLogEnabled	false
CustomRuntimeSettings	ScriptLogEnabled=false|TimingLogEnabled=false|SqlLogEnabled=false
SQLUserName	WebClientUser
SQLPassword	••••••••••

Save   Cancel

4. **Click Save.**
    To save the changes, click the Save button of the Tenant Properties window.

Chapter 10: Maintenance

This portion of the documentation provides information about modifying, repairing, or removing an existing Microsoft Dynamics GP Tenant Services installation. The following items are discussed:

- *Modifying a Tenant Services installation*
- *Completing a repair*
- *Removing Tenant Services*

Modifying a Tenant Services installation

Tenant Services allows you to add or remove individual features from an existing installation. To add or remove features, complete the following steps:

1. **Start the Tenant Services installer.**
   Open Programs and Features in the Control Panel, right-click Microsoft Dynamics GP Tenant Services, and then click Change. The **Program Maintenance** window opens.

2. **Choose Add/Remove Features.**
   Click Add/Remove Features. The **Select Features** window opens.

3. **Specify the features to add or remove.**
   Use the **Select Features** window to specify the features you want to add or remove.

   - To add a feature, click the drop down list and click Run from My Computer.

   - To remove a feature, click the drop down list and click Not Available.

   Click Next.

4. **Provide settings for the services.**
   You need to provide the configuration setting for each service that is enabled. As a result, you might need to specify the configuration settings the Tenant Discovery, Tenant Public Discovery, and Tenant Management Services. If you previously installed the service, the existing setting values appear in window. The services include the following settings:

Setting	Description
Port	Each service has a default port. If that port is in use, the next available port is selected. In addition, you can enter the port number that you want the service to use.
Certificate	Specify a security certificate for the service. The security certificate enables the service to use SSL. The default value is Not Selected. A security certificate is optional for the Tenant Discovery Service and the Tenant Management Service. If you do not specify a certificate, SSL will not be used to encrypt messages to and from that service. A security certificate is required for the Tenant Public Discover Service. To review information about available certificates, click the certificate in the drop-down list, and then click the View button. A dialog window opens that provides detailed information about the certificate.
Host name	The fully-qualified domain name of the server where you have installed the security certificate.

Setting	Description
Domain	Enter the domain name associated with login ID.
User name	Enter the login ID you want the service to use.
Password	Enter the password for the specified login ID.

Click Next.

5. **Begin the installation.**
   Click Install to add or remove the specified features. The installer may take several minutes to complete the update.

6. **Close the wizard.**
   When the **Installation Complete** window appears, click Exit to close the wizard.

   If you added a service, you might need to run the Microsoft Dynamics GP Tenant Services Configuration Wizard. You use the wizard to specify the SQL Server name, your tenant services database, and the authentication type. For more information about how to use the wizard, see *Configure the Tenant Services database*.

Completing a repair

If the Microsoft Dynamics GP Tenant Services becomes damaged, the repair operation may help resolve the issue. The Repair wizard fixes the following:

- Missing or corrupt files
- Missing or corrupt shortcuts
- Missing or corrupt registry entries

To complete a repair, perform the following steps:

1. **Start the Tenant Services installer.**
   Open Programs and Features, click Microsoft Dynamics GP Tenant Services, and then click Change. The **Program Maintenance** window opens.

2. **Click Repair.**

3. **Provide login credentials for the services.**
   You need to provide login information for each service that you installed. As a result, you might need to provide the login information for the Tenant Discovery, Tenant Public Discovery, and Tenant Management Services. Each service requires the following login information.

Setting	Description
Domain	Enter the domain name associated with login ID you want the service to use. The domain of the existing account appears in the text box. You can keep the existing domain or enter new domain information.
User name	Specify the login ID you want the service to use. The name of the existing account appears in the text box. You can keep the existing login ID or enter a new login ID.
Password	Enter the password for the specified login ID.

Click Next.

4. **Ready to repair.**
   Click Repair to begin. The repair might run for several minutes.

5. **Repair complete**
   When the **Repair Complete** window appears, click Exit to close the wizard.

Removing Tenant Services

The Tenant Services remove operation allows you to delete all of the installed tenants services, related folders, and files. It deletes only the files and folders created in file system of the local machine.

When you remove Tenant Services, the DYNGPDISCOVERY database is not removed. To remove the database, you have to use SQL Server Management Studio.

To remove Tenant Services from a computer, complete the following steps:

1. **Start the Tenant Services installer.**
   Open Programs and Features, choose Microsoft Dynamics GP Tenant Services, and then click Change. The **Program Maintenance** window opens.

2. **Click Remove.**
   Click Remove.

3. **Begin the uninstall.**
   The **Remove** window opens. Click Remove to begin the uninstall. The uninstall will run for several minutes.

4. **Close the wizard.**
   When the **Remove Complete** window appears, click Exit to close the wizard.

Chapter 11: Troubleshooting

If you encounter problems with Microsoft Dynamics GP Tenant Services, the following sections may be helpful. They describe some of the most common situations that can occur when using tenant services. The following items are discussed:

- *Tenant Services do not start*
- *Error occurs when opening the Web Management Console*
- *Login problems with the Tenant Manager snap-in*
- *Tenant Manager requests the service URL*
- *Error when starting a multitenant application*
- *View the Tenant Manager exception log*
- *Check the service configuration files*
- *Enable error messages to provide additional information*
- *Enable logging for the Web Client application*

Tenant Services do not start

After you install Tenant Services, you view Services in the Server Manager and find that the Microsoft Dynamics GP Tenant Discovery Service and the Microsoft Dynamics GP Tenant Management Service have not started. You attempt to start both services but neither will run.

The login you used may not have sufficient privileges to initialize the service on the server. Use Local User and Groups in Server Manager and add the login to the Administrators group. Try starting each service again. The services should start and run.

