LS Central 27.1

Installation

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LS Retail
an aptos company

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Installation of LS Central

This release can be used for localizations and demonstrations.

The following products are available from the LS Retail Portal for download (login required):

- DD Web Monitor
- Commerce
- Kitchen Display System
- Data Director

Note: In these instructions references to software versions are in generic form and always refer to the latest version.

Example: In October 2025 *LS Central xx.xx* stands for *LS Central 27.0*.

System Requirements

LS Central has the same system requirements as standard Microsoft Dynamics 365 Business Central:

https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/deployment/system-requirements-business-central-v27

Data Director System Requirements

The Data Director requires the following hardware and software resources in order to run properly:

Hardware

- At least 1 GB of available RAM. The base processes use around 100-200 MB of RAM for normal operation. The amount of RAM required depends on the size of database queries that DD needs to perform.
- 100 MB disk space for the base application. This is the absolute minimum space required. The additional disk space required when moving data depends on the amount of data and how frequently it is moved. You should have at least 10 GB free on your hard drive for the temporary data generated by the DD.
- A Dual Core processor or better. The DD is a CPU intensive application, especially when processing data, so a faster processor usually means improved performance.

Software

- Refer to DD release notes for details on supported operating systems and databases.
- The DD needs 2-3 user sessions in the database it is processing data to and from. The number of user sessions depends on the functionality used and Data Thread setting in the DD Configuration tool. For normal operation DD uses one session for query data, one session for insert/update and then one or more sessions for incoming TS requests.
- The databases which the DD needs to connect to should have TCP/IP protocol active and port open in Firewall.
- IIS is needed for DD Web Service when running Scheduler Jobs from LS Central 16 or later.

Operating systems

The following operating systems are supported:

- MS Windows Server 2018 and later
- MS Windows 10 and later.

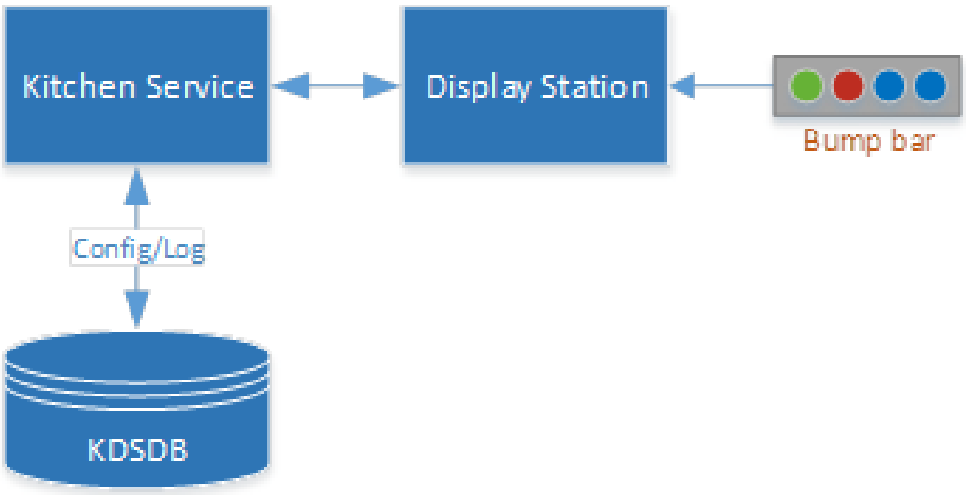
IPv4 and IPv6 are supported for all operating systems.

Database servers

The following databases are fully supported:

- MS Dynamics NAV (LS Nav)
- MS Business Central (LS Central)
- MS Dynamics AX 2012, 2012 R2
- MS SQL Server / Express
- Any database that supports either ODBC or OleDB connection
- XML and text files.

Kitchen Display System Requirements



Web Kitchen Display System

Component	Description	Requirements
Kitchen Manager	Windows Service	Windows 10 1607 or later 2 GB memory (4 GB preferred)
KDS DB	**This part is obsolete (since version 25.0)**. The Standard Kitchen Service communicates with the OData web service in Business Central instead.	
Kitchen Display Station	As the Web KDS is a web-based solution, the display stations can be opened in any browser or using the AppShell.	Can be an Android tablet, for example.
Bump bars	Connects to the display screen to control all station operations. Must return an alpha key or numeric keys.	USB interface

Standard Kitchen Display System

The Standard KDS system has the following components:

Note: The Standard KDS does not require a database server.

Component	Description	Requirements
Kitchen Manager	Windows Service	Windows 10 2 GB memory (4 GB preferred)
Kitchen Display Station	Windows executable (can run on same machine as Kitchen Manager service). It is possible to run multiple instances on the same machine and on multiple machines with display stations that connect to the same service. The screen can be connected to a computer with a VGA display port or an HDMI port to the computer running the Kitchen Display Station program. The computer running this program must be on the same network as the KDS server (can be a domain or a work group), so it can communicate with the Kitchen Service on the KDS server (Windows Service).	Windows 10 2 GB memory (4 GB preferred)
Bump bars	Connects to a KDS computer to control a display station. Must return an alpha key or numeric keys.	USB interface

See also

Web Kitchen Service Installation

Standard Kitchen Display System Installation

POS Requirements

Online POS requirements

LS Retail follows Microsoft's guidelines regarding specifications for clients that are online in SaaS, the only requirement being that the client can run the latest version of supported browsers.

For connection to peripherals, you need to install the latest version of Hardware Station for LS Central. For more information, refer to the General requirements for the POS.

For more information on Business Central requirements see Client Components - Browser Requirements

Choosing a network connection

Microsoft recommends choosing a secure network that has lower latency, because in general the user interface performs better when latency is low.

Business Central is designed for networks that have a latency of 250-300 milliseconds (ms) or less. This latency is the latency from a browser client to the Microsoft Azure data center that hosts the app. We recommend that you test network latency at AzureSpeed.com or similar services.

You can use a third-party tool, for example Speedometer 3.0, to assess the performance of a user's device. LS Central POS relies heavily on JavaScript, and using this tool can be a good way to acquire metrics and to compare the score for different devices.

Select a typical device from the customer's organization and run Speedometer 3.0. If the resulting score is below 7, it may indicate that the device's performance could negatively impact the Business Central Web Client's functionality.

According to Microsoft, bandwidth requirements for Business Central depend on the customer. Most typical scenarios require a bandwidth of 1 megabyte per second (MBps) or more. However, Microsoft recommends more bandwidth for scenarios that have high payload requirements, such as scenarios that involve rich media or client add-ins.

Offline POS requirements

Resilient POS (running both database and service tier)

- CPU i5
- RAM 4-8 GB
- Preferably an SSD hard drive or fast spindle HDD or HHD.
  The size is abstract - 100 GB if you find one that small and want to clean up the installation.

High-Volume POS

- CPU i7
- RAM 16 GB
- SSD drive
  The size is abstract - 100 GB if you find one that small and want to clean up the installation.

Note: You may need to increase RAM to ensure optimal performance if:

- The POS is running offline, running both database and service tier.
- The database size increases.
- Other software is running, for example anti-virus software or other more demanding software.

For information on what operating system version is supported, see the Microsoft documentation on Server Components.

For connection to peripherals, you need to install the latest version of Hardware Station for LS Central. For more information, see General requirements for the POS.

General requirements for the POS:

We recommend running the POS in LS Central AppShell. This lets you start LS Central in a controlled way, and, in some scenarios, provides direct access to hardware (see below).

The Hardware Station for LS Central (HWS) runs only on Windows (Windows 10). Use this link on the LS Retail Portal (login required) to download the latest version. This means that the POS, started in LS Central AppShell, has to connect to an HWS running on a Windows machine.

With the LS Central AppShell, the POS can also connect to peripherals through the AppShell's own HWS (see below for more details).

- The Windows AppShell access to hardware is through Hardware Station for LS Central.
- The Android AppShell access to hardware can be through Hardware Station for LS Central.

  AppShell has additional direct hardware access to built-in hardware or to hardware connected via Bluetooth or WiFi.

  Supported printers:

  - Zebra LinkOS (Bluetooth or Network)
  - Epson Epos (Bluetooth or Network)
  - Bixolon (Bluetooth)
  - PED Printers

  Payments:

  - LS Pay Service
  - Android payment devices supported by LS Pay

  For more details see Peripherals.
- The iOS AppShell access to hardware can be through Hardware Station for LS Central, and additional direct hardware access:

  Supported printers:

- Bixolon
- Payments
- LS Pay Service

For more details see Peripherals.

LS Central Installation

LS Central is distributed in a single executable file, *W1_LS_Central_xx.x1.exe*.

Before you start the actual installation, you should run this application. This will uncompress the installation files and store them in an installation directory on your hard drive.
The default path for these files is *C:\LS Retail\LSxx.x*.

Prerequisites

Before installing the LS Central extension make sure:

- You have administrator privileges and necessary permissions and licenses to install Business Central, to add the LS Central extension, and to create users.
- Microsoft Dynamics 365 Business Central is installed.
- Microsoft PowerShell is installed.
- The *Microsoft.Dynamics.Nav.Apps.Management* module has been imported to the PowerShell session.

Additionally, if you are restoring the demo data backup make sure:

- You have a working knowledge of Business Central and Microsoft SQL Server, including how to restore a SQL database backup.

Adding the LS Central Extensions to an Existing Database

Follow these steps to add the LS Central System App and LS Central extensions to Business Central:

- Install the Data Director

To publish the extensions to the database, run this in PowerShell:

```
Publish-NAVApp -ServerInstance "BC" -Path 'C:\LS
Retail\LS22.0\Application\LS Central\LS Central_Sys-
tem_App_X.app'
Sync-NAVApp -ServerInstance "BC" -Name "LS Central
System App"
Publish-NAVApp -ServerInstance "BC" -Path 'C:\LS
Retail\LS22.0\Application\LS Central\LS Retail_LS Cen-
tral_X.app'
Sync-NAVApp -ServerInstance "BC" -Name "LS Central"
```

To install the extension:

1. Open the **Setup & Extensions** page.
2. Select **Install** for the LS Central extension.

You can also run the publish and install steps in PowerShell by running this script:

```
Publish-NAVApp -ServerInstance "BC" -Path 'C:\LS
Retail\LS22.0\Application\LS Central\LS Cen_tral_Sys-
tem_App_X.app'
Sync-NAVApp -ServerInstance "BC" -Name "LS Central
System App"
Install-NAVApp -ServerInstance "BC" -Name "LS Central
System App"
Publish-NAVApp -ServerInstance "BC" -Path 'C:\LS
Retail\LS22.0\Application\LS Central\LS Retail_LS Cen-
tral_X.app'
Sync-NAVApp -ServerInstance "BC" -Name "LS Central"
Install-NAVApp -ServerInstance "BC" -Name "LS Cen-
tral"
```

Restoring the LS Central Demo Database Backup

1. Start the Microsoft SQL Server Management Studio, and connect to the database server.
2. Restore the *ls-central-release.bak* backup file, found in the **Application** folder in the installation directory.
3. Install the toolbox by running the *LS Central Service Components.exe*, found in the **Setup** folder in the installation directory.
4. Install the Data Director.
5. Open the Business Central Administration client, and define a service which connects to the database created.
6. Open the Business Central web client, and add the current user, followed by any additional users.
7. Restart the service.

The installation is done. You can now start to use LS Central.

Uninstalling the LS Central Extension

Follow these steps to uninstall the LS Central and LS Central System extensions from Business Central:

1. Open the **Setup & Extensions** page.
2. Select **Uninstall** for the LS Central extension.
3. Select **Uninstall** for the LS Central System App extension.

To unpublish the extension from the database, run this script in PowerShell:

```
Unpublish-NAVApp -ServerInstance "BC" -Name "LS Central"
Unpublish-NAVApp -ServerInstance "BC" -Name "LS Central System App"
```

You can also uninstall (steps 1 to 3) through PowerShell by running this script:

```
Uninstall-NAVApp -ServerInstance "BC" -Name "LS Central"
Uninstall-NAVApp -ServerInstance "BC" -Name "LS Central System App"
Unpublish-NAVApp -ServerInstance "BC" -Name "LS Central"
Unpublish-NAVApp -ServerInstance "BC" -Name "LS Central System App"
```

LS Central Help Installation

Remote setup

LS Retail hosts the online help on a public server at https://help.lscentral.lsretail.com.

To add the LS Central help website to the Help & Support page in Business Central, set the BaseHelpUrl in navsettings.json to `https://help.lscentral.lsretail.com` as described in https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/deployment/configure-help#online-library

Local setup

Note: As of version 18.0, the Microsoft Dynamics 365 Business Central Help Server has been discontinued. The Business Central online help is available via links on the LS Central Home page and side navigation menu, and directly via this link.

Commerce Installation

The articles in this section provide full instructions on how to install a local instance of the Commerce Service and how to connect the Mobile Apps to the service, if apps will be used.

Note: The instructions assume that LS Central has been installed with LS Central Web Services up and running. See "Before Installation" on page 11 for information on how to prepare LS Central for Commerce.

You can download the Commerce installation file *CommerceServiceForLSCentral.Setup.202x.x.exe* from the LS Portal (login required).

The Service setup creates a new Commerce Database on SQL Server (default name *Commerce*) and adds CommerceService to IIS (default name *CommerceService*). These default names are used throughout these installation instructions.

