



for Microsoft

Quick Install Manual **OnTime® for Microsoft version 6.4.x**

Revision 5

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OnTime® for Microsoft

This Quick Install guide is the fast track to install OnTime for Microsoft.

Additional information is available in the *OnTime for MS – Installation & Configuration Guide*.

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About OnTime[®] for Microsoft

This 'quick install guide' describes the fewest possible steps to make the OnTime Group Calendar available for web and mobile users.

Preparing the new OnTime installation

Server requirements

The OnTime installation is supported on

- Windows Server 2019/2022/2025 with Microsoft SQL Server® 2019/2022 Express

OnTime must be installed running as a Windows administrator.

For small and middle-size installations of OnTime, You may use Microsoft SQL Server® 2019/2022 Express which is free.

It is recommended using the full Microsoft SQL Server if your OnTime installation has more than 2.000 users.

Processor

- Intel-compatible processor with a minimum speed of 2 GHz or a faster processor

RAM

- Minimum of 8 GB Ram dedicated to the OnTime solution
- If you are running OnTime on a Hyper V configuration, then you need to configure it to use static memory for the SQL Server to perform properly.

Hard Disk Space

- Minimum of 20 GB hard drive dedicated to the OnTime solution

Typical 500 users install

- Intel-compatible processor with a minimum speed of 2 GHz or a faster processor
- Minimum of 8 GB Ram dedicated to the OnTime solution
- Minimum of 20 GB hard drive dedicated to the OnTime solution

Ports for the OnTime server

The ports 80 and 9080 are required open for HTTP data.

The ports 443 and 9443 are required open for HTTPS data.

The port 8080 is required for the admin client, http is only supported for localhost.

The port 8443 is required for the admin client, https is supported remotely

Ports for Microsoft 365

If OnTime configuration for Microsoft 365, check ports outwards through the firewall (port 443) from the OnTime server:

<https://login.microsoftonline.com>

<https://graph.microsoft.com>

<https://portal.azure.com>

Prerequisites

AD domain

The OnTime server can be part of your user AD domain to ensure your OnTime users web authentication (SSO) without providing their AD password.

An OnTime server installed in a Windows 'Workgroup' is supported. It is expected the Workgroup server to be dedicated to OnTime because this will be more secure.

The name of the workgroup must be descriptive. Workgroup names like 'Workgroup' or 'Workgroup01' will not be accepted.

SQL 2019/2022 Express or an existing MS SQL Server must be available.

The SQL Server Express may be downloaded from Microsoft. It is free.

Limitations: Microsoft SQL Server Express supports 1 physical processor, 1 GB memory, 10 GB storage.

Create an Impersonation User in MS Exchange/Microsoft 365

- a. Mailbox user (minimum type 1 if in Microsoft 365).
- b. Assign the user to the "ApplicationImpersonation Role".

License key

- OnTime requires a license key with the required number of users enabled to run.
- These keys are delivered directly by IntraVision or an OnTime Partner.
- A list of OnTime Partners is available at www.ontimesuite.com.

For obtaining a license key, provide the following info:

- your Company name
- total number of users, including rooms and equipment
- a. OnTime server in an AD domain,
check your OnTime server's environment by logging in as a domain user.
In a Command prompt > set (Enter) – to see your 'USERDOMAIN' to see your device name

```
SystemDrive=C:
SystemRoot=C:\Windows
TEMP=C:\Users\ADMINI~1\AppData\Local\Temp\2
TMP=C:\Users\ADMINI~1\AppData\Local\Temp\2
USERDOMAIN=BM-OTMS-SERVER
USERDOMAIN_ROAMINGPROFILE=BM-OTMS-SERVER
USERNAME=Administrator
USERPROFILE=C:\Users\Administrator
windir=C:\Windows

C:\Users\Administrator>set
```

In a Command prompt > **dsregcmd /status** (Enter) – to see your domain name

```
C:\Users\Administrator>dsregcmd /status

+-----+
| Device State |
+-----+

AzureAdJoined : NO
EnterpriseJoined : NO
DomainJoined : YES
DomainName : ONTIME01
```

- b. OnTime server in a workgroup, check your Workgroup name.
Enter 'net config workstation' in a Command prompt to see your 'Workstation domain' (Workgroup name).
- If you are running a trial installation, a time-limited, fully functional key should have been provided for you when you downloaded the OnTime software from www.ontimesuite.com.