Error occurs when opening the Web Management Console

You have installed the Microsoft Dynamics GP Web Management Console but you see the following error when you open the console in Internet Explorer.

```
HTTP Error 500.21 -Internal Server Error
Handler "PageHandlerFactory - Integrated" has a bad module
"ManagedPipelineHandler" in its module list.
```

This error can occur when ASP.NET has not been successfully installed on the server. To correct the specified issue, open a command prompt with administrator privileges and navigate to the following folder:

```
c:\Windows\Microsoft.NET\framework64\v4.0.30319\
```

Type the following command and press enter:

```
aspnet_regiis -i
```

The command installs the specified .NET framework and should eliminate the error message. After you complete the install, you should run the IIS reset command (iisreset) to restart the web server.

Login problems with the Tenant Manager snap-in

After installing Tenant Services, you are unable to open the Tenant Manager in the Web Management Console. To open the Tenant Manager, you need to be logged in as a service administrator for Tenant Services.

When you install Tenant Services, your login is added as a service administrator for Tenant Services. However, you also need to supply a login for the application pool for the Web Management Console. The specified login is added as a delegating user for Tenant Services.

A login cannot be both a service administrator and a delegating user. Be sure that you used a different login for the application pool. If you used the same login for the application pool identity that you use to install Tenant Service, you might not be able access the Tenant Manager console.

To use the Tenant Manager in the Web Management Console, be sure that you login with the ID of the service administrator. Verify that you are logged in with the login ID you used to install Tenant Services or another ID that is specified as a service administrator.

Tenant Manager requests the service URL

When you attempt to open the Tenant Manager in the Web Management Console, you see the following error message:
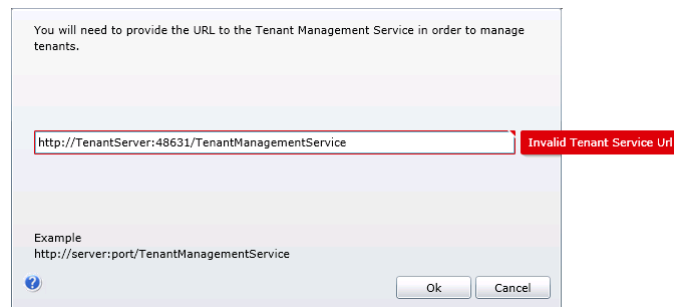
Verify the Microsoft Dynamics GP Tenant Management Service is running. You will not be able to use Tenant Manager until the service is started.

Error when starting a multitenant application

You start the web client or other multitenant application and receive an unexpected error.

Verify the Microsoft Dynamics GP Tenant Discovery Service is running. You will not be able to use the application until the service is running.

If you use the public discovery service to support additional multitenant applications, you should verify the Microsoft Dynamics GP Tenant Public Discovery Service is running. The multitenant applications that rely on that service will not be able to connect to Microsoft Dynamics GP until that service is started.

View the Tenant Manager exception log

The Tenant Manager of the Microsoft Dynamics GP Web Management Console includes a list of tenant services exceptions. The following illustration shows the console.

To view detailed error information, click the error in the list you want to view more information. Click the Error Details button at the bottom of the page. The Error Details shows more complete information and additional details about the error.

Check the service configuration files

The default Microsoft Dynamics GP Tenant Services installation adds two Windows services to your computer. The installer initially configures each service and stores the configuration information in an XML file. These XML configuration files contain elements that have attributes and values that control the operation of the service.

To understand the behavior of a service, you can view the configuration information in the file. In addition, you can change value to reflect changes in your environment

The XML configuration file for the discovery service is named:

Microsoft.Dynamics.MultitenantServices.Discovery.config.

You can find the file in the following location:

c:\Program Files\Microsoft Dynamics\Tenant Services\DiscoveryService

The management service has an XML configuration file named Microsoft.Dynamics.MultitenantServices.Management.config. You can find the file in the following location:

c:\Program Files\Microsoft Dynamics\Tenant Services\ManagementService

The public discovery service has an XML configuration file named Microsoft.Dynamics.MultitenantServices.Discovery.Public.config. You can find the file in the following location:

c:\Program Files\Microsoft Dynamics\Tenant Services\PublicDiscoveryService

Be sure to make a copy of the configuration file before you make any changes to the file. You can use the saved copy to restore the original configuration settings for the service.

Enable error messages to provide additional information

Change the setting in the XML configuration file for the discovery or management service. You can change the includeExceptionDetailInFaults attribute to the serviceDebug node to true.

You can use this setting when you are debugging an issue to get the complete error message. You will see more information about the exception which can help you identify the cause of the exception.

When you are done, set the value of the includeExceptionDetailInFaults attribute to false. If you do not restore the original settings, everyone who uses the service will get the detailed error messages.

You can find includeExceptionDetailInFaults in the following service configuration files:

- Microsoft.Dynamics.MultitenantServices.Discovery.config
- Microsoft.Dynamics.MultitenantServices.Management.config
- Microsoft.Dynamics.MultitenantServices.Discovery.Public.config

The previous section provides the typical location of each configuration file.

Enable logging for the Web Client application

The Microsoft Dynamics GP Web Client application includes properties you can use to enable logging for a tenant or tenant user. You can use the logs to help identify activity surrounding issues you might encounter while using the Web Client in a multitenant environment.

You can have the Web Client tenant application produce the following logs:

Name	Description
Runtime log	The primary log you use to record and view web client activity. The log records information about service calls, client actions, generated macro lines, and Dexterity callbacks.
Script log	Enables the Dexterity script log you can use when you debug sanScript code

Name	Description
Sql log	Enables the same type of logging that you get when you enable SQL logging in the Dex.ini file. The log contains information about the connection to the SQL server and the queries to that server.
Timing log	The log you use to record the timing information for messages, script execution, callbacks, and other events. You enable this log to gather information you can use to monitor performance for an event or action.