See also

"Before Installation" on page 11

"Install and Configure IIS" on page 29

"Install Commerce Service" on page 15

"After Installation" on page 20

"Setup Command Lines" on page 23

Before Installation

Before installing the Commerce Service make sure you have the following:

1. LS Central has been set up and is running. The Commerce Service setup needs access to LS Central head office data that can either be running in a SaaS or On-Premises.
2. Windows user name and password used for the Windows Authentication or S2S Client Token and Key to access LS Central Web Service.
3. Set up Web Service in LS Central under **Web Service Setup**.
    - Add all values needed to generate Web Service URI that can be used for Commerce setup.
    - Publish, Publish Commerce Web Service and Subscribe under **Web Request 2**.
    - Get RetailWebServices URI from the **Web Service URI** field. An example of a **RetailWebServices** URL: *http://-*

mycentralserver:9047/BC210/WS/CRONUS - LS Central/Codeunit/RetailWebServices

- Get ODataV4 URI, by going to **Actions - Functions - Show OData V4 Uri**, copy the URI part up to /%1_%2.
  An example of **ODataV4** URL: *http://-mycentralserver:9048/BC210/ODataV4*
- Tenant ID for SaaS.

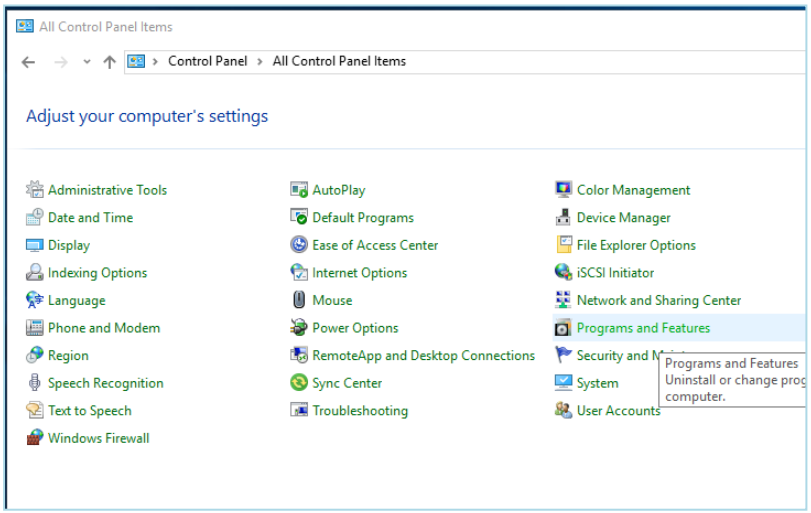
4. Running IIS Server on the machine that the Commerce Service will be installed on. Commerce Service is a WCF application and the *.svc* must be mapped in IIS (in Handler Mappings).

Install and Configure IIS

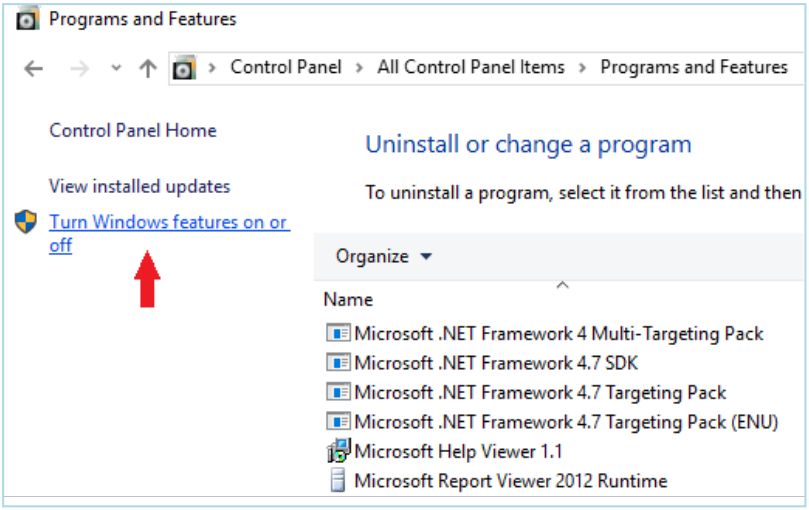
Follow these steps to turn on IIS (Internet Information Service or Web Service) on Windows 10. The procedure is similar on other versions of Windows.
Tip: A quick Google search gives you multiple results on how to install IIS on your machine,
https://www.rootusers.com/how-to-install-iis-in-windows-server-2019/

On Windows 10

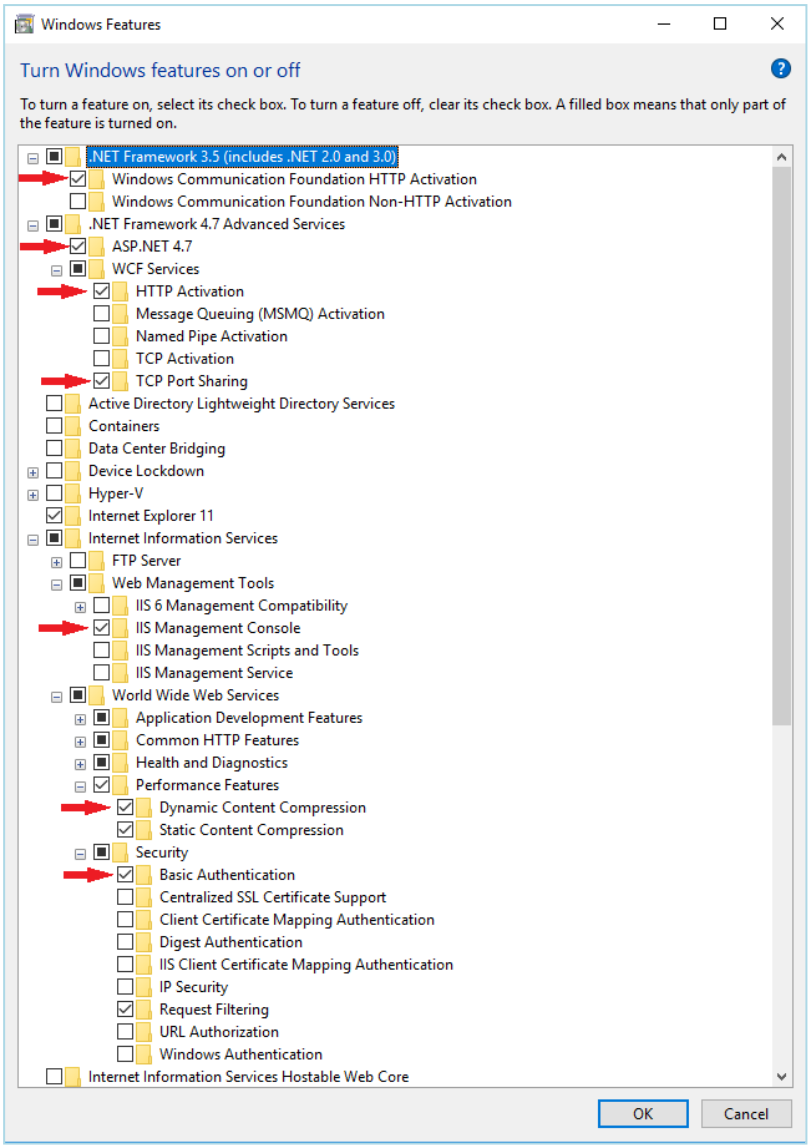
1. Open the Windows Control Panel (right-click the **Start** button in the bottom-left corner and select **Control Panel**).
2. Select **Programs and Features**:



3. Click **Turn Windows features on or off**:



4. In the **Windows Features**, select the check boxes shown in the below image:
    - NET framework 3.5 (includes .NET 2.0 and 3.0)
        - **Windows Communication Foundation HTTP Activation**
    - Internet Information Services
        - **Web Management Tools**
            - IIS Management Console
        - **World Wide Web Services**
            - Dynamic Content Compression
            - Basic Authentication



5. Click **OK**.

If you completed step 4 successfully, you should be ready to run the *CommerceServiceForLSCentral.Setup.202x.x.exe* setup to create the WCF web service.

If **.NET Framework 4.7 Advanced Services** is not an available feature to you, you have to set up .NET Framework 4.7 (https://-dotnet.microsoft.com/download/dotnet-framework/net47).

After installing the .NET framework, make sure that

Internet Information Services

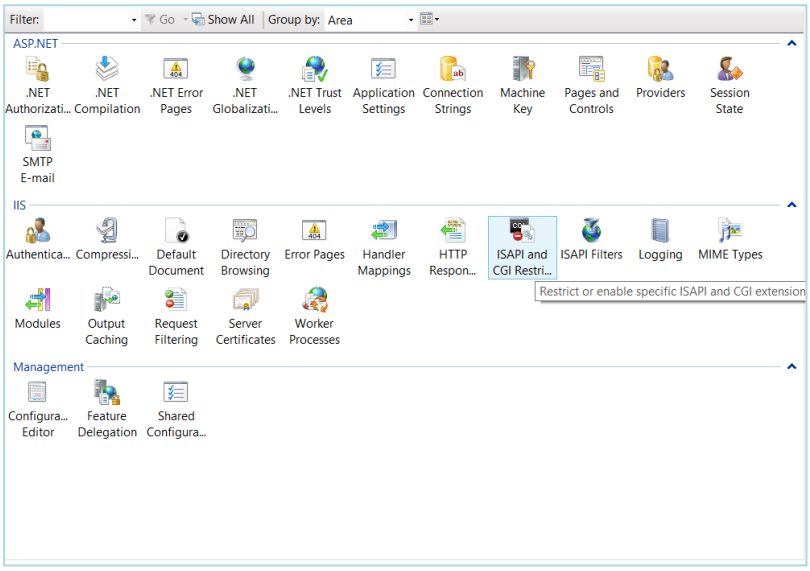
- World Wide Web Services
  - Application Development Features
    - **ASP.NET**

is selected (inside Windows Features).

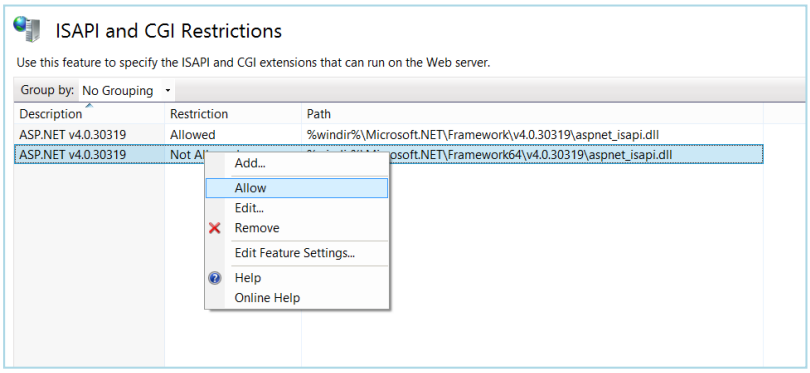
The final step is to activate and allow the newly installed .NET 4.7 framework inside IIS:

1. Start by looking for and opening Internet Information Services:

2. In IIS, select **ISAPI and CGI Restrictions:**



3. Right-click ASP.NET v4, and click **Allow**:



See also

Enable Basic Authentication (LS Central Help)

Install Commerce Service

The installation process requires the following information:

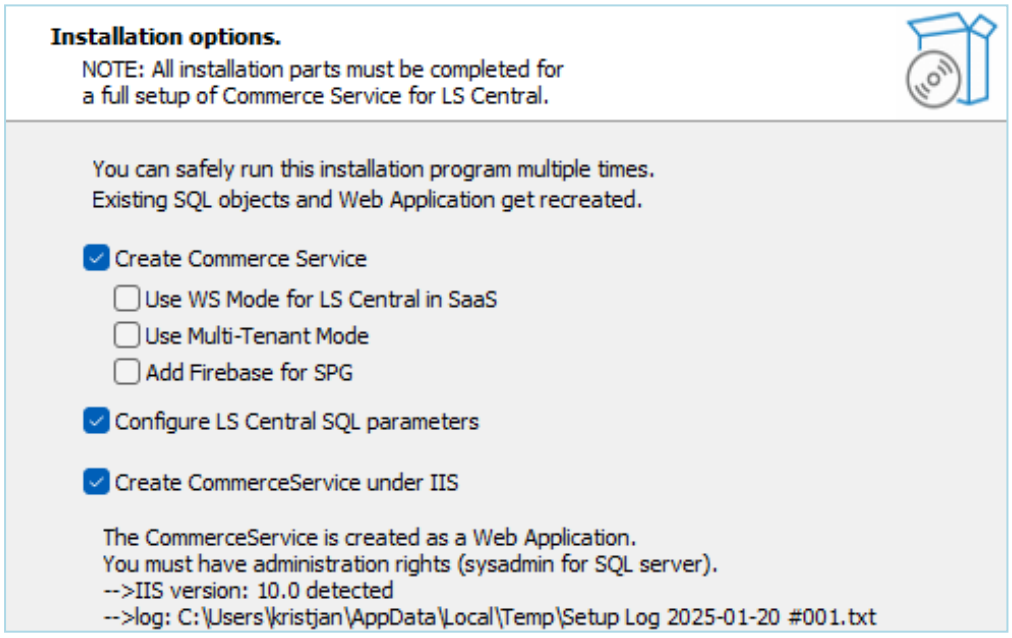
- SQL Server instance (for example, *mySqlServer* or *mySqlServer-\MSSQLSERVER*) used to create the Commerce database.