OnTime Installation

Quick installation

It is the easy way of installing OnTime with a local, silent installation of the MS SQL Server 2019-2022 at 'C:\Program Files', runs a single command to create the OnTime database, installs the 'OnTimeMSAuth' Windows service for SSO authentication, and installs the Tomcat server for web access.

Note: Dynamic Distribution Groups from Microsoft 365 are supported.

An MS SQL Server 2019 Express with scripts for a silent install may be downloaded from this download link:

[SQL Server 2019 Express](#)

An MS SQL Server 2022 Express with scripts for a silent install may be downloaded from this download link:

[SQL Server 2022 Express](#)

The tool to inspect the databases in the Microsoft 'SQL Server Management Studio' (SSMS). Currently, a link to download the tool from Microsoft:

<https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms>

It is the default installation with a local SQL Server, installed at C:\Program Files\Microsoft SQL Server

Installing the SQL Server Express

To install the SQL server, Example:

1. Open Command Prompt in administrator mode
2. Run 'sql_express_full_setup.cmd'
3. Wait for installation to complete

If you see other messages than "Installing SQL Express Server" your Windows server probably needs some updates from Microsoft. Resolve these prerequisites and rerun the command.

It may take 5-10 minutes to execute the installation of SQL Server Express.

Result:

The SQL Server is installed in the path:
C:\Program Files\Microsoft SQL Server

Install OnTime

Extract the downloaded OnTime package to a temporary location and then move the folder "OnTimeMS-x.x" to the recommended path:

C:\Program Files\IntraVision\

PC > Windows (C:) > Program Files > IntraVision > OnTimeMS-xx >

Name	Date modified	Type	Size
addin-classic-outlook-poll	19/12/2024 10.18	File folder	
addin-new-outlook-teams-rail	19/12/2024 10.18	File folder	
addin-teams-channel	19/12/2024 10.18	File folder	
admintoken	19/12/2024 10.18	File folder	
catering	19/12/2024 10.18	File folder	
cmd	19/12/2024 10.18	File folder	
jdk	19/12/2024 10.18	File folder	
ontime.ms.acs	19/12/2024 10.18	File folder	
ontime.ms.auth	19/12/2024 10.18	File folder	
otdbupdate	19/12/2024 10.18	File folder	
pollarity	19/12/2024 10.19	File folder	
programdata	19/12/2024 10.19	File folder	
scripts	19/12/2024 10.19	File folder	
sqlserver	19/12/2024 10.19	File folder	
tomcat	19/12/2024 10.19	File folder	
visitor	19/12/2024 10.19	File folder	
command.cmd	19/12/2024 10.18	Windows Comma...	
install.cmd	19/12/2024 10.18	Windows Comma...	
Office365TomcatRestart.zip	19/12/2024 10.18	Compressed (zipp...	
start-catering.cmd	19/12/2024 10.19	Windows Comma...	
start-pollarity.cmd	19/12/2024 10.19	Windows Comma...	
start-visitor.cmd	19/12/2024 10.19	Windows Comma...	
stop-catering.cmd	19/12/2024 10.19	Windows Comma...	
stop-pollarity.cmd	19/12/2024 10.19	Windows Comma...	
stop-visitor.cmd	19/12/2024 10.19	Windows Comma...	
uninstall.cmd	19/12/2024 10.19	Windows Comma...	
upgrade.cmd	19/12/2024 10.19	Windows Comma...	