To enable logging, the Web Client application includes the following properties:

Property	Description
RuntimeLogEnabled	This property enables you to create the runtime log for a tenant. The default value for the property is false. To start the Runtime log, set the property to true.
CustomRuntimeSettings	This property enables you to create more detailed log information for scripts, SQL server activity, and the time for specified actions and events. The property includes a parameter for each type of log. The parameters are named ScriptLogEnabled, TimingLogEnabled, and SqlLogEnabled. The default value for the each parameter is false. To start a log, you set the value for that log parameter to true.

You can determine what information goes into a log file by where you enable the log.

- If you set the property to true in the Application Settings of the Tenant Properties window, the log contains information for all Web Client users for the tenant.

- If you set the property to true in the Application Settings section of the Tenant Users window, the log contains information for the specified tenant user.

After you enable logging, you can find the generated log in the following location:

%Program Data%\Microsoft Dynamics\GP Sessions\Logs\

When you have completed your analysis, be sure to return the value of the log properties to false.

Part 4: Multitenant Applications

This portion of the documentation explains the configuration and maintenance options for Microsoft Dynamics GP multitenant applications. The following information is discussed:

- Chapter 12, "Configuring the Web Client," describes how you configure the Microsoft Dynamics GP Web Client application for a tenant.

- Chapter 13, "Configuring Web Services," describes how you specify web service and tenant configuration information. The Web Services for Microsoft Dynamics GP Configuration Wizard uses this configuration information to add web services access to the tenant.

Chapter 12: Configuring the Web Client

This portion of the documentation describes how you use the Tenant Manager to make the Dynamics GP Web Client available for use with tenants. The documentation also describes how you provide information that is used to configure the web client for a specified tenant.

The following items are discussed:

- *Before you start*
- *To add the Web Client to the list of applications*
- *To configure the Web Client application for a tenant*
- *What to do next*

Before you start

To add and configure the Dynamics GP Web Client for a tenant, you have to first complete the following tasks:

- Install Tenant Services
- Install Microsoft Dynamics GP for the tenant
- Install the Web Management Console and the Tenant Manager snap-in

In addition, you should have already added the tenant. To add a tenant, you use the Tenant Manager snap-in. For information about how to add a tenant, see *To add a tenant* on page 64.

To add the Dynamics GP Web Client to the tenant, you use the Tenant Manager snap-in to supply important configuration information. The following table shows the information you will need to gather:

File	Description
Dynamics.exe	The Dynamics executable file from the Microsoft Dynamics GP instance for the tenant. You need to specify the path to the folder where the file was installed. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\
Dynamics.set	The Dynamics set file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Dynamics.set
Dex.ini	The Dex initialization file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Data\Dex.ini
SQLUserName	The name for the SQL login that was specified to be used for the web client when the web client runtime was installed for the Microsoft Dynamics GP instance.
SQLPassword	The password for the SQL login being used for the web client for the Microsoft Dynamics GP instance.
RuntimeProcessUserName	The name of the Windows account that the runtime process will run as when a user logs in using an Organizational Account. You only need to provide a value if you are using Organizational Accounts.
RuntimeProcessPassword	The password for the Windows account used to run the runtime process.

To add the Web Client to the list of applications

Before you can begin using the web client with tenants, you have to add Web Client to the list of multitenant applications in the Tenant Manager snap-in. If you previously added the default applications (Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP) to the list of applications, you do not need to repeat the steps in this section.

The following steps describe how to add the Microsoft Dynamics GP Web Client to the list of applications in the Tenant Manager snap-in:

1. **Verify your login is a Service Admin**
   Verify that your login has the Service Admin role for Tenant Services. You must be a Service Admin to add the web client to the list of applications. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

   In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.

2. **Start the Web Management Console.**
   In a browser, open the Microsoft Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

   Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
   To open the snap-in in the Web Management Console, click Tenant Manager in the navigation pane.

4. **Click Applications in the navigation pane.**
   The Tenant Manager shows the multitenant applications that are available.

5. **Click Add.**
   Click the Add button in the ribbon of the Web Management Console. The Add Application window opens.

6. **Click Add default applications.**
    This adds GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP as multitenant applications.

7. **Click Save.**
    To verify the changes, click Applications in the Tenant Manager navigation pane. You should see GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP in the list.

To configure the Web Client application for a tenant

You use the Tenant Manager snap-in to configure the web client application for a tenant. If you do not provide the required configuration information, the web client will not run.

The following steps describe how to configure the web client for a tenant:

1. **Verify your login is a Service Admin**
    Verify your are using a login that has the Service Admin role in tenant services. If you are not a Service Admin, you will not be able to access the Tenant Properties window. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

    In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.

2. **Start the Web Management Console.**
    In a browser, open the Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

    https://*ServerName:PortNumber*/WebManagementConsole/

    Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
    Click Tenant Manager at the bottom of the navigation pane. The snap-in opens in the Web Management Console.

4. **Click Tenants in the navigation pane.**
    The Tenant Manager shows the list of available tenants.

5. **Click the tenant and then click Edit.**
    To add a multitenant application to a tenant, you first click the tenant and then click Edit in the ribbon of the Web Management Console. The Tenant Properties window opens.

6. **Select Microsoft Dynamics GP Web Client**
    In the Application Settings section, click the checkbox in the Selection column for the Microsoft Dynamics GP Web Client.

7. **Specify the value for each web client application property.**
    When you click the Microsoft Dynamics GP Web Client, the web client application properties appear as a list. The following illustration shows the properties for the Microsoft Dynamics GP Web Client.