    - Default collation used is: *COLLATE Latin1_General_CI_AS*. If another collation is to be used, create a new Commerce Service database with the required collation in SQL Management Studio. The setup uses the existing database.
- LS Nav/Central SQL Server instance (for example, *MySQLServer*)
- LS Nav/Central SQL database name (for example, *LSCentral*)
- LS Nav/Central company name (for example, *Cronus - LS Central*)
- URL to LS Nav/Central web service (*http://-localhost:7047/BCxxx/WS/CRONUS - LS Central/Codeunit/RetailWebServices*)
- Windows user name and password used for the Windows Authentication against the LS Nav/Central web service.

Run the setup program *CommerceServiceForLSCentral.Setup.202x.x.exe*.

The setup creates the CommerceService service in IIS and the Commerce database. You can run the setup multiple times to update and to recreate and override objects in the existing Commerce database.

Installation options



Select check boxes depending on the type of installation.

Note: For updating an existing installation only, clear all check boxes, and only the files will be updated but the configuration and database will stay the same.

Note: When you are switching Commerce Service modes (for example single-tenant to multi-tenant), uninstall Commerce Service and install again with the new settings.

Installation options:

Create Commerce Service for LS Central Database

- Create Commerce Database. Select this check box to update the database. (**Note:** when updating, all existing data will be deleted.)
  - **Use WS Mode for LS Central in SaaS** is used when LS Central is in SaaS and it only uses LS Central Web Services to retrieve data. No Direct access to LS Central database.
  - **Use Multi-Tenant Mode** enables multi-tenancy to use one Commerce Service to communicate with multiple LS Central instances. Configurations for LS Central tenants are configured in the Commerce Admin Portal instead of the usual *AppSettings.config* file. See "Commerce Admin Portal" in the LS Central Help for more information.
  - **Add Firebase for SPG** installs Firebase service for ScanPayGo to be able to send notification messages to SPG App.

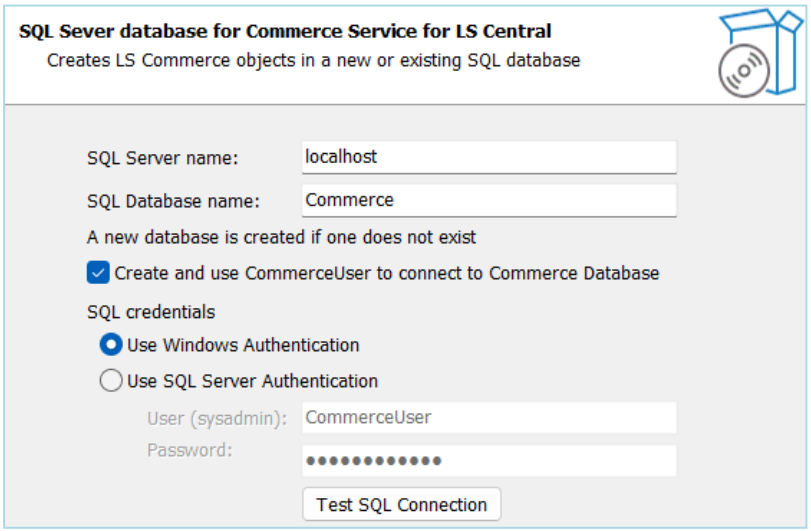
Configure LS Central SQL parameters

- Configuration needed to connect to LS Central SQL Database. Not used in SaaS or Multi-Tenant mode.

Create CommerceService under IIS

- Must run locally on the IIS machine.
- Creates a new Web Application called CommerceService.
- Creates a new application pool called CommerceServicePool. The CommerceService worker process runs under the identity set in this application pool.

SQL Server database for Commerce Service for LS Central



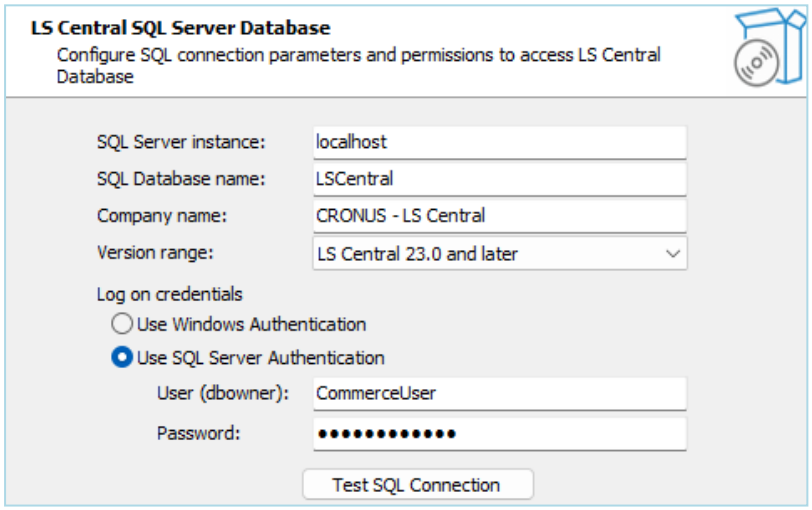
This will create an Commerce Database.

- Type in an SQL Server name where the database will be located, and either use the default database name or change it.

- Select the **Create and use CommerceUser to connect to Commerce Database** check box to let setup create CommerceUser with default password CommerceUser and use that user as login for the Commerce database. If this check box is not selected, the SQL credentials will be used to connect to Commerce database.
- SQL credentials are used to create the database and run other scripts during the setup process. This must be **sysadmin** on the SQL Server to be able to create the database. If Windows Authentication is used, the user logged in to the host and running the setup needs to be *sysadmin* on the SQL Server. If default CommerceUser does not already exist, you need to pick one that does exist already in the SQL Server.

The **Test SQL Connection** button tests the SQL credentials provided for the SQL Connection.

LS Central SQL Server Database



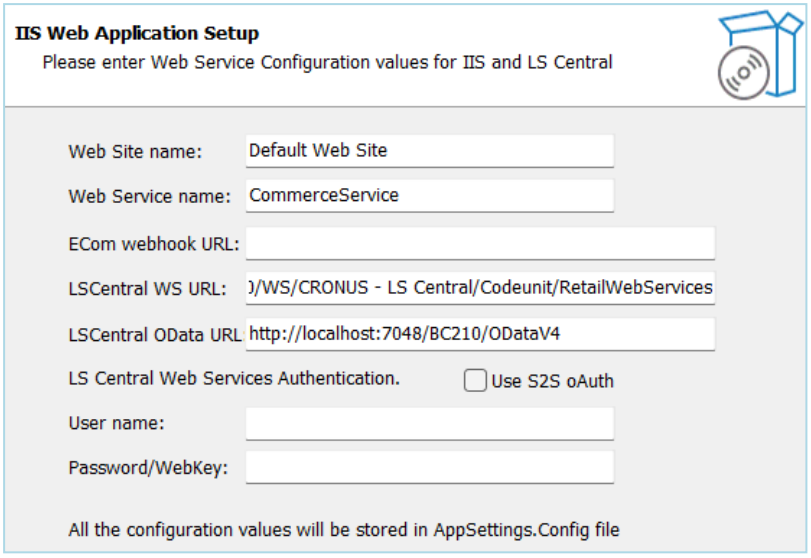
SQL Server connection setting used to connect directly to on-premises LS Central Database.

- **SQL Server instance**
- **SQL Database name**
- **Company name**
- Select the appropriate LS Central **Version range** depending on which version you are connecting to.
- Choose the **Log on credentials** to use to access the LS Central Database. The user has to have read access to all the tables needed to get data from.

The **Test SQL Connection** button tests the SQL credentials provided for the SQL Connection.

Note: If using CommerceUser when installing for the first time, the user does not exist on the SQL Database and Test Connection will not work. Skip the test and continue the installation as the user will be created during install.

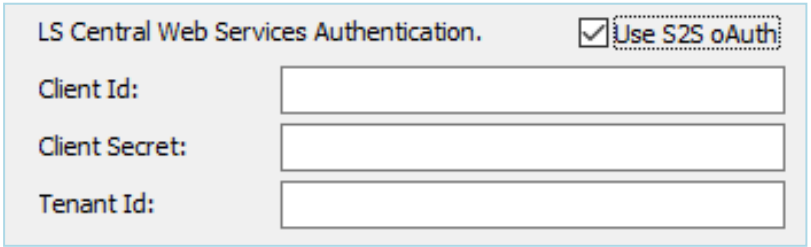
IIS Web Application setup



IIS Web Application Service settings for where Commerce Service will installed.

- **Web Site name**: The IIS Web Site to which Commerce Service will be added.
- **Web Service name**: Name for Commerce Web Service. If you are installing more than one instance of Commerce Service, choose a different name for each instance.
- **Ecom webhook URL**: URL to Magento webhook to receive order status messages and payment updates from LS Central.
- **LS Central WS URL**: Web Service URL for RetailWebServices. See "Before Installation" on page 11.
- **LS Central OData URL**: Web Service URL for ODataV4. See "Before Installation" on page 11.
- **User name**: For on-premises, enter a valid LS Central user with access to use the Web Service. For SaaS setup, enter the user name used when creating the Web Service URI
- **Password/WebKey**: For on-premises, enter the password or WebKey for the LS Central user. For SaaS setup, use oAuth.

For oAuth (S2S) connection to LS Central in SaaS, select the **Use S2S oAuth** check box, and add authentication information to the relevant fields.

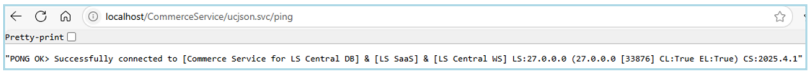


After Installation

You can "ping" the Commerce Web Service to see if the WCF web service is working properly. First, ping them from a browser on a laptop (Chrome/Edge or Firefox recommended), and later from a browser on your mobile phone.

The ping checks the connection to Commerce Service and LS Central SQL Server Databases and LS Central Web Service.

- http://localhost/CommerceService/appjson.svc/ping



If the ping is successful, a “pong” reply is returned.

The ping result shows each system that Commerce connects to. Commerce Database, Central Database (if OnPrem), Central Web Services and version and license information.

LS: LS Central version number (BC Version number and build)

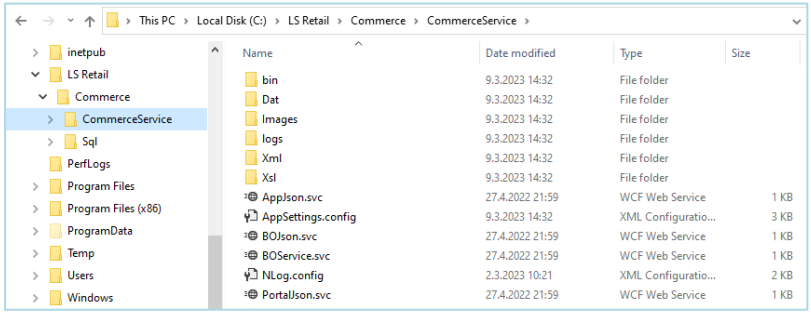
CL: LS Central license is active

EL: eCommerce license is active

CS: Commerce version number

After a successful ping, a Mobile App should be able to connect with the web service. If the ping returns an error, see "Troubleshooting Communication Between LS Nav/Central and Commerce" in the LS Central Help.

In Windows Explorer, open *C:\LS Retail\Commerce\CommerceService*. The *\Sql* folder has all the sql scripts used and the *\logs* folder has the *logfile.txt* which is extremely useful.



You can change the values you entered during the setup in the *AppSettings.config* file or in the Commerce admin portal, depending on the setup.

The connection strings to Commerce and LS Central SQL databases are stored in the *AppSettings.config* file (see "Appsetting Configuration" in the LS Central Help). You can control the error logging with the *NLog.config* file, (see "Logging Configuration").

Note: If you change these configuration files, you must restart the Commerce Service web service. To restart go to IIS Manager and restart Web Service where Commerce Service is located. You should not change the *web.config*, unless you setting up SSL.

Single-tenant

After a successful installation, the next step is to validate the data entered during the installation. Configuration for Single-tenant is stored in the *Appsettings.config* file, located where Commerce Service is installed.

Multi-tenant

After a successful installation, the next step is to create the first tenant, see "Commerce Admin Portal" in the LS Central Help. When you have set up the first tenant, your next step is to validate the tenant configuration.

Note: Commerce Admin Portal is only used for Multi-tenant configurations; it is not needed in a Single-tenant setup.

LS Central in SaaS

1. Set correct Protocol for Commerce to communicate with LS Central in SaaS.
2. Open the *Appsetting.config* file.
3. Find the following line in this file:
   `<add key="BOConnection.Nav.Protocol" value=""/>`

The default value is **Ss13** but you have to know which value to fill in here for your cloud instance.

Tip: If you are not sure, try one of the valid options **Ssl3** - **Tls** - **Tls11** - **Tls12** - **Tls13** - **S2S** and see which one works. The most common option for SaaS is **S2S**.

See also

LS Central Configuration (LS Central Help)

SQL Server Database (LS Central Help)

SQL Server Database

A new Commerce SQL Database is created during the Commerce Service Setup.

If setup is not able to create the Database, during limited access of user running the setup, like when using Azure SQL, the database can be created manually.

During setup, clear the option *Create Commerce Service for LS Central Database* and finish other options in the setup process. When done, SQL scripts used to create the database can be found in the SQL folder where Commerce is installed.