Right-click 'install.cmd' and choose 'Run as Administrator'

This command will do the following things:

1. You are asked to enter a new password for the OnTime admin
2. It will create a database, 'ontimems', for OnTime use in the local SQL Server
3. It will configure the user NT AUTHORITY\USER as a user in the ontimems database with the api_role
4. It will install a Windows service 'OnTimeMS Auth' that offers Windows domain logon authentication for web users, SSO – Single Sign On
5. It will install the Tomcat web server used for OnTime
6. Create a database for Pollarity
7. **Note:** Pollarity has an optional License.
8. Create a database for Catering
9. **Note:** Catering has an optional License.
10. Create a database for Visitor
11. **Note:** Visitor has an optional License.

OnTime Configuration

From a browser - Open the administration URL – for example:
<https://ontime.example.com:8443/ontimegcms/admin>

Note: Insert your relevant URL instead of 'ontime.example.com'.

In the initial OnTime setup phase you may run administration without certificates locally at the OnTime server with http and port 8080 for the apache Tomcat.
<http://127.0.0.1:8080/ontimegcms/admin>

Administrator:	admin	(beware of casing, no capitals)
Password:	*****	(the password from your installation phase)

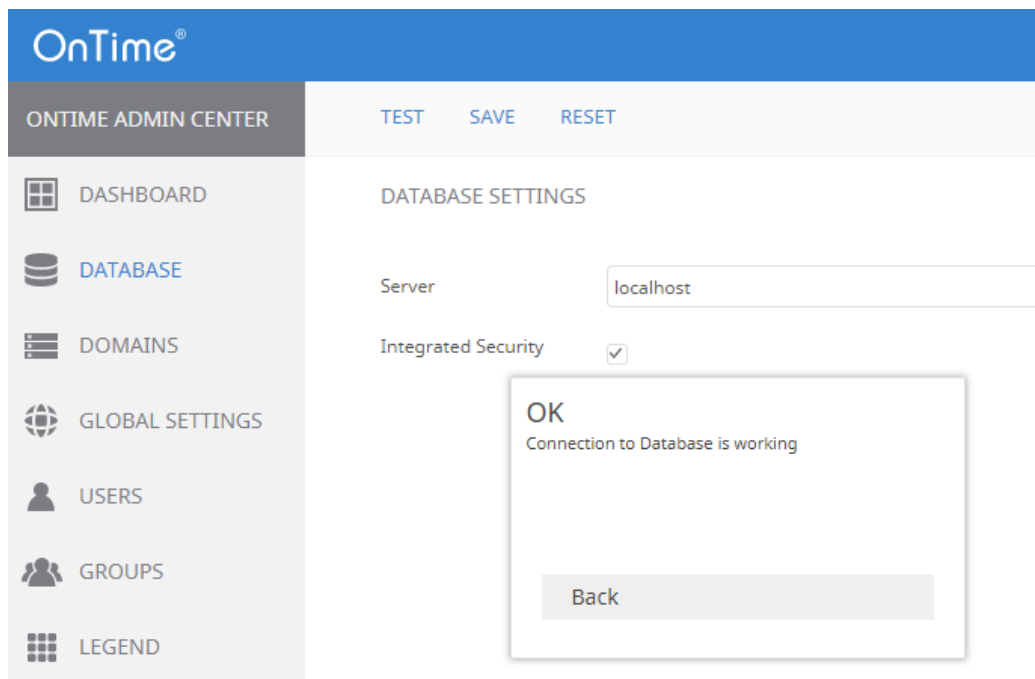
Database

In the web admin interface, “OnTime Admin Centre”, click “Database”.

Click “Test” in the upper menu line to test the database connection.

Upon the response “OK Connection to Database is working” click “Back”.