You have to specify the value for each application property. The following table shows the properties and describes how to specify a value for each property:

Property name	Description
DynamicsexeLocation	Specify the folder where you find the Dynamics.exe file of the Microsoft Dynamics GP instance that is associated with the tenant. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2013\
DynamicssetLocation	Specify the location of the Dynamics.set file of the Microsoft Dynamics GP that is associated with the tenant. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2013\Dynamics.set
DexiniLocation	Specify the location of the Dex.ini file for the Microsoft Dynamics GP instance that is associated with the tenant. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2013\Data\Dex.ini
HeartbeatTimeout	The amount of time a Web Client session can be in a disconnected state before it is terminated. The default value of 0.00:00:0 means the session is never terminated. You can change the value to specify the length of time before the session terminates. The format is hours.minutes:seconds. For example, the following sets the value to 20 minutes: 0.20:00:00
RuntimeLogEnabled	Specify whether to enable logging for the application. To enable logging, set the property value to true. The default value is: false

Property name	Description
CustomRuntimeSettings	Specify whether enable more detailed logging for the application. To enable logging, set one or more values to true. The default value is: ScriptLogEnabled=false|TimingLogEnabled=false|SqlLogEnabled =false
SQLUserName	The name for the SQL login that was specified to be used for the web client when the web client runtime was installed for the Microsoft Dynamics GP instance.
SQLPassword	The password for the SQL login being used for the web client for the Microsoft Dynamics GP instance.
RuntimeProcessUserName	The name of the Windows account that the runtime process will run as when a user logs in using an Organizational Account. You only need to provide a value if you are using Organizational Accounts.
RuntimeProcessPassword	The password for the Windows account used to run the runtime process.

8. **Click Save.**
    To save the application configuration information, click the Save button.

What to do next

You can add the users that you want to access the Web Client as tenant users for the tenant. For information about how to add a tenant user, see *To add a tenant user* on page 66.

Chapter 13: Configuring Web Services

This portion of the documentation describes how you use the Tenant Manager to make Web Services for Microsoft Dynamics GP available for use with tenants. The documentation also describes how you provide information that is used to configure web services for a specified tenant. You have to complete these steps before you can run the Web Services for Microsoft Dynamics GP Configuration Wizard.

The following items are discussed:

- *Before you start*
- *To add Web Services to the list of applications*
- *To specify Web Services configuration information*
- *What to do next*

Before you start

Before you add and configure Dynamics GP Web Services for a tenant, you have to first complete the following tasks:

- Install Tenant Services
- Install Microsoft Dynamics GP for the tenant
- Install the Web Management Console and the Tenant Manager snap-in
- Install Dynamics GP Web Services

In addition, you should have already added the tenant. To add a tenant, you use the Tenant Manager snap-in. For information about how to add a tenant, see *To add a tenant* on page 64.

To add Web Services for Microsoft Dynamics GP to the tenant, you use the Tenant Manager snap-in to supply important configuration information. The following table shows the information you will need to gather:

Required information	Description
Dynamics GP SQL Server	Get the name of the SQL Server where you installed Microsoft Dynamics GP for the tenant.
Dynamics GP system database	Get the name of the Microsoft Dynamics GP system database for the tenant. You specified the database name during the install of Microsoft Dynamics GP. To find the name of the database, open Microsoft SQL Server Management Studio, connect to the SQL Server, and view the list of databases on the server.
Dynamics Security Administration service SQL Server	Get the name of the SQL Server where you want to add the security administration database. You can use the same SQL Server you use for Dynamics GP or you can use another SQL Server.
URL for Dynamics GP Web Services	Get the name of the web server and the port number you use to connect to web services. For example, a typical install of web services might use the following URL: http://GPServer:48620/DynamicsGPWebServices/DynamicsGPService.asmx You will use GPServer and 48620 to configure the URL for the multitenant web services.

Required information	Description
URL for the Dynamics Security Administration service	Get the name of the web server and the port number you use to connect to Microsoft Dynamics Security Administration service. For example, a typical install of the security administration service might use the following URL: http://GPWebService:48621/DynamicsAdminService.asmx You will use GPWebService and 48621 to configure the URL for the multitenant web services security.

To add Web Services to the list of applications

Before you can begin using web services with tenants, you have to add Web Services to the list of applications in the Tenant Manager snap-in. If you previously added the default applications (Web Services for Microsoft Dynamics GP, GP Services, and Microsoft Dynamics GP Web Client) to the list of applications, you do not need to repeat the steps in this section.

The following steps describe how to add Web Services for Microsoft Dynamics GP to the list of applications in the Tenant Manager snap-in:

1. **Verify your login is a Service Admin**
   Verify that your login has the Service Admin role for Tenant Services. You must be a Service Admin to add web services to the list of applications. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

   In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.
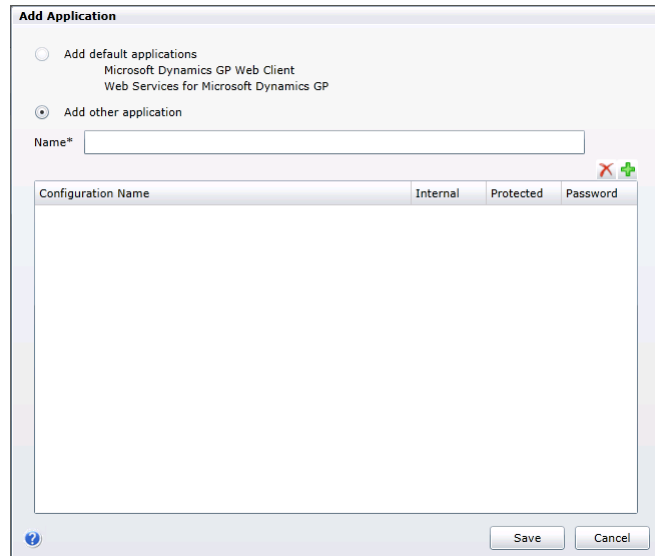
2. **Start the Web Management Console.**
   In a browser, open the Microsoft Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https:*//ServerName:PortNumber/*WebManagementConsole*/*

   Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
   To open the snap-in in the Web Management Console, click Tenant Manager in the navigation pane.

4. **Click Applications in the navigation pane.**
   The Tenant Manager shows the multitenant applications that are available.

5. Click Add.
Click the Add button in the ribbon of the Web Management Console. The Add Application window opens.

6. Click Add default applications.
This adds GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP to the list of applications.