In SQL

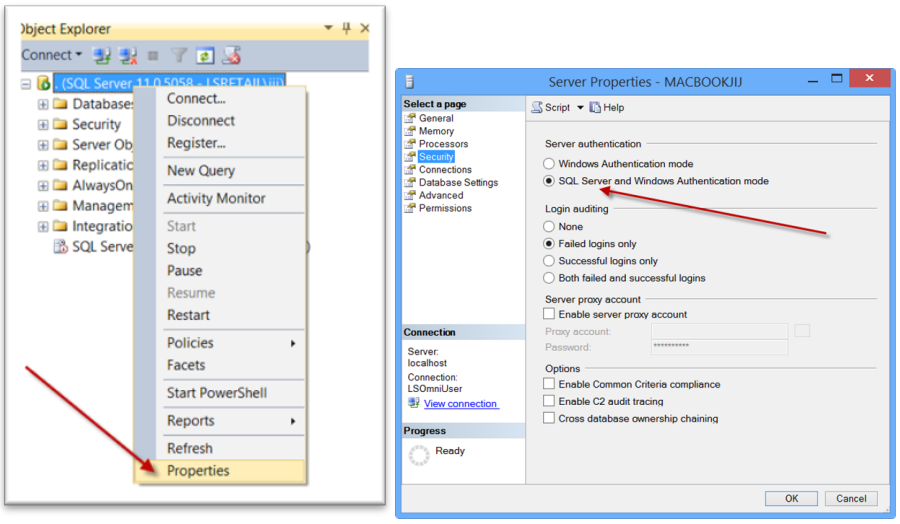
1. create a database,
2. then run *LSCommerceServiceDbObjects.sql* first to create the tables,
3. finally, run *LSCommerceServiceDbInitData.sql* to insert default data.

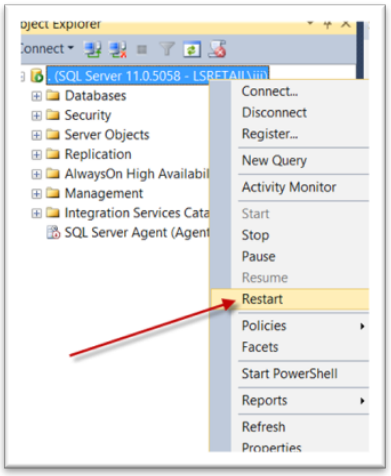
The setup creates an SQL Server login user **CommerceUser** with password **CommerceUser**, and grants this user data reader and data writer privileges in the Commerce database.

If you have a problem logging in with CommerceUser, you can configure the SQL Server to use SQL Server Authentication. If the **SQL Server and Windows Authentication mode** option is not enabled, setup will display a warning, but will allow the setup to continue and you cannot use the CommerceUser.

To enable this option:

1. Open the SQL Management Studio.
2. Open the Server Properties.
3. Restart, see images below:





The SQL Server connection string is stored in: *C:\LS Retail\Commerce\CommerceService\AppSettings.config*

```
<!-SQLConnectionString.LSOmni, sql server connection string -->
<add key="SQLConnectionString.LSOmni" value="Data Source=localhost;Initial Catalog=LSOmni;
Persist Security Info=True;User D=LSOmniUser;Password=LSOmniUser;MultipleActiveResultSets=True;
"/>
```

Note: In production, you can change this connection string to use Windows Authentication or any other SQL Server login/password.

For Commerce Service setup with LS Central SQL access

CommerceUser must also have read access to LS Central Database as Commerce will access LS Central database to pull some data from it.

Note: In a testing and demo environment, you can give the CommerceUser sysadmin access to bypass all restrictions. Do **not** do this in a production environment.

Setup Command Lines

These command line parameters can be used with the setup to run it in Silent mode.

-Cmd	false	User Command line mode (true).
-NavX	true	Configure LS Central SQL parameters.
-NavSrv	localhost	LS Central SQL Server instance.
-NavDb	LSCentral	LS Central SQL Database name.

-NavComp	CRONUS - LS Central	LS Central Company name.
-NavUsr	CommerceUser	LS Central SQL User name.
-NavPwd	CommerceUser	LS Central SQL User password.
-NavWaun	false	Use Windows Authentication for LS Central SQL.
-NavVer	3	LS Central Version (0= <14, 1= 15-17.4, 2= 17.5-22, 3= >23).
-SqlX	true	Create Commerce Database.
-SqlDb	Commerce	Commerce SQL Database name.
-SqlSrv	localhost	Commerce DB SQL Server name.
-SqlUsr	CommerceUser	Commerce DB SQL User name.
-SqlPwd	CommerceUser	Commerce DB SQL User password.
-SqlWau	false	Use Windows Authentication for Commerce DB User.
-SqlCrUsr	true	Create CommerceUser in SQL.
-MultiX	false	Use Multi-Tenant Mode.
-WSX	false	Use WS Mode

		for LS Central in SaaS.
-SPG	false	Add Firebase for SPG.
-IEcomUr	Demo	Magento Web Hook Url.
-IisX	true	Create CommerceService WCF service under IIS.
-IisSite	Default Web Site	Web Site name.
-IisSrv	CommerceService	Web Service name.
-IisUrl	http://-localhost:9047/LSCentral/WS/CRONUS - LS Central/Codeunit/RetailWebServices	LS Central Web Services Url.
-IisOData	http://-localhost:9048/LSCentral/ODataV4	LS Central OData Url.
-IisTen		LS Central SaaS tenant ID.
-IisUsr		LS Central WS User name.
-IisPwd		LS Central WS User password.
-Is2s	false	LS Central SaaS authentication.

Samples:

```
CommerceServiceForLSCentral.Setup.2023.1.exe
/VERYSILENT /SUPPRESSMSGBOXES -Cmd true -SqlSrv loc-
alhost -SqlUsr CommerceUser -SqlPwd CommerceUser -
NavSrv localhost -NavDb BC170 -NavComp "CRONUS - LS
Central" -NavUsr CommerceUser -NavPwd CommerceUser -
IisUsr super -IisPwd xxx
```

```
CommerceServiceForLSCentral.Setup.2023.1.exe
/VERYSILENT /SUPPRESSMSGBOXES -Cmd true -NavX false -
SqlX false -IisUsr dd -IisPwd dd.12345

CommerceServiceForLSCentral.Setup.2023.1.exe
/VERYSILENT /SUPPRESSMSGBOXES -Cmd true -NavX false -
SqlX false -IisX false
```

Data Director Installation

Prerequisites

There are a few things, as listed below, that you need to keep in mind before setting up the Data Director.

- You should have a solid understanding of the TCP/IP networking protocol. You should know how IP addresses can be assigned and be able to use tools such as ping and tracert. You must be able to assign names to an IP number, preferably using a DNS server or the local hosts file.
- You should know how to work with Microsoft Windows Services and view events from the Event Log.
- Make sure that you have the necessary permissions to install programs and be able to start and stop services on the computer running the DD service.
- You should have a working knowledge of Microsoft Business Central.
- The **DD Web Service** is a Windows Communication Foundation (WCF) service that is hosted in IIS and requires IIS version 7 and above. Those who want to install DD Web Service must therefore be familiar with IIS.

Note: DD version 3.2.128 and later now runs as an x64 application and installation will install the files into Program Files instead of the Program Files (x86) folder. DD does not support CFront data access.

If NAV Database is native or DD is installed on old Windows x86 box, an older version of DD (version series 3.2.xx, less than .100) must be installed to access native database. If NAV Database is SQL, use SQL connection string to access the data, and you can run the latest version of DD.

Security considerations

Most data communication tools like the DD will need access to your organization's databases in order to move data between them. For security purposes, you should restrict the DD's access to the database tables that it needs to read or write into. This is important because, unlike regular database users, the DD can effectively access any table

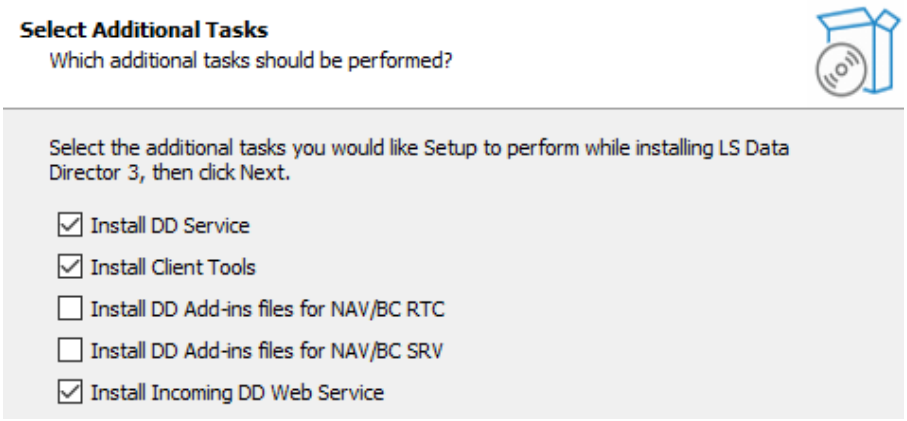
in your database, as it is not restricted to viewing data via a graphical user interface. By choosing not to restrict the DD's access to your database, you risk giving users access to data that they should not have access to.

Most database systems allow database administrators to set user access permissions relatively easily. It is strongly recommended that you spend some time specifying access permissions for the user account that the DD will use to access your database. For example, the Business Central security system provides a powerful feature that limits a user's access to database tables only, making the user account useless to regular users since they do not have access to the database's graphic user interface. Similar features can be found in most other database systems. If this feature is available, it should preferably be used for all user accounts that the DD uses.

To install the Data Director

DD3 Runs on Framework 4.7 so you need to install it before you install DD3.

1. Install DD3 by running *LS.DataDirector.3.02.xx.Setup.exe*.



2. If you clear all check boxes, only DD Client files are installed without the Client Tools. These are the files needed for LS Nav, LS Central, or LS One to communicate with the Data Director:

Task	Description
DD Service:	DD Service that handles all the data transfer. If you are installing only client controls for LS Retail products such s LS Central or LS One, to be able to connect to DD Service on another host, then clear this check box and only the Client files will be installed.
Client Tools:	Configuration Tool and Monitoring Tools

	for Data Director. If you do not want the tools to be available on this host, then clear this check box. DD can be configured and monitored remotely.
DD Add-ins files for NAV/BC RTC:	Add DD Client files to the Add-ins folder for NAV/BC RTC Client. This is only needed for LS Central version 15 or older. If there are more than one version of NAV/BC installed, only the newest version will get the files. You must copy the files manually to the Add-ins folder for other versions.
DD Add-ins files for NAV/BC SRV:	Add DD Client files to the Add-ins folder for NAV/BC Middle Tier Service. This is only needed for LS Central version 15 or older.
Install Incoming DD Web Service:	Installs Web Service support to IIS to accept Job Requests via Web Services. (See Install and Configure IIS in the LS Central Help on how to prepare IIS before install). This is required for LS Central version 20 or later.

If the install cannot find the default install path for NAV/BC, it will bring up selection windows with the install path where NAV/BC is located, both for RTC and Service.

- **To install DD with NAV 2009 or older:**
  Select DD Service, Client Tools.
- **To install DD with NAV 2013 or newer (and not support for older NAV):**
  Select DD Service, Client Tools and DD Add-ins files for NAV/BC, both for RTC and SRV.
- **To install DD with LS Central 16.x or newer:**
  Select DD Service, Client Tools and DD Add-ins files for NAV/BC SRV.
- **To install DD with LS Central 20.x or newer:**
  Select DD Service, Client Tools and Incoming DD Web Service.
- **To install DD Client files for POS that will not include DD Service:**
  Clear all check boxes and only the client files will be installed.

Depending on what options you select, changes to DD Configuration will be made to match the selection if this is a new installation.

No configuration is needed to start up DD3 with default settings. After install, the DD will start up with a default configuration. If DD should connect to database with a trusted connection, you need to add Login to the DD Service to log on as a user that has access to read and write the data onto the database.

Open the Configuration Tool and upload the DD license, a demo DD license is installed when the DD is installed.

Note: At least one Incoming DD Web Service needs to be installed in a network where jobs are going to be distributed. LS Central that runs the Scheduler job has to have access to the IIS Service where DD Web Service runs. DD Web Service then has to have access to any Source DD host that jobs will be sent to. No Web Service is required on Destination hosts.

For install options via command line see "Install Options" on page 32.

To test if DD Web Service is running without an error, type in a browser:

http://localhost/DDWebService/ddjson.svc/ping

If everything is working correctly, you get an OK as reply.