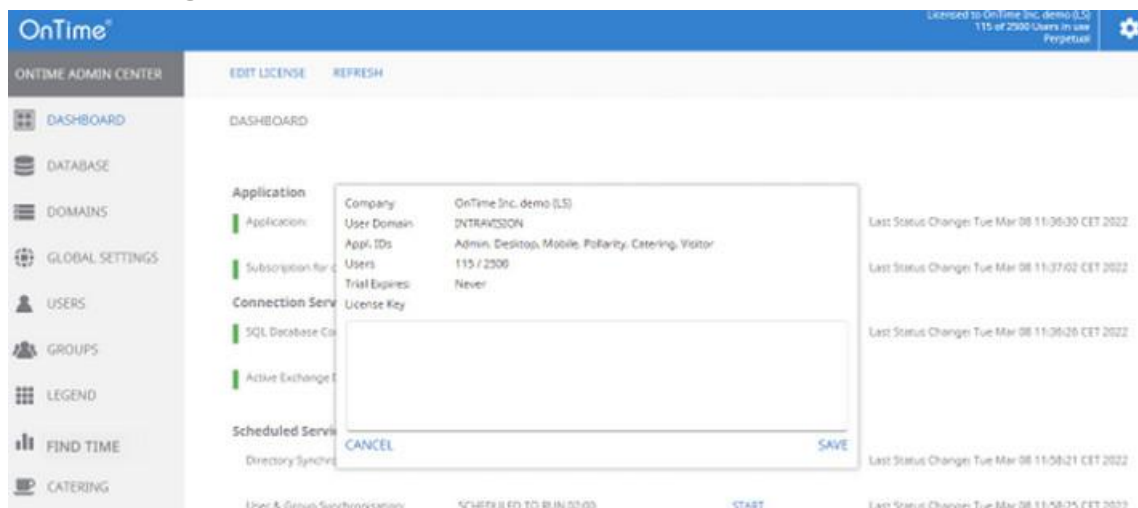
Click Save.



License key

Click ‘Dashboard’

– Enter your license key by clicking ‘License’ in the upper right corner of the dashboard. Click ‘Save’

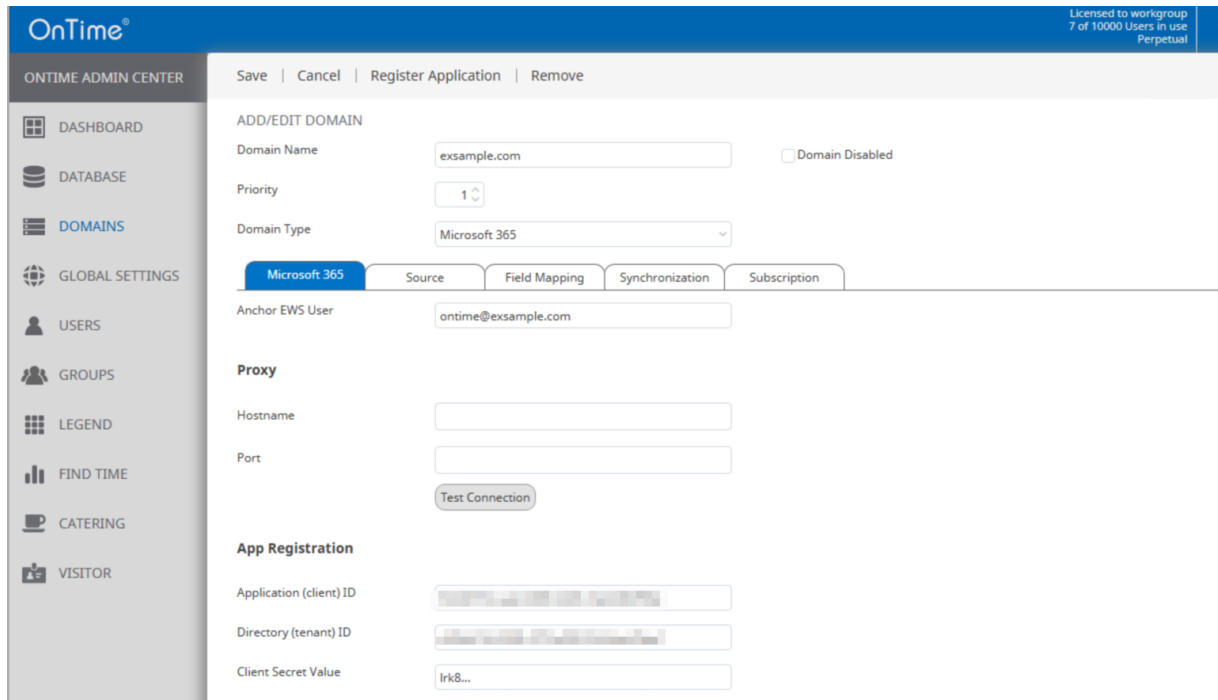


In the Dashboard click 'stop/start' the application.