7. Click Save.
To verify the changes, click Applications in the Tenant Manager navigation pane. You should see GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP in the list.

To specify Web Services configuration information

You use the Tenant Manager snap-in to provide configuration information that associates web services with a tenant. You have to complete these steps prior to running the Web Services for Microsoft Dynamics GP Configuration Wizard. The wizard uses this information to configure web services for the tenant. If you do not provide all the configuration information, the wizard will not be able to finish.

The following steps describe how to add web services configuration information for a tenant:

1. Verify your login is a Service Admin
Verify your are using a login that has the Service Admin role in tenant services. If you are not a Service Admin, you will not be able to access the Tenant Properties window. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.

2. **Start the Web Management Console.**
    In a browser, open the Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

    https://*ServerName:PortNumber*/WebManagementConsole/

    Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
    Click Tenant Manager at the bottom of the navigation pane. The snap-in opens in the Web Management Console.

4. **Click Tenants in the navigation pane.**
    The Tenant Manager shows the list of available tenants.

5. **Click the tenant and then click Edit.**
    To add web services to a tenant, you first click the tenant and then click Edit in the ribbon of the Web Management Console. The Tenant Properties window opens.

6. **Select Web Services for Microsoft Dynamics GP**
    In the Application Settings section, click the checkbox in the Selection column for Web Services for Microsoft Dynamics GP.

7. **Specify the value for each web services application property.**
    When you click Web Services for Microsoft Dynamics GP, the web service application properties appear as a list. The following illustration shows the properties for Web Services for Microsoft Dynamics GP.

Tenant Properties

Name*	Tenant01
Description	First tenant
Status	Active ▾

Application Settings

Selection	Names
☐	Microsoft Dynamics GP Web Client
☑	Web Services for Microsoft Dynamics GP

Name	Value
DynGPSQLServer	sqlserver
DynGPSystemDB	DYN01
DynGPWebServiceURL	http://servername:48620/Dynamics/GPService
SecAdminServiceURL	http://servername:48621/
SecServiceDB	Tenant01_DynGPSecurity
SecServiceSQLServer	sqlserver

Save Cancel

You have to specify the value for each application property. The following table shows the properties and describes how to specify a value for each property.

Property name	Description
DynGPSQLServer	Specify the name of the SQL Server where you installed Microsoft Dynamics GP for the tenant.
DynGPSystemDB	Specify the name of the Microsoft Dynamics GP system database for the tenant. The database has to be on the SQL Server that you specified in the previous property.
DynGPWebServiceURL	Specify the URL for the Dynamics GP service. The URL uses the following format: http://*machine_name:port*/Dynamics/GPService Replace *machine_name* with the name of the server onto which you installed Web Services for Microsoft Dynamics GP. The default port value is 48620. For example if the machine running the Dynamics GP service was named GPServer, the URL would be: http://GPServer:48620/Dynamics/GPService If this port value does not work to access the service, you will need to contact your administrator to find what port the Dynamics GP service is running on.
SecAdminServiceURL	Specify the URL of the Microsoft Dynamics Security Administration service. The URL uses the following format: http://*machine_name:port*/ Replace *machine_name* with the name of the server onto which you installed the Microsoft Dynamics Security Administration Service. The default port value is 48621. For example if the machine running the Microsoft Dynamics Security Administration service was named GPWebService, the URL would be: http://GPWebService:48621/ If this port value does not work to access the service, you will need to contact your administrator to find what port the Microsoft Dynamics Security Administration service is running on.
SecServiceDB	Specify the name of the Microsoft Dynamics Security Administration service database for the tenant. The database will be created when you run the Web Services for Microsoft Dynamics GP Configuration Wizard. To identify the tenant associated with the security administration database, you should include the tenant ID in the database name. For example, the name of the security administration service database for the tenant named Tenant01 would be Tenant01_DynGPSecurity.
SecServiceSQLServer	Specify the name of the SQL Server where want to add the database you specified in the previous property. The database can be on the same SQL Server you use for the Microsoft Dynamics GP or you can specify another SQL Server.

8. **Click Save.**
The values for the application properties are saved.

What to do next

Run the Web Services for Microsoft Dynamics GP Configuration Wizard, which can be found on the server where you initially installed web services. You need to run the wizard for each tenant that you configured to use web services. When you run the wizard, you will be asked to specify the tenant. For more information about the Web Services Configuration Wizard, see the Web Services Installation and Administration Guide.

You can add the tenant users that you want to access web services for the tenant. For information about how to add a tenant user, see *To add a tenant user* on page 66.

To enable a tenant user to access web services, you will also need to use the Dynamics Security Console to add the user, specify a company, and assign a security role. For more information, see the "Role assignments" section of the Web Services Installation and Administration Guide.

Chapter 14: Configuring GP Services

This portion of the documentation describes how you use the Tenant Manager to make the Dynamics GP Service Based Architecture available for use with tenants. The documentation also describes how you provide information that is used to configure the web client for a specified tenant.

The following items are discussed:

- *Before you start*
- *To add GP Services to the list of applications*
- *To configure the GP Services application for a tenant*
- *What to do next*

Before you start

To add and configure the Dynamics GP Service Based Architecture for a tenant, you have to first complete the following tasks:

- Install Tenant Services
- Install Microsoft Dynamics GP for the tenant
- Install the Web Management Console and the Tenant Manager snap-in

In addition, you should have already added the tenant. To add a tenant, you use the Tenant Manager snap-in. For information about how to add a tenant, see *To add a tenant* on page 64.