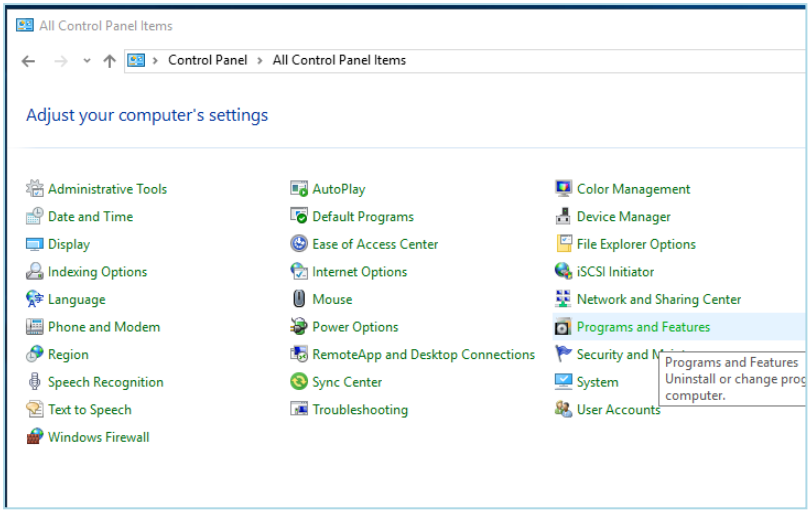
Install and Configure IIS

Follow these steps to turn on IIS (Internet Information Service or Web Service) on Windows 10. The procedure is similar on other versions of Windows.
Tip: A quick Google search gives you multiple results on how to install IIS on your machine,
https://www.rootusers.com/how-to-install-iis-in-windows-server-2019/

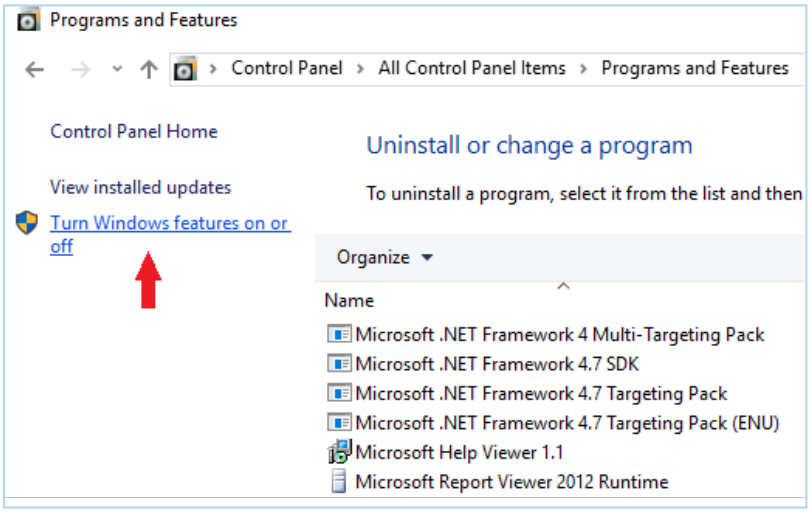
On Windows 10

1. Open the Windows Control Panel (right-click the **Start** button in the bottom-left corner and select **Control Panel**).

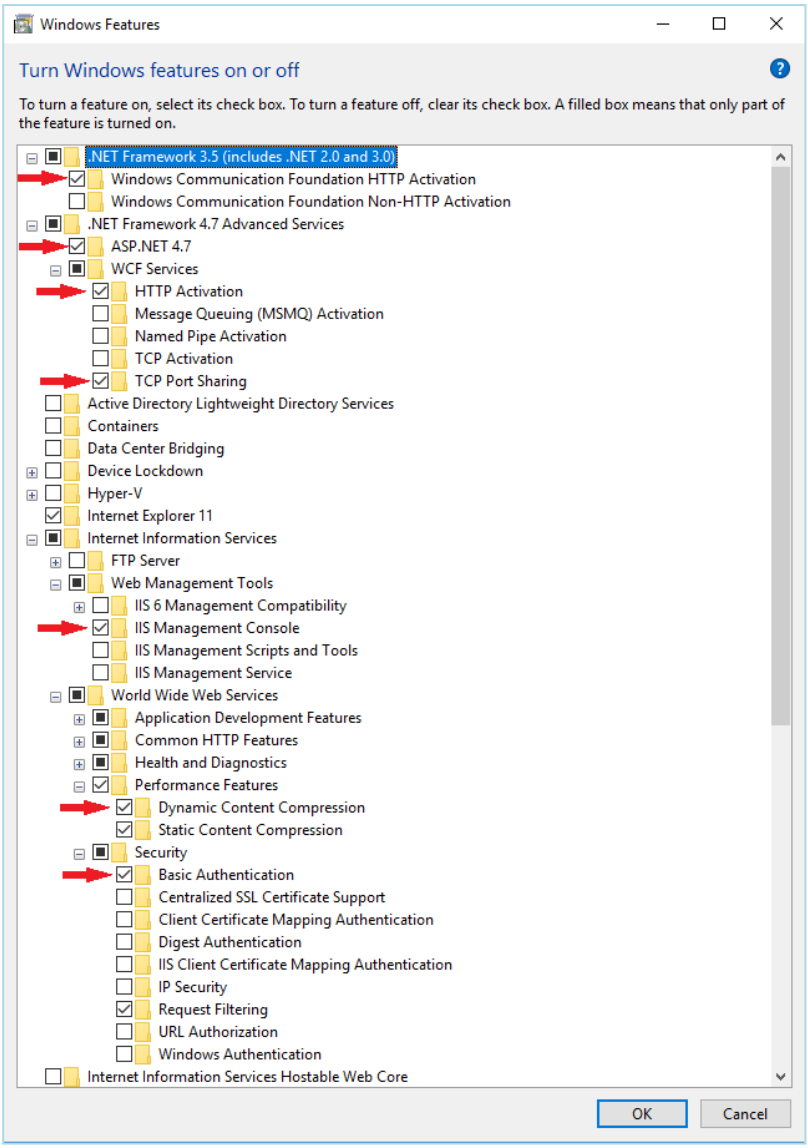
2. Select **Programs and Features**:



3. Click **Turn Windows features on or off**:



4. In the **Windows Features**, select the check boxes shown in the below image:
    - NET framework 3.5 (includes .NET 2.0 and 3.0)
        - **Windows Communication Foundation HTTP Activation**
    - Internet Information Services
        - **Web Management Tools**
            - IIS Management Console
        - **World Wide Web Services**
            - Dynamic Content Compression
            - Basic Authentication



5. Click **OK**.

If you completed step 4 successfully, you should be ready to run the *CommerceServiceForLSCentral.Setup.202x.x.exe* setup to create the WCF web service.

If **.NET Framework 4.7 Advanced Services** is not an available feature to you, you have to set up .NET Framework 4.7 (https://-dotnet.microsoft.com/download/dotnet-framework/net47).

After installing the .NET framework, make sure that

Internet Information Services

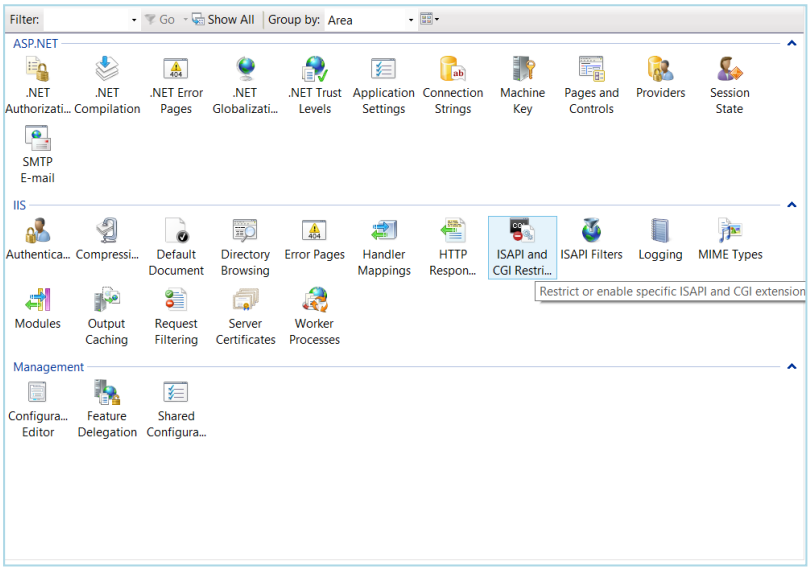
- World Wide Web Services
  - Application Development Features
    - **ASP.NET**

is selected (inside Windows Features).

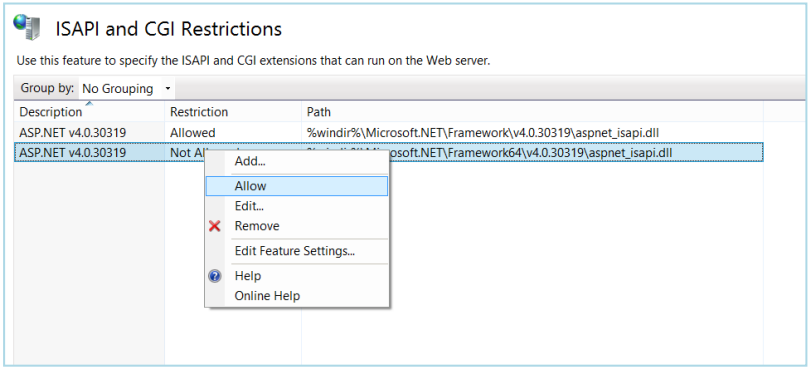
The final step is to activate and allow the newly installed .NET 4.7 framework inside IIS:

1. Start by looking for and opening Internet Information Services:

2. In IIS, select **ISAPI and CGI Restrictions:**



3. Right-click ASP.NET v4, and click **Allow**:



See also

Enable Basic Authentication (LS Central Help)

Install Options

Data Director Install can be executed with parameters to make use of a scripted installation. You can find details of what options are available here:

http://unattended.sourceforge.net/InnoSetup_Switches_ExitCodes.html

The available tasks are:

- **srvfiles:** DD Service [Default]
- **clitools:** Client tools (Config & Job Monitor) [Default]
- **navcli:** Add-ins files for NAV/BC RTC
- **navsrv:** Add-ins files for NAV/BC SRV
- **web:** Install Incoming DD Web Service to IIS

- Install DD in silent mode with Service and Client Tools: /VERYSILENT /SUPPRESSMSGBOXES
- Install Service and Client Files only: /VERYSILENT /SUPPRESSMSGBOXES /TASKS-S=”srvfiles,!clitools”
- Install only Client Files, without Service and Client Tools: /VERYSILENT /SUPPRESSMSGBOXES /TASKS-S=”!srvfiles,!clitools”
- Install Service, Client Files & Tools and add BC Addins: /VERYSILENT /SUPPRESSMSGBOXES /MERGETASKS-S="navcli,navsrv"

To add path for NAV/BC installation folders, for example if Nav/BC is installed on Docker, and path cannot be found in the Registry, add -NAVSRV “<path>” -NAVCLI “<path>”

It is possible to change default DD Configuration values during installation:

- Create *ddconfig.xml* file with the modified values, put the file into the bin folder where DD will be installed, and after installation is done, DD will check for this file before creating the default configuration file, and modify those values from the xml file.

Note: This file must be in place before the first start of DD, as DD will only look for this file if default configuration values have not yet been created.

Sample of *ddconfig.xml* file that will set the **Alias** value and change Decimal fix for Database process to BIG and activate debug:

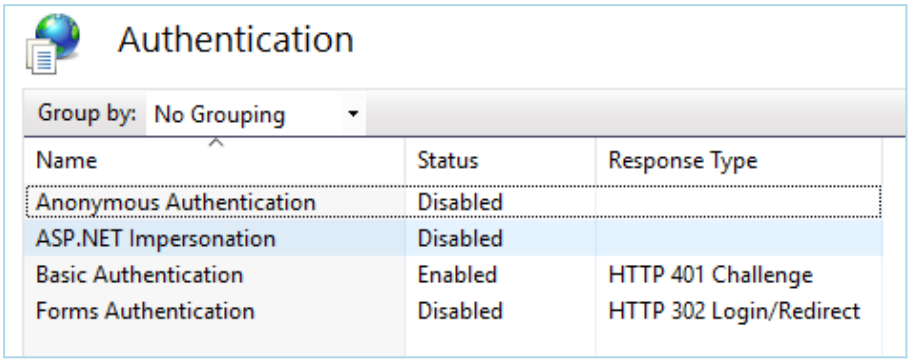
ddconfig.xml

Copy

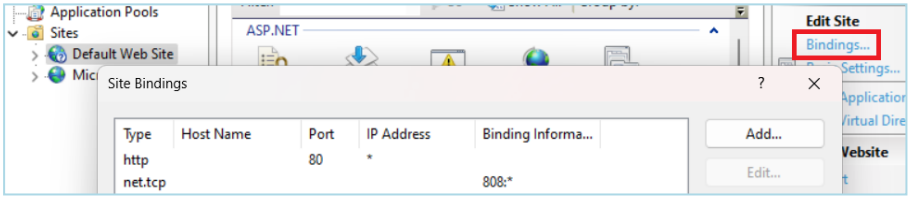
```
<DDConfig>
        <BaseConfig>
                <Aliases>MyDD</Aliases>
        </BaseConfig>
        <AppConfig>
                <Program Port="3">
                        <Debug>15</Debug>
                        <Param>
                                <DecFix>BIG</DecFix>
                        </Param>
                </Program>
        </AppConfig>
</DDConfig>
```

How to: Enable Basic Authentication

1. Open the IIS Manager.
2. Go to **Authentication**, enable **Basic Authentication**, and disable **Anonymous Authentication**:



3. In the **Site** section, select the Web site where Commerce is installed (default: **Default Web Site**). Click **Bindings**, add *https* for port 443, and select your certification.



4. Navigate to the application installation folder. There are pre-configured WebServices files there for different Authentication modes.
5. Open **Web.config** and replace the Configuration Source file for services in this line:
   <services configSource="WebServices.config"/>

   to one of these files:

   - **WebServices_Basic.config:** Basic Authentication (port 80)
   - **WebServices_SSL.config:** SSL (port 443)

Basic/SSL Authentication needs user login information with the web request header.