Note: When you see the **Connection/Database Service “Running”** (green), press **‘F5’** to refresh the whole web page from the new database.

Domain settings

Click ‘Domains/Create New’ to configure your Exchange environment.



The screenshot shows the OnTime Admin Center interface. The left sidebar contains navigation links: DASHBOARD, DATABASE, DOMAINS (highlighted), GLOBAL SETTINGS, USERS, GROUPS, LEGEND, FIND TIME, CATERING, and VISITOR. The main content area is titled 'ADD/EDIT DOMAIN' and includes a 'Save | Cancel | Register Application | Remove' action bar. The configuration fields are as follows:

- Domain Name:** A text field containing 'example.com'.
- Priority:** A dropdown menu set to '1'.
- Domain Type:** A dropdown menu set to 'Microsoft 365'.
- Anchor EWS User:** A text field containing 'ontime@example.com'.
- Proxy:** Fields for 'Hostname' and 'Port', with a 'Test Connection' button.
- App Registration:** Fields for 'Application (client) ID', 'Directory (tenant) ID', and 'Client Secret Value' (containing 'lrk8...').

At the top right of the interface, a license notice states: 'Licensed to workgroup 7 of 10000 Users in use Perpetual'.

Domain name is a text field for naming your domain setup.

Priority - is for prioritising the users in OnTime. Priority '1' is the highest priority.

Domain Type – 'Microsoft 365'.

Microsoft 365 configuration, Authentication

Authentication Type: Modern Method (OAuth – Client Credentials).

Anchor EWS User - is a user required only for technical purposes.

EWS API fails when a user is not provided for a call. And if some calls have an explicit user - such as list of appointments, others don't - such as getting a server timezone list. To have at least some user in the call, so that EWS does not fail we introduced an anchor user, which is simply a valid user and has no special abilities, apart from making EWS API succeed on the user-less calls.

Normally this username is written as an email address (UPN name

The three values, for Application (client) ID, Directory (tenant) ID, Client Secret Value - are obtained from Microsoft Portal, look below.

Missing parameters in 'Microsoft Entra ID' will be listed.

Register OnTime in 'Microsoft Entra ID'

The following permissions are required for OnTime functionality to work with Microsoft Entra ID. The following table describes the required API permissions and their purpose.

Permissions For OnTime Core Application			
API Permission	Access	Requirement	Description
Application.Read.All	Read-only	Mandatory	Let OnTime confirm that the correct permissions have been granted and show this on the administration screen. It does not allow OnTime to change anything.
Calendars.ReadWrite	Read & write	Mandatory	The core of OnTime: show calendars, and create, update, move and delete meetings on user and resource (room) calendars, plus receive calendar change notifications. Write access is required because OnTime books and edits meetings on the user's behalf.
MailboxSettings.ReadWrite	Read & write	Mandatory	Read and set a user's automatic replies (out-of-office). Write access is required so OnTime can turn out-of-office on or off when the user asks.
Group.Read.All	Read-only	Optional	Preparing upcoming feature. Reading the group visibility flags.
GroupMember.Read.All	Read-only	Mandatory	Allows the app to read memberships and basic group properties for all groups without a signed-in user and allows the app to read Teams group memberships and members
Place.Read.All	Read-only	Mandatory	List meeting rooms and workspaces so they can be found and booked.