To add the Dynamics GP Service Based Architecture to the tenant, you use the Tenant Manager snap-in to supply important configuration information. The following table shows the information you will need to gather:

File	Description
Dynamics.set	The Dynamics set file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Dynamics.set
Dex.ini	The Dex initialization file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Data\Dex.ini
SQLUserName	The name for the SQL login that was specified to be used for the web client when the web client runtime was installed for the Microsoft Dynamics GP instance.
SQLPassword	The password for the SQL login being used for the web client for the Microsoft Dynamics GP instance.
GPVersion	The major version from the Microsoft Dynamics GP instance for the tenant. The value for Microsoft Dynamics GP instances is 14.
GPInstanceName	The instance name from the Microsoft Dynamics GP instance for the tenant. The value will be DEFAULT if the Microsoft Dynamics GP instance was not a named instance.

To add GP Services to the list of applications

Before you can begin using the service based architecture with tenants, you have to add GP Services to the list of multitenant applications in the Tenant Manager snap-in. If you previously added the default applications (GP Services, Microsoft

Dynamics GP Web Client and Web Services for Microsoft Dynamics GP) to the list of applications, you do not need to repeat the steps in this section.

The following steps describe how to add the Microsoft Dynamics GP Service Based Architecture to the list of applications in the Tenant Manager snap-in:

1. **Verify your login is a Service Admin**
   Verify that your login has the Service Admin role for Tenant Services. You must be a Service Admin to add web client to the list of applications. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

   In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.

2. **Start the Web Management Console.**
   In a browser, open the Microsoft Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

   Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
   To open the snap-in in the Web Management Console, click Tenant Manager in the navigation pane.

4. **Click Applications in the navigation pane.**
   The Tenant Manager shows the multitenant applications that are available.

5. **Click Add.**
   Click the Add button in the ribbon of the Web Management Console. The Add Application window opens.

6. **Click Add default applications.**
   This adds GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP to the list of applications.

7. **Click Save.**
   To verify the changes, click Applications in the Tenant Manager navigation pane. You should see GP Services, Microsoft Dynamics GP Web Client and Web Services for Microsoft Dynamics GP in the list.

To configure the GP Services application for a tenant

You use the Tenant Manager snap-in to configure the service based architecture application for a tenant. If you do not provide the required configuration information, the service based architecture will not run.

The following steps describe how to configure the service based architecture for a tenant:

1. **Verify your login is a Service Admin**
   Verify your are using a login that has the Service Admin role in tenant services. If you are not a Service Admin, you will not be able to access the Tenant Properties window. The Service Admins are identified in the Users section of the Tenant Manager snap-in.

   In addition, your login must have authorization to use the Microsoft Dynamics GP Web Management Console. Your login must be a member of the security group you specified during the install of the Tenant Manager.

2. **Start the Web Management Console.**
   In a browser, open the Dynamics GP Web Management Console. To start the Web Management Console, you use a URL similar to the following:

   https://*ServerName:PortNumber*/WebManagementConsole/

   Replace *ServerName* with the name of the server that is running the Web Management Console. If the web site isn't using port 80, supply the *PortNumber* as well.

3. **Click Tenant Manager.**
   Click Tenant Manager at the bottom of the navigation pane. The snap-in opens in the Web Management Console.

4. **Click Tenants in the navigation pane.**
   The Tenant Manager shows the list of available tenants.

5. **Click the tenant and then click Edit.**
   To add web services to a tenant, you first click the tenant and then click Edit in the ribbon of the Web Management Console. The Tenant Properties window opens.

6. **Select GP Services**
   In the Application Settings section, click the checkbox in the Selection column for GP Services.

7. **Specify the value for each gp services application property.**
   When you click GP Services, the gp services application properties appears as a list. The following illustration shows the properties for Web Services for Microsoft Dynamics GP.

You have to specify the value for each application property. The following table shows the properties and describes how to specify a value for each property.

Property name	Description
Dynamics.set	The Dynamics set file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Dynamics.set
Dex.ini	The Dex initialization file from the Microsoft Dynamics GP instance for the tenant. You need to specify the file and its location. For example: c:\Program Files (x86)\Microsoft Dynamics\GP2015\Data\Dex.ini
SQLUserName	The name for the SQL login that was specified to be used for the web client when the web client runtime was installed for the Microsoft Dynamics GP instance.
SQLPassword	The password for the SQL login being used for the web client for the Microsoft Dynamics GP instance.
GPVersion	The major version from the Microsoft Dynamics GP instance for the tenant. The value for Microsoft Dynamics GP instances is 14.
GPInstanceName	The instance name from the Microsoft Dynamics GP instance for the tenant. The value will be DEFAULT if the Microsoft Dynamics GP instance was not a named instance.
RequestLoggingEnabled	Specify whether to enable logging for the application. To enable logging, set the property value to true. The default value is: false

Property name	Description
OperationTimeOut	The amount of time a service request can run before it is terminated. The default value of 0.00:00:0 means the request is never terminated. You can change the value to specify the length of time before the session terminates. The format is days.hours.minutes:seconds. For example, the following sets the value to 20 minutes: 0.20:00:00

8. Click Save.
To save the application configuration information, click the Save button.

What to do next

You can add the users that you want to access the Service Based Architecture as tenant users for the tenant. For information about how to add a tenant user, see *To add a tenant user* on page 66.

Appendix

The following appendix is included for this documentation:

- Appendix A, "Scale Groups," explains how scale groups can be used to further configure a multitenant configuration of Microsoft Dynamics GP.

Appendix A: Scale Groups

The scale groups feature introduced in Microsoft Dynamics GP 2013 R2 works in conjunction with tenant services to provide enhanced flexibility when deploying several installations of the Microsoft Dynamics GP web client. The primary users of this feature will be organizations that host multiple installations of Microsoft Dynamics GP.

Information about scale groups is divided into the following sections:

- *What scale groups provide*
- *Default scale group*
- *Configuring scale groups*

What scale groups provide

To better understand the functionality that scale groups provide, it's helpful to review how multiple installations of Microsoft Dynamics GP with the web client were hosted before scale groups were available.

Without scale groups

Microsoft Dynamics GP allows up to 51 instances of the application to be installed on a single machine. In a typical hosting configuration, one Microsoft Dynamics GP instance is assigned to one tenant. The following illustration shows how an installation with five tenants would be configured.