To set up user for IIS, right-click **Computer** and select *Manage* (or go to **Control Panel** > **Administrative Tools** > **Computer Management**), and in *Local Users and Groups* you can add a new user. Then, give that user permission to read the directory where the site is hosted.

After creating the user, be sure to edit the user and remove all roles so that user cannot be used to access the computer itself, like log into it.

For other authentication methods, like certification, use the SSL Services file and configure the web config files, where Commerce is installed, according to the setup in IIS.

Note: These are just sample configuration files on how to configure IIS. Commerce uses standard IIS methods in handling security. A lot of information is available online, for example by Google search, on how to set up different methods of security in IIS, that can be applied to those configuration files that come with Commerce.

Hardware Station Installation

- Run the *LS Hardware Station.exe*, found in the **Setup** folder in the installation directory.

See "How to: Set Up Hardware Station" and "Video Tutorial: Setup" in the LS Central Help for more information.

Standard Kitchen Display System Installation

The Kitchen Display System (KDS) works with LS Central for restaurants and hotels.

System requirements

Kitchen service machine

- Software
  - Operating system: Windows 7.1 or newer
  - Software: .NET Framework 4.5 or newer
- Hardware: Minimum requirements
  - Processor: 2 GHz or faster
  - 2 GB RAM
  - Hard disk: 5 GB free space

Display station machines

- Software
  - Operating system: Windows 7.1 or newer
  - Software: .NET Framework 4.5 or newer
- Hardware: Minimum requirements
  - Processor: 1 GHz or faster
  - 500 MB RAM
  - Hard disk: 2 GB free space

LS Central KDS Web Service

- The KDS configuration is stored in the Dynamics Business Central database. The Kitchen Service calls the **LS Central KDS Web Service** to fetch the configuration. No database connection is needed.

KDS licenses

No license is needed for the KDS, it is included in the LS Central license.

System setup

Every KDS setup needs to go through the same basic steps. Get the latest version of the KDS setup files from the LS Retail Portal (login required), go to the LS Central Downloads page (select the appropriate release folder, and there open the Setup xx.0 folder where the KDS setup files are located).

1. Install the Kitchen Service application.
2. Install Display Station application on all Display Station machines.
3. Be sure to insert the appropriate default data before starting to configure the layout. See "Insert default data"in the LS Central Help.
4. Configure the following layout in the LS Central to get a functioning KDS:
   - Display profile
   - Functional profile
   - Button profile
   - Visual profile
   - Style profile
5. Configure the Kitchen Service settings in LS Central.
   Note: First time use in LS Central requires initialization of the SOAP URL in the Kitchen Service Configuration.
6. Configure the Kitchen Service settings to communicate with LS Central with the KDS Utility and restart the Kitchen Service.
7. Configure the Display Stations startup on each computer where they should run using the "Display Station Utility" on page 45.

See samples for suggested KDS setup for single or multiple servers.

Install the Kitchen Service application

Complete the setup from the setup file **LS.KitchenService.Setup.exe**. This will install the Kitchen Service and start it.

To create a shortcut to the KDS Utility, select the check box **Create a desktop icon for the KDS Utility**, if it is not already selected. The KDS Utility is needed to configure the Kitchen Service with the URL to the Dynamics Business Central KDS Web Service and credentials, if necessary.

By default the service starts listening on TCP/IP port 17750 and waits for the correct configuration from the Hospitality system. If you are upgrading from a previous KDS version, the new version will use the same configuration file as the previous version. If the previous version was using the NAS it must be overwritten with the KDS Utility.

Install the Display Station application

Complete the setup from the setup file **LS.DisplayStation.Setup.exe**. This will install the Display Station. See "How to: Set up a Display Station" in the LS Central Help for more information.

Set the Kitchen Service Configuration

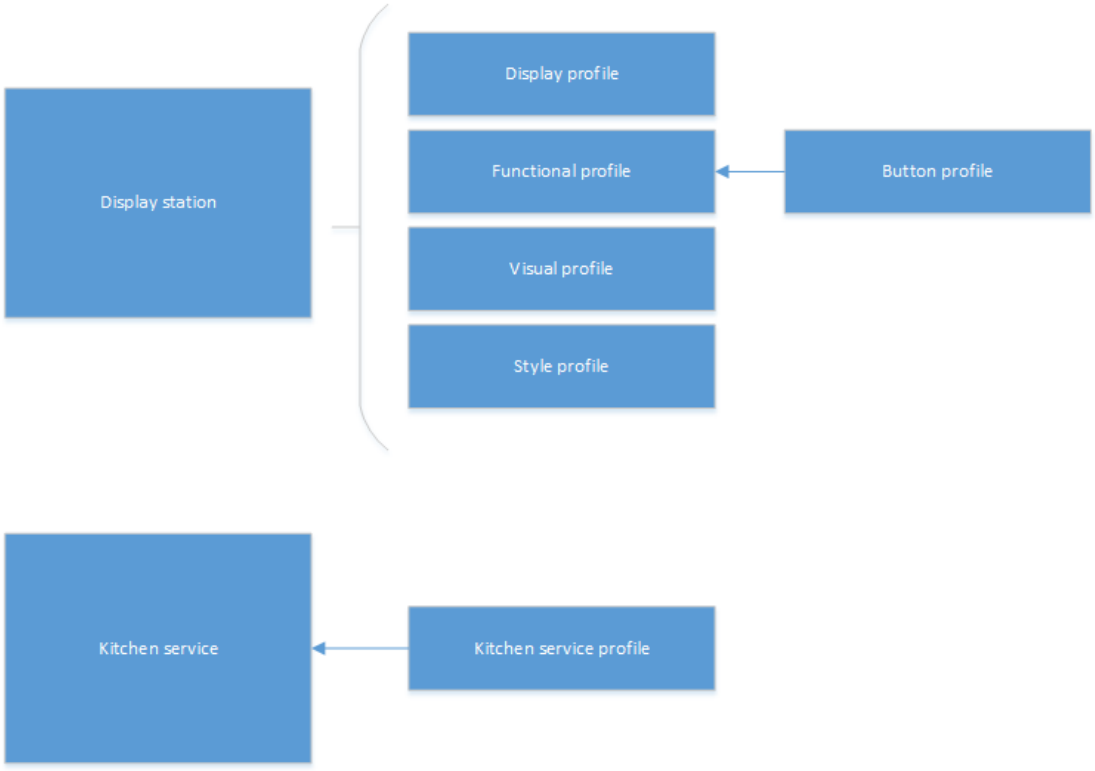
This configures the connection information for the Kitchen Service, so it can connect to the correct Business Central Web Service. And other settings for the KDS to run optimally.
See "Kitchen Service Configuration" in the LS Central Help for details on how to configure.

Configure the layout of the KDS

All data setup for the **KDS** system is done in the Hospitality system. All Display Station configurations are set there, as well as the Kitchen Service connection properties. See "KDS profiles" for a good starting point.

Data structures

Below you can see the data structures of the Kitchen Display System and their relations.



Initially, the KDS configuration in LS Central is empty. It can be populated with predefined demo data in an xml file, *KDS.xml*, which is included in the KDS installation package.
See "Import demo data" in the LS Central Help for details on how to import the demo data and insert the default lookup values for the style

types and header/footer column types.
The demo data should help you understand the structure of the setup and be a good starting point for the real setup.

LS Central KDS Web Service setup

In order for the Kitchen Service to be able to communicate with the Hospitality system, it must know the URL of the Web Service it should connect to. The Web Services are run in the Dynamics Business Central service tier. See "Kitchen Service Configuration" in the LS Central Help for more information.

See "KDS Utility" on page 38 for information on how to set the Kitchen Service settings.

Troubleshooting

See "KDS Troubleshooting" if you are having problems getting the KDS to run properly.

KDS Utility

The **KDS Utility** is a stand-alone program to manage the configuration of the **Kitchen Service** connection to the LS Central KDS WebService API. It is installed when the Kitchen Service is installed.

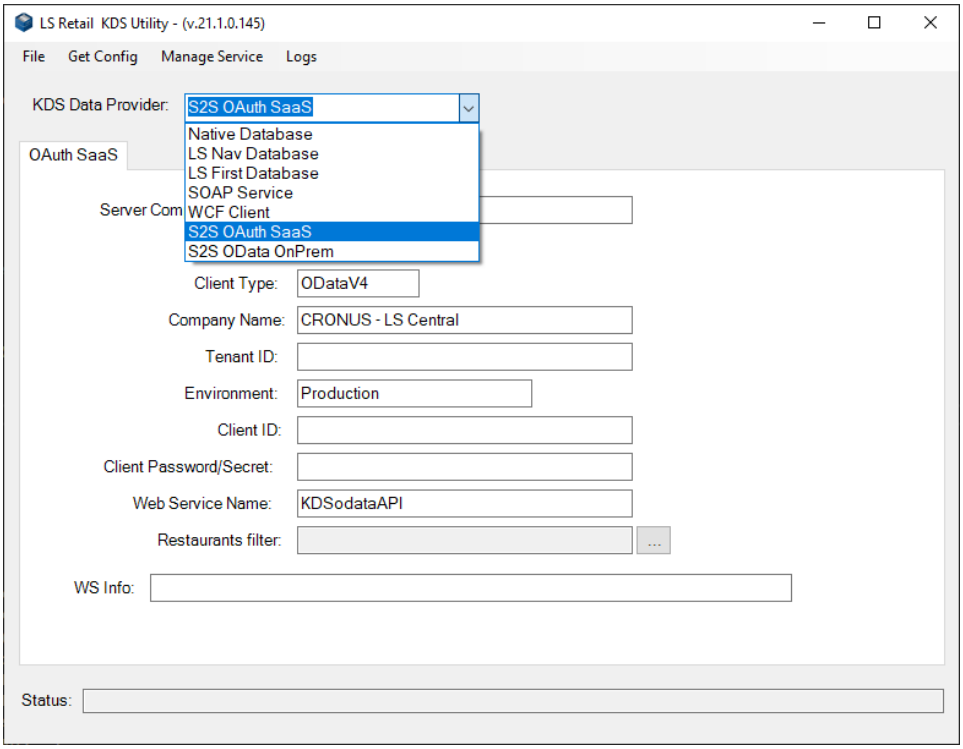
Some of the configuration information can be changed in the **Kitchen Service Configuration** page in LS Central. When the Kitchen Service starts, it updates the information in the KDS Configuration with it.

In LS Central SaaS version 21.0 and onwards, the OAuth authentication is the only way for the KDS to access the OData KDS WebService. See S2S Authentication for more information on OAuth setup.

The On-premises versions can still use the SOAP WebService, but it is recommended to use the OData, since SOAP is being deprecated.

Start the **KDS Utility** by double-clicking the desktop shortcut, or locate it in the Start Menu, or, as a third option, locate the application file *C:\Program Files\LS Retail\Kitchen Service\LS KDS Utility.exe* and double-click it.

If you are configuring for the first time, the window will look like this (select the appropriate choice from the DataProvider dropdown list):



See also

KDS S2S OAuth in SaaS (LS Central Help) on how to configure the access to OAuth authentication in LS Central SaaS.

KDS S2S ODataV4 On-premises (LS Central Help) on how to configure the KDS to use OData in LS Central on-premises.

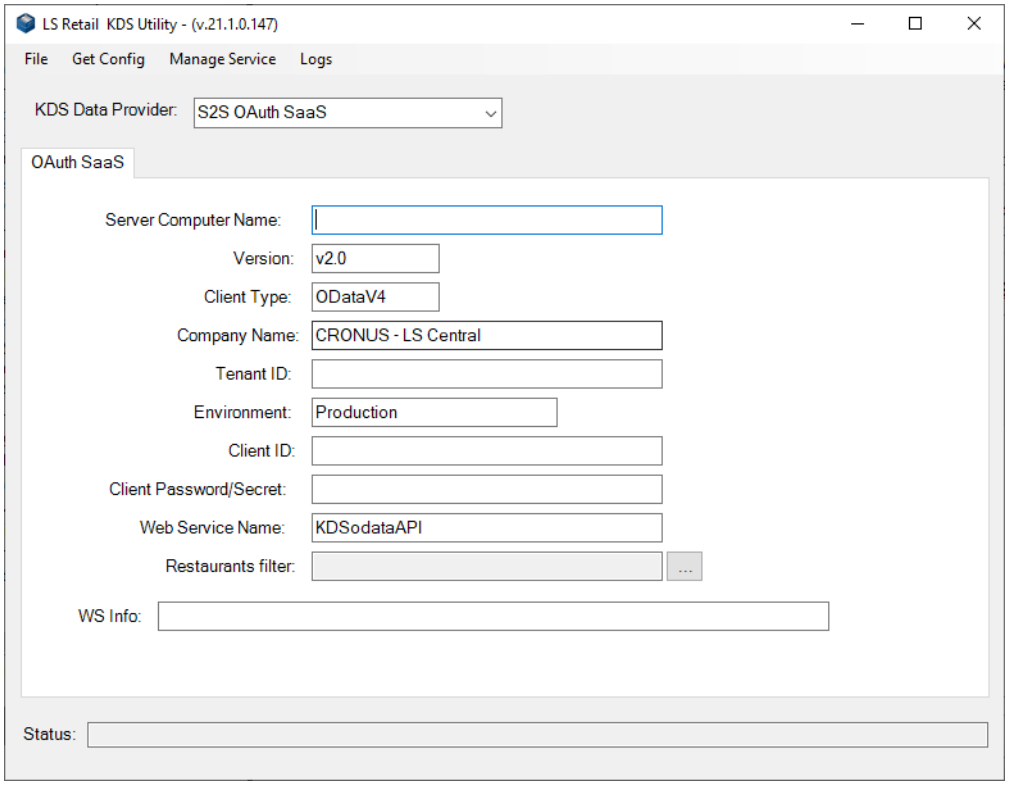
KDS Uses SOAP Service On-premises (LS Central Help) on how to configure the SOAP access for older versions of LS Central.