User.Read.All	Read-only	Mandatory	Look up directory details for users (name, email address, manager) so OnTime can display people and build its directory.
People.Read.All	Read-only	Mandatory	Search a user's relevant people (such as frequent contacts and colleagues) so OnTime can suggest matches when they look for someone to invite to a meeting.
Mail.Send	Send	Optional	Let's OnTime send notification email on a user's (mailbox's) behalf. It is required if you use any OnTime feature that sends email — including the Mail Auth, Pollarity, Catering and Visitor modules (their invitations and notifications), ShareMyTime links, and OnTime's own system messages (e.g. licence and app-secret-expiry alerts). It can be omitted only if none of these features are used.
EWS.AccessAsUser.All	Auth	Optional	Delegated permissions are used for OAuth authentication functionality. Note: Required only if OnTime uses Forms-Based Authentication, even with the full Microsoft Graph method.
full_access_as_app	Read	Optional	OnTime uses it to connect to Exchange mailboxes over EWS with its own application identity (app-only), for calendar access and mailbox change notifications. It is not needed if OnTime runs in Graph-only mode or against on-premises Exchange.

Permissions for OnTime Subscription Hub			
API Permission	Access	Requirement	Description
Calendars.Read	Read		Allows the app to read events in user calendars
User.Read	Read		Allows users to sign in to the app and allows the app to read the user's profile

Steps to Register the OnTime Application in Microsoft Entra ID:

- a) Login to <https://portal.azure.com>
- b) Select View 'Manage Microsoft Entra ID'
- c) Click 'App registrations.'
- d) Click 'New registration'.
- e) Enter a 'Name' for the application.
Choose 'Accounts in this organizational directory only - Single tenant'.
Populate 'Redirect URL' (optional), <https://example.com:8443/ontimegcms/code.html>
- f) Select a Platform 'Web'
Click 'Register'.
- g) On next page (Overview) Copy the values [Application (client) ID] and [Directory (tenant) ID] into a text editor e.g. Notepad.
- h) Click "Add a certificate or secret".
- i) Click '+ New client secret'
- j) Add a description, such as 'OnTime Client Secret'
- k) Choose expiration. Click Add
- l) Copy the value of the secret ID into the text editor.
- m) Click 'Authentication' tab. Tick 'Access Tokens'. Click 'Save'.
- n) Copy the three values from 'Microsoft Entra ID' in the text editor into the page 'OnTime Admin Centre' – 'Domains Add/Edit Domain/Authentication'.
- o) Click 'API permissions' tab. Click 'Add a permission'.
- p) Click 'Microsoft Graph'
- q) Click 'Application permissions'

- r) The following 'API permissions' must be checked, type a few letters in the Search field and tick the ten permissions:

Application.Read.All, EWS.AccessAsUser.All (Optional),
Calendars.ReadWrite, MailboxSettings.ReadWrite, Group.Read.All,
GroupMember.Read.All, Place.Read.All, User.Read.All, People.Read.All,
Mail.Send (Optional), Full-access_as_app (Optional)

You may remove 'User.Read', if already selected.

Note: 'EWS.AccessAsUser.All' permission is required only if OnTime uses form-based authentication. Delegated permissions are used for OAuth authentication functionality even with the full Microsoft Graph method.

- s) Click 'Add a permission'.
- t) Click 'Microsoft Graph'
- u) Click 'Delegated permissions'
- v) Search for EWS, tick:
EWS.AccessAsUser.All
- w) Click 'Add a permission'
- x) Click 'APIs my organization uses'
- y) In the field for search, enter 'Office'
- z) Click 'Microsoft 365 Exchange Online'
- aa) Click 'Application permissions'
- bb) Tick 'full-access_as_app'
- cc) Click 'Add permissions'
- dd) Click "Grant admin consent for *Your Company*".
Click 'Yes' to answer the question 'Do you want to grant consent ...'
- ee) If it is a configuration update of 'Microsoft Entra ID' for your OnTime server – remember to stop/start the OnTime application.

Introducing the OnTime Subscription

For many years, the notification mechanism in OnTime for Microsoft has relied on streaming subscriptions, a technology that in turn depends on Exchange Web Services (EWS). However, Microsoft has officially announced the deprecation of EWS in Microsoft 365, and with it the end of streaming subscriptions. This change is currently scheduled to take effect on Early, 2027.