**Web Server
Session Central**

Tenant 1
Tenant 2
Tenant 3
Tenant 4
Tenant 5

Tenant Services

GP Instance 1
GP Instance 2
GP Instance 3
GP Instance 4
GP Instance 5
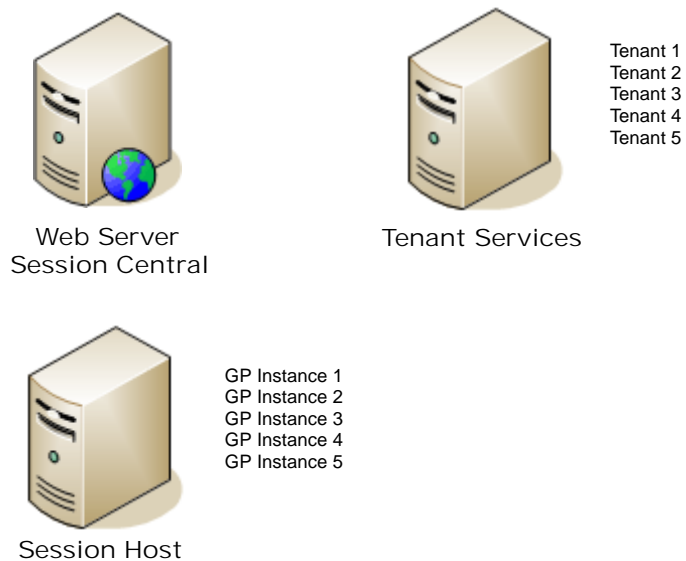
Session Host

The Session Host server has the five instances of Microsoft Dynamics GP installed. The Tenant Services server has a tenant defined for each GP instance. When a user logs in to the web client, Session Central will direct the user to the appropriate GP instance, based on the tenant configuration specified in Tenant Services.

This configuration works well, but two issues are commonly encountered. The first issue occurs when the limit of 51 Microsoft Dynamics GP instances is reached on the Session Host server. The only solution is to install another deployment group consisting of a Web Server, a Session Central server, and a Session Host server.

The second issue occurs when a specific tenant has the requirement to support more concurrent web client sessions. You can address this need by adding additional Session Host servers. However, recall that each session host machine in the installation must have the same set of GP instances. That means that you must install and manage all of the GP instances on the additional session host machine, even though only one tenant requires the additional capacity.

With scale groups

Scale groups provide a way to logically group session host machines. Each tenant is assigned to a specific scale group. The session hosts in that scale group have the GP instances needed to support those tenants. The following illustration shows one way the previous hosting installation could be configured with scale groups.
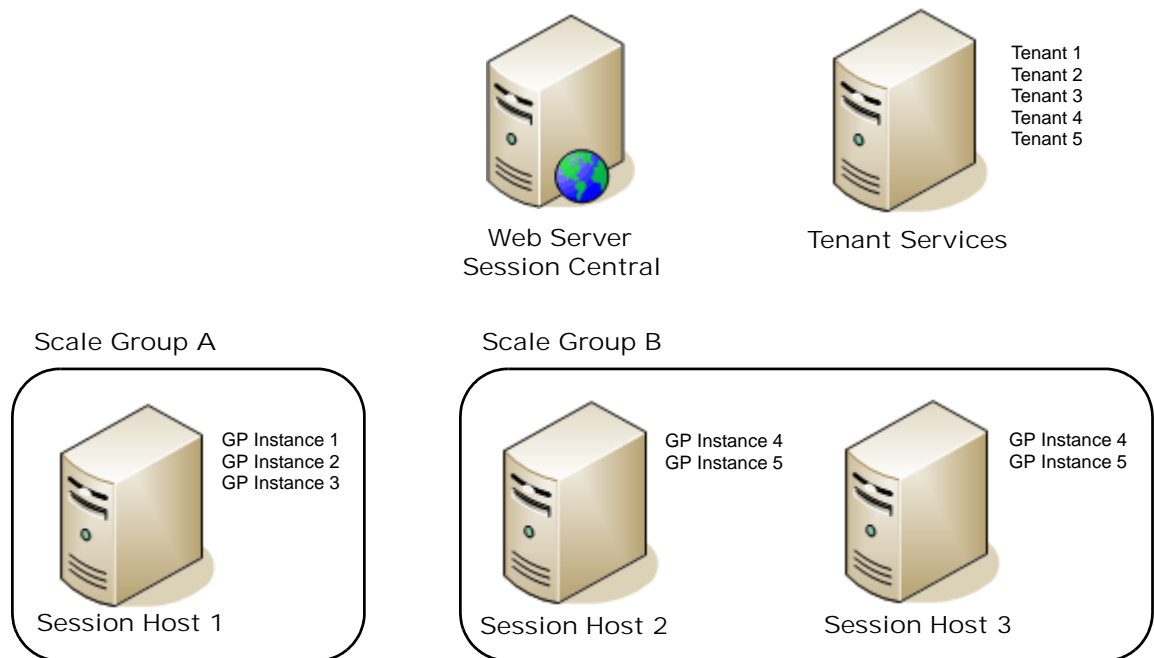
In this example, two scale groups (Scale Group A and Scale Group B) are defined. Tenants 1, 2, and 3 are assigned to Scale Group A. Tenants 4 and 5 are assigned to Scale Group B. Scale Group A has one session host machine, while Scale Group B has two session host machines.

Let's examine how scale groups help to solve the two common issues encountered in the non-scale groups configuration. First, the 51 instance limit is no longer an issue. If a session host machine has reached the limit, you can simply create a new scale group and add another session host machine to the new scale group. The new tenant can be assigned to the new scale group. There is no need for an additional web server and session central server.