KDS S2S OAuth in SaaS

The **KDS** uses the **ODataV4** protocol to connect to the SaaS LS Central KDS Web Service. See S2S Authentication for more information on OAuth setup.

Use the KDS Utility to set the configuration:

1. Start the **KDS Utility** by double-clicking the desktop shortcut, or locate it in the Start Menu, or, as a third option, locate the application file *C:\Program Files\LS Retail\Kitchen Service\LS KDS Utility.exe* and double-click it.
2. Start by setting the **KDS Data Provider** field to *S2S OAuth SaaS*. Only the necessary fields for connecting to the Web Service are then shown.
   If you are configuring for the first time, the window will look like this:



If not, the fields are populated with the data from the Kitchen Service configuration file.

There are two ways to populate the fields:

- Fill in the fields with the correct data from the information in the **Web Service Setup** page. See How to: Set Up LS Central to Use OAuth.
- Copy the information from the **JSON for KDS Utility** field in the page in LS Central.

Fields to be set are:

Server computer name	This is the name of the SaaS server where the LS Central KDS Web Service runs. Example: *api.businesscentral.dynamics.com*
Version	WS Version
Protocol/Client Type	The method to access the KDS Web Service. **ODataV4** (REST) is default.
Company Name	The name of the Company in LS Central.
Tenant ID	Tenant ID in SaaS.

Environment	Environment name instance.
Client ID	Client ID in SaaS.
Client Password/Secret	Client Secret.
Web Service Name	The name of the KDS Web Service in the **Web Services** list. The default value is **KDSodataAPI**.
Restaurants filter	Use this to specify from which Restaurant the Kitchen Service should fetch KOTs (orders). If nothing is specified, the KOTs from all KDS-enabled restaurants are retrieved when they are created. If only one restaurant is in use, you can leave the field empty. This setting is useful in the Cloud/SaaS environment. If there are more than one restaurant in use per company and they are in different locations, the Kitchen Service, in each location, can filter on the corresponding restaurant. This is also applicable if LS Central is on one central server and more than one restaurant are connecting to it. **Note:** This setting is stored locally per Kitchen Service and not in the **Kitchen Service Configuration** page in the Business Central.
WS Info	The information from the JSON field in the page in the Hospitality system. Copy the string from Business Central, paste it into this field, and the rest of the fields will be populated. Except for the **Client Secret** field, which you must set manually.

3. If changes have been made, click **Get Config** in the top menu to save the Kitchen Service configuration.
   The configuration will be saved in the file *C:\ProgramData\LS Retail\Kitchen\KitchenServiceConfig.config*.
   The utility then tries to connect to the KDS Web Service, and if it is successful, it will show a dialog window with some of the information from the web service.
4. Restart the Kitchen Service, either by selecting **Restart Service** from the **Manage Service** menu item, or by starting Windows Services (Services.msc) and restarting it there.

5. There are two other options in the **Manage Service** menu item:
    - **Refresh Service** tells the Kitchen Service to fetch the configuration from the web service without restarting the Kitchen Service. This is useful when the configuration of the KDS is changed in the back office.
    - **Restart all Displays** tells the Kitchen Service to turn off all connected Display Stations and restart them.

Note: If there are errors, you can examine the **KDS Utility Log** by clicking **Logs** in the top menu and then **Show Utility Log**. The log file opens in Notepad.

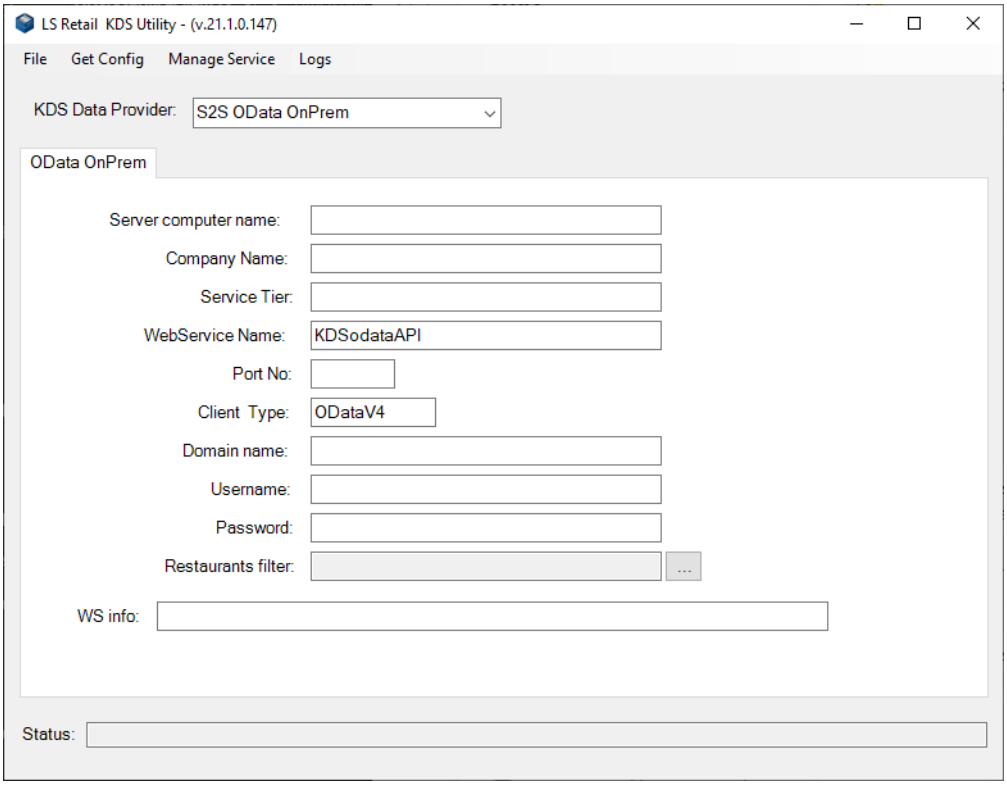
Tip: You can also open the last Kitchen Service log file by clicking **Logs** in the top menu and then **Show KS Log**. This will open the log file in Notepad.

KDS S2S ODataV4 On-premises

The **KDS** uses **ODataV4** to connect to the KDS Web Service in LS Central when it is not running as SaaS (on-premises).

Use the KDS Utility to configure the connection:

1. Start the **KDS Utility** by double-clicking the desktop shortcut, or locate it in the Start Menu, or, as a third option, locate the application file *C:\Program Files\LS Retail\Kitchen Service\LS KDS Utility.exe* and double-click it.
2. Start by setting the **KDS Data Provider** field to *S2S OData OnPrem*. Only the necessary fields for connecting to the Web Service are then shown.
   If you are configuring for the first time, the window will look like this:



If not, the fields are populated with the data from the Kitchen Service configuration file.

There are two ways to populate the fields:

- Fill in the fields with the correct data and the URL will be built up from that information.
- Copy the JSON string from LS Central, and paste it into the **WS Info** field. The other fields will be filled with the information from the URL string.

The correct URL can be located in the in LS Central.

Fields to be set are:

Server Computer name	This is the host name of the server where the LS Central service tier runs.
Company Name	The name of the Company in LS Central.
Service Tier	The name of the BC service tier. Usually the value is *BC*.
WebService Name	The name of the KDS Web Service in the **Web Services** list. The default value is **KDSodataAPI**.

Port No	This is the port number which the Web Service listens on. This is usually *7048* for OData, but can be different depending on how the BC service tier is configured.
Client/Protocol Type	The method to access the KDS WebService. **ODataV4** (REST) is default.
Domain name	If applicable, set the user's domain name here.
Username	User which logs on to the Web Service
Password	Password for the Web Service user if a user name is set.
Restaurants filter	Use this to specify from which restaurant the Kitchen Service should fetch KOTs (orders). If nothing is specified, the KOTs from all KDS-enabled restaurants are retrieved when they are created. If only one restaurant is in use, you can leave the field empty. This setting is useful in the Cloud/SaaS environment. If there are more than one restaurant in use per company and they are in different locations, the Kitchen Service, in each location, can filter on the corresponding restaurant. This is also applicable if LS Central is on one central server and more than one restaurant are connecting to it. **Note:** This setting is stored locally per Kitchen Service and not in the **Kitchen Service Configuration** page in the Business Central.
WS info	The information from the JSON field in the page in the Hospitality system. Copy the string from BC and paste it into this field and the rest of the fields will be populated. Except for the password field and the port number, which you will have to set manually.

3. If changes have been made, click **Get Config** in the top menu to save the Kitchen Service configuration.
   The configuration will be saved in the file *C:\ProgramData\LS*

Retail\Kitchen\KitchenServiceConfig.config.
The utility then tries to connect to the KDS Web Service, and if it is successful, it will show a dialog window with some of the information from the web service.

4. Restart the Kitchen Service, either by selecting **Restart Service** from the **Manage Service** menu item, or by starting Windows Services (Services.msc) and restarting it there.
5. There are two other options in the **Manage Service** menu item:
    - **Refresh Service** tells the Kitchen Service to fetch the configuration from the web service without restarting the Kitchen Service. This is useful when the configuration of the KDS is changed in the back office.
    - **Restart all Displays** tells the Kitchen Service to turn off all connected Display Stations and restart them.

Note: If there are errors, you can examine the **KDS Utility Log** by clicking **Logs** in the top menu and then **Show Utility Log**. The log file opens in Notepad.

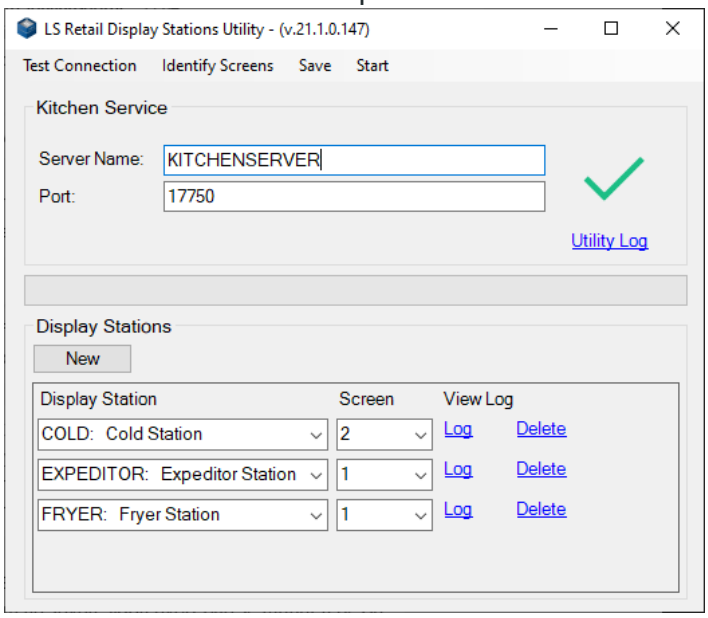
Tip: You can also open the last Kitchen Service log file by clicking **Logs** in the top menu and then **Show KS Log**. This will open the log file in Notepad.

Display Station Utility

The **Display Station Utility** is a stand-alone utility program to manage the configuration of the **Kitchen Display Stations**. It makes it simple to add or remove Display Stations and it creates a shortcut to start up all the defined Display Stations on the computer.
Note: The utility only manages the Display Station on the computer it is running on. The utility is installed as part of the Display Station setup. A shortcut is placed on the desktop to start it up.

1. Start the **Display Station Utility** by double-clicking the desktop shortcut. Or locate the utility in the Start Menu in the LS Retail folder. The third option is to locate the application file *C:\Program Files\LS Retail\Display Station\LS DisplayStation Utility.exe* and double-click it or create a shortcut to it.

A window like this one opens:



When the utility starts, it reads the Display Station configuration file and uses the information in it to connect to the Kitchen Service and get the Display Station information from it. If there is no connection, the basic information from the configuration file is shown. If there is no configuration file, for example just after a new installation, the default values for the service are only shown and must be set before continuing.

The **Top menu** commands:

Command	Description
Test Connection	This command starts by pinging the server specified in the **Server Name** field. If successful, the command tries to connect to the Kitchen Service. If unsuccessful, the command will only show the information from the Display Station configuration file in the **Display Stations** box.
Identify Screens	If there are more than one monitors connected to the computer, this command will show the screen number on each screen.
Save	Saves the new/updated configuration in the Display Station configuration file (*C:\ProgramData\LS Retail\KitchenDisplayStation\Configurations.xml*). A shortcut, to start the Display Stations, will also be created/updated on the desktop.

The Kitchen Service box:

IP Address	This is for information only. Shows the IP address of the computer running the utility.
Server Name	This is the host name of the server where the Kitchen Service runs. The name in this field is used when the utility connects to the Kitchen Service. **Note:** This must be a host name and **not** an IP address. The Kitchen Service insists on using host names to establish a proper connection between endpoints, that is between the Display Station and itself.
Port	This is the TCP port which the Kitchen Service is listening on for incoming requests. The default port number is *17750*.
Utility Log link	If you click this link, the utility log file opens in Notepad. It shows all the activity of the running session. The results of everything done is stored there.