Once EWS is removed, the existing subscription-based notifications used by OnTime in Microsoft 365 will no longer function. Exception is that streaming subscriptions will continue to work for OnTime connected to an Exchange on-premises environment.

From OnTime version 6.4.x onward, three subscription methods are available: The OnTime Server EWS Based (legacy) method, will be available until Microsoft will stay support it; OnTime Server Graph Based method and the External Subscription Hub Graph Based method, also referred to as the 'Subscription Hub'.

Prerequisites for Graph-Based OnTime Server Configuration

Network & Connectivity Requirements

Graph is a cloud API, so no on-prem server is required—but connectivity matters.

- Firewall rules:

Allow Microsoft 365 endpoints

Firewall roles need to be opened for http (port 80) or https (port 443) between the server running OnTime® Group Calendar and Microsoft 365® Exchange® server(s).

- Inbound HTTPS access:

HTTPS access to the 'Notice URL' (e.g., <https://ontime.example.com:443>)

- Outbound HTTPS access:

<https://graph.microsoft.com>

([Check the ports for Microsoft 365](#))

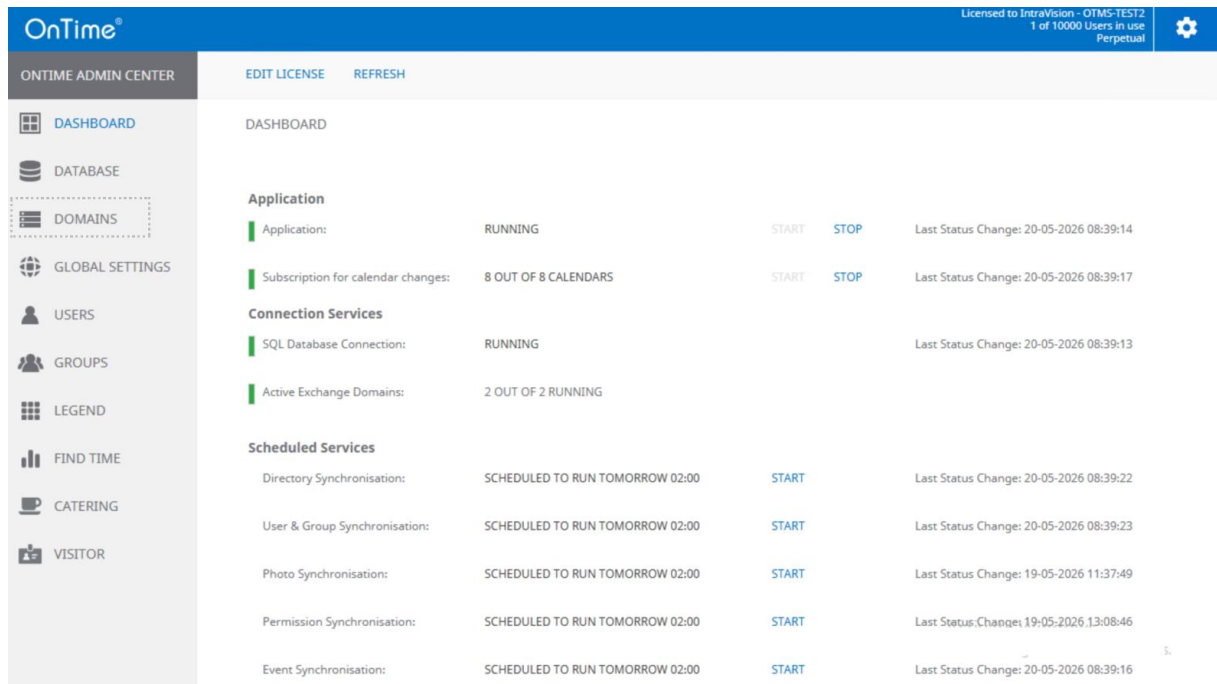
- DNS resolution must be reliable

Optional but common:

- Reverse Proxy configuration for Incoming (internet → server)
- Private endpoints (advanced scenarios via Microsoft Entra ID)

Configuration of Subscription Methods in OnTime Admin