Scale groups also help solve the second issue because they provide flexibility when you need to scale out a tenant. In this example configuration, let's assume that Tenant 4 needed additional processing capability. An additional session host machine was added to Scale Group B. Because only tenants 4 and 5 are assigned to Scale Group B, the additional session host machine had to have only GP Instances 4 and 5 installed on it. Session Host 1 and the tenants assigned to it were unaffected by the change to scale out Tenant 4.

Default scale group

When the Session Central Service and Tenant Service are installed, there is always one default scale group that is available. This scale group is named "Default Group" and has the Id value 0.

When a session host machine is added to a Microsoft Dynamics GP web client installation, you can specify which scale group it is assigned to. If the session host machine is not assigned to a specific scale group, it will be considered part of the Default Group scale group. In a similar way, a tenant that you create is automatically assigned to the Default Group scale group.

By automatically considering new session host machines and tenants are part of the Default Group scale group, the default functionality of the system is the same as it was before scale groups were available.

Configuring scale groups

To configure the scale groups, you must use PowerShell cmdlets from the Microsoft Dynamics GP 2013 PowerShell module. You can install this PowerShell module from the Microsoft Dynamics GP 2013 installation media. For details about installing the PowerShell module and using the cmdlets, refer to the Microsoft Dynamics GP 2013 PowerShell Users Guide.

Connecting to the Session Central Service

After starting the Microsoft Dynamics GP 2013 PowerShell command prompt, the first command you must enter connects to the Session Central Service. All of the other cmdlets require this connection to work properly. The following example shows this cmdlet.

```
Set-GPSessionCentralAddress -Address http://gpweb.contoso.com:48650/
SessionCentralService
```

Creating scale groups

To create scale groups, use the **New**-**GPScaleGroup** cmdlet. The following example shows how to create a scale group.

```
New-GPScaleGroup -ScaleGroupName "SG_A" -Description "Scale Group A"
```

Assigning session hosts to scale groups

After scale groups have been created, you can assign session host machines to the scale groups. Use the **Update**-**GPSessionHost** cmdlet to set the properties of the session host machine, including the scale group the session host is assigned to. The following example assigns the SessionHost1 session host to the SG_A scale group, which has the Id 1.

```
Update-GPSessionHost -SessionHostId "SessionHost1" -ScaleGroupId 1
```

Assigning tenants to scale groups

Use the **Add**-**ScaleGroupTenant** cmdlet to assign a tenant to a scale group. The following example adds Tenant01 to the SG_A scale group.

```
Add-GPScaleGroupTenant -ScaleGroupName "SG_A" -TenantName "Tenant01"
```

Retrieving configuration information

Several PowerShell cmdlets are available to retrieve information about the scale groups, tenants, and session hosts. For example, the following command lists all of the tenants that are assigned to the SG_A scale group.

```
Get-GPScaleGroupTenant -ScaleGroupName "SG_A"
```

Setting configuration options

Additional PowerShell cmdlets are available to set configuration options for scale groups, tenants, and session hosts. For example, the following command makes the scale group SG_A inactive.

```
Get-GPScaleGroup -ScaleGroupName "SG_A" | Update-GPScaleGroup -SetInactive
```

Removing assignments

Several PowerShell cmdlets are available to remove assignments that have been made. For example, the following command removes the scale group assignment for Tenant 01. Tenant 01 will then be assigned to the Default Group scale group.

```
Remove-GPScaleGroupTenant -TenantName "Tenant01"
```

Glossary

Application

A client application that you can associate with one or more tenants. You use the application to perform operations that use Microsoft Dynamics GP data.

Application Programming Interface (API)

A set of functions or features you access to programmatically use or manipulate a software component or application.

Delegating user

The user account that you use to call Tenant Services operations on behalf of another specified user. The operation returns tenant information based on the specified user or service administrator parameter that is provided with the call.

Integrated security

The SQL server security option that leverages Windows authentication to supply the user's login credentials. It allows a network user to access a SQL server database without supplying separate login credentials.

Security certificate

A document that helps a client and service to more securely communicate across a network. You can use a security certificate to help secure the Tenant Discovery Service, Tenant Management Service, and the Tenant Public Discovery Service. In addition, you can use a security certificate to help secure the web site that hosts the Web Management Console and the Tenant Manager snap-in.

Secure Socket Layer (SSL)

A protocol for secure network communications. You use security certificates to enable SSL for services and web sites.

Service administrator

The user account that is specified to be an administrator of Tenant Services. A service administrator has access to all tenants, users, and applications in a multitenant environment.

Services

Microsoft Windows services are long-running applications that perform some system function. Services typically do not display any user interface.

Tenant

An organization that uses an instance of Microsoft Dynamics GP. A tenant identifies the users and applications that are associated with the specified instance of Microsoft Dynamics GP.

Tenant administrator

A specified tenant user that can add other tenant users to a tenant.

Tenant Manager

A Silverlight application that is used to perform administrative tasks for the Microsoft Dynamics GP Tenant Services. The Tenant Manager is a snap-in that appears in the Web Management Console.

Tenant user

A user that is assigned to a tenant. When you assign a user to a tenant, that person is authorized to use any of the configured multitenant applications for that tenant.

Windows Communication Foundation service (WCF)

Windows Communication Foundation. This is a framework included in the .NET Framework that can be used to build services that allow applications to exchange data. WCF supports several standard protocols and authentication methods.

Web client

The Microsoft Dynamics GP web client provides access to Microsoft Dynamics GP through the Internet Explorer web browser. The user experience and functionality provided by the Microsoft Dynamics GP web client closely matches the experience of using the Microsoft Dynamics GP desktop client.

Web Management Console

A Silverlight application that is used to perform administrative tasks. The Web Management Console can include the Tenant Manager snap-in.

Web services

The Microsoft Dynamics GP web services provide access to Microsoft Dynamics GP data. You can configure web services to support tenants in a multitenant environment.

XML

A text-based format that uses markup tags (words surrounded by '<' and '>') to describe how a document is structured and the data it contains.

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