The Display Stations box:

New button	Click this button to create a new Display Station line in the box below.
Display Station column	Select the Display Station here. If there is a connection to the Kitchen Service, the drop-down list will show the available stations.
Screen column	If there are more than one screen/monitor connected to the computer, choose the screen number here. If you leave these fields blank, the Display Station will use the screen number value from the Display Station configuration in the LS Central setup. If you enter a value in these fields, it will override the value in the LS Central setup.
Log link	Click to open the log file for the Display Station in this line. This comes in handy if you need to examine the Display Station log file.
Delete link	Click to delete the Display Station from the

configuration.

2. When the configuration is done, click **Save** in the top menu to save the configuration and create or update the desktop shortcut for starting the Display Stations.
3. Double-click the **Start Display Stations** shortcut to start up all the stations in the configuration file.

   Tip: If something goes wrong, start the **Display Station Utility** and examine the Utility log and the logs for the Display Stations.

Web KDS Installation

The web-based Kitchen Display System (Web KDS) works with LS Central for restaurants and hotels.

System requirements

Kitchen service machine

- Software
  - Operating system: Windows 10 1607 or later
  - Software: .NET Version 8 Hosting Bundle or above
  - SQL Server 2019, SQL Server 2019 Express, or later
- Hardware: Minimum requirements
  - Processor: 2 GHz or faster
  - 2 GB RAM
  - Hard disk: 5 GB free space

The installer for the Web KDS installs the .NET version needed and can also install the SQL Server Express.

Install the Web KDS service

To install the Web KDS:

1. Run the installer for LS Central version 25 or later.
2. At the bottom of the list, you find the Web Kitchen Service for LS Central.
3. Click **Install**.

The Kitchen Service requires an SQL database to store orders and configurations. If you do not have an SQL Server ready to use, the installer can install Microsoft SQL Server Express for you.

4. Select the **Microsoft SQL Server Express** field, if you want to install the database server; if not, leave the field blank. Click **Next**.

5. In the **Arguments** page, fill in the mandatory **Site Password** field. Create a password required for accessing the **Web KDS Configuration** page.

   Other fields configure the connection to your SQL Server, the name of the SQL Database that is created upon installation, and the Windows user that will run the Web Kitchen Service.

6. When you have filled in all required information, click **Next**.

You are now ready to run the installation.

The **Option** button lets you change the **Update Strategy** from *Manual* to *Automatic*.

The **Show details** link shows you additional information about the configurations entered in the previous steps.

7. Click the **Install** button. When the installation has been completed, click **Close** to close the installer.
8. Open Windows Services, and make sure the **LS Retail Web Kitchen Service** is running.

LS Central configurations

Before you can connect the Web KDS to LS Central, you must make sure the web services are set up correctly:

1. Open your LS Central instance, version 25 or later, and open Web Services. If a line for codeunit 10000992 does not exist, you must create a new line with the following information:

Object type	Object ID	Object Name	Service Name
Codeunit	10000992	LSC KDS Rest Service	KDSRestService

   This service should be published.

2. Next, open the Kitchen Service Configuration.
3. In the **Kitchen Service Configuration** page, click the **Refresh WS-Info** action.
4. Open up the Restaurant card, for the restaurant which uses the Web KDS, and set **KDS in use** to *Web KDS*.
   - See Push KOTs to Web KDS service on how to make the POS push the KOTs to the Kitchen Service -

Web KDS configurations

1. Open services, and start the **LS Retail Web Kitchen Service**.
2. Open a browser, and open *http://localhost:8052* to open the Web KDS home screen.

3. Click the **Configurations** button in the top-right corner.
4. Enter the password you created in the installation process to get to the **Configurations** page.
5. Click the **LS Central Connections** button.
6. Click the **Add Connection** button to create a new connection.
7. On the **Connection Info** page, enter the connection details for your LS Central instance.
8. Select, whether you are connecting to an **On-premises** or **SaaS** instance of Business Central.

If On-premises

Field	Description
ID	Enter the name of the connection.
Web Service Name	Enter the name of the KDS web service, the default is *KDSRestService*.
Config source	Select this field, if this connection should be the source of configurations for the Web KDS. As the Web KDS can get orders from multiple Business Central instances, you must define which one has the configurations of the stations and routing.
Instance	Enter the name of the LS Central instance you are connecting to.
Company	Enter the name of the Business Central company to connect to.
URL Base BC Connection	Enter the URL of the Business Central instance you want to connect to. It should include the connection protocol, for example *http://localhost*.
Port	Enter the port of the web services. The default port is *9048*. Make sure this port is open for connection.

Domain	Enter the domain for the user
Stores to Filter	Enter which store or stores this Web KDS should show orders for. If the Web KDS service should service all stores the filter can be left empty.
User	Enter the user name for a Business Central user that is allowed to connect to LS Central.
Password	Enter the password for this user.
Encrypt	Select this field for the password to be encrypted in the application settings files.

If SaaS

Field	Description
ID	Enter the name of the connection.
Web Service Name	Enter the name of the KDS web service, the default is *KDSRestService*.
Config source	Select this field, if this connection should be the source of configurations for the Web KDS. As the Web KDS can get orders from multiple Business Central instances, you must define which one has the configurations of the stations and routing.
Instance	Enter the name of the LS Central instance you are connecting to.
Company	Enter the name of the Business Central company to connect to.
URL Base BC Connection	Enter the URL of the Business Central instance you want to connect to. It should include the connection protocol, for example *https://api.businesscentral.dynamics.com*
URL For	Enter the URL of the login service, for

Authentication	example *https://login.microsoftonline.com*
Stores To Filter	Enter which store or stores this Web KDS should show orders for. If the Web KDS service should service all stores, you can leave the filter empty.
Scope	The default scope is *.default*
Version	Enter the version of the Web Services. (v2.0)
Tenant ID	Enter the ID of the SaaS tenant which is required to obtain the oAuth Token.
Client ID	Enter the ID of the SaaS client.
Client Secret	Enter the client secret.
Request Kots	The Web Kitchen Service calls the BC environment (polls) and gets all new or updated KOTs since last call.
Receive Kots	The POS pushes the KOT to the Kitchen Service by calling the Receive Kot endpoint in it. See: Web KDS Endpoints

9. Click the **Test Connection** button to verify that the connection you configured is working.
10. When the connection has been tested and is working, be sure to click **Save Connection**.
11. Create your kitchen stations, kitchen screens, and routing in LS Central.
12. When that is done, go back to the **Settings** page at your Web KDS *http://localhost:8052/admin*, and click **Reload configurations**.

Pharmacies Installation

The Pharmacies module comes with demo data that can be imported. The demo data is in configuration packages that you must import and apply.

Before importing the configuration packages, you must run the following administration tasks (setup tasks).

LS Central

- Start by setting up LS Central, for example by importing the configuration packages.

Pharmacies administration tasks

1. Save the Pharmacies Web Templates to your local drive.
2. Click the icon, enter **Pharmacy Administration Tasks**, and select the relevant link.
3. Run the following tasks to register the Pharmacies module, including importing the web templates:
    - Register Pharmacy Module
    - Register Pharmacy Web Requests
    - Generate Pharmacy Commands
    - Generate Pharmacy Flex UI
    - Import POS Web templates for Pharmacy
    - Register Dispense Module and Generate Dispense Commands (optional)

Pharmacies configuration packages

Import and apply the pharmacy configuration packages provided in the release.
Note: The packages must be imported and applied in this order:

1. Package LSPH_0
2. Package LSPH_BASE
3. Package LSPH_DISPENSE (optional).

To import and apply the configuration packages

1. Click the icon, enter **Configuration Packages**, and select the relevant link.
2. Click the **Import Package** action. Select the packages listed above, import them one by one in the prescribed order, and click the **Apply** action for each file.

Role center

- A role center for Pharmacies is included in the installation.
- Optionally, create a role center for Dispense (Page = 10015650).

User setup

1. From the Pharmacies role center, click the **Setup** action in the **Actions** menu bar, and then click **Other Setup** - **Users**.
2. In the **Pharmacy User List**, edit the default user *121* and change to your (Windows) user.
3. In the **Retail POS** FastTab on the **Pharmacy User** page, link the user to **Store No.** *S0015* and **POS Terminal** *P0073*.

4. Navigate to the **Retail Users** page, and make sure your user is linked to the same store and POS (see step 3), and that you have selected the **POS Super User** check box.

POS button

To be able to use the Pharmacies module in the LS Central POS, create a new button or change an existing one:

1. In the POS start page, right-click a button and select **Button Properties** from the menu.
2. In the **POS Button Properties** page, fill in the fields with these values:
   a. **Description** - *Prescriptions*
   b. **Command** - *PH_CLEARPANEL*
   c. **Post Command** - *PH_SHOWPANEL*
   d. **Post Parameter** - *PH_CUST_PANEL2*
3. Click the **OK** button.

Setting Up a Demo Prescription

The Pharmacies system can be set up using configuration packages and administration tasks.

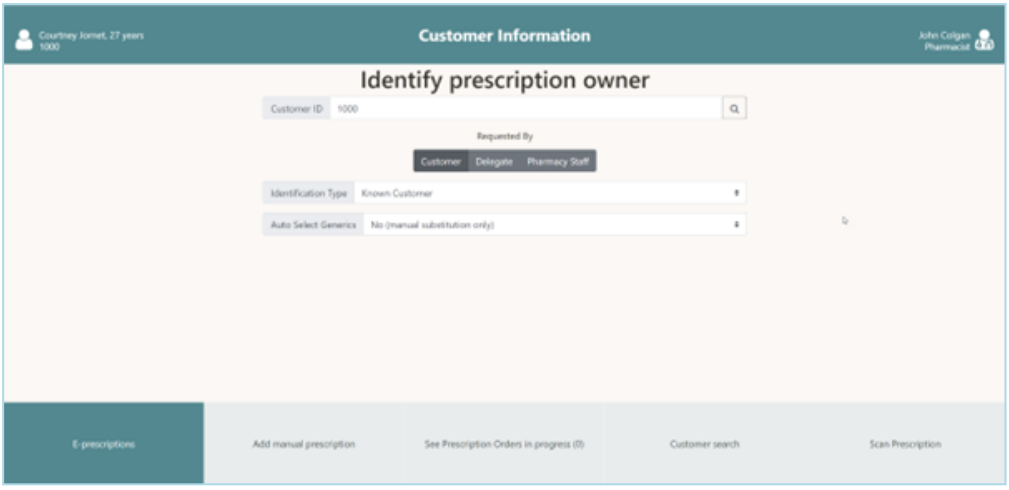
To process a prescription for demo or testing

1. Set up the system using configuration packages and administration tasks.
2. Create a paper prescription.
   Optional: Convert the paper prescription to e-prescription using the **Upload** action in the **Prescription Order** page.
3. Confirm and pick the prescription.
4. Open **Final Control**, approve the prescription, and take to POS for payment.
5. Pay on the POS.
6. Post from the Role Center.

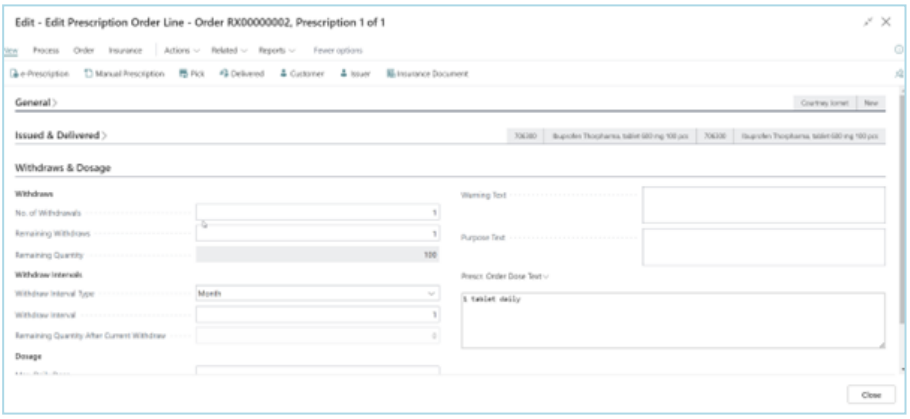
To create a paper prescription

1. Open the POS, and login as user *1501*.
2. Start the prescription process from the POS, and find customer *1000*. Select *Know customer option* as identification.

3. Press **Add manual prescription - Paper**.



4. Register the following information on the prescription:
   - Issuer 1010
   - Issued Pharmacy Item no. 706300
   - Dose Text 1x1 (shortcut for 1 tablet daily).



5. Close the prescription page and the order overview page that follows.

Prescription details

Here the pharmacist or employee reviews that everything is in order, confirms the prescription and picks the items (usually by scanning the packs). Optionally, the pharmacist can do a substitution.

1. Confirm the prescription. This reserves inventory and locks the line.
2. Pick the line by pressing the **Barcode control** button, and type in the item number (706300).
3. Press **Final Control**.

Final Control

Here a pharmacist needs to approve what is being handed out to the customer. This is usually done by approving the prescription and the

order.

1. Press **Approve**. This approves the line.
2. Press **To POS** to pay for the prescription order. This approves the whole order and sends to the POS.
3. In the POS, take a payment like normally.

Posting

The prescription is usually posted from a scheduler job when it has been paid. Manual posting can be done from the pharmacy role center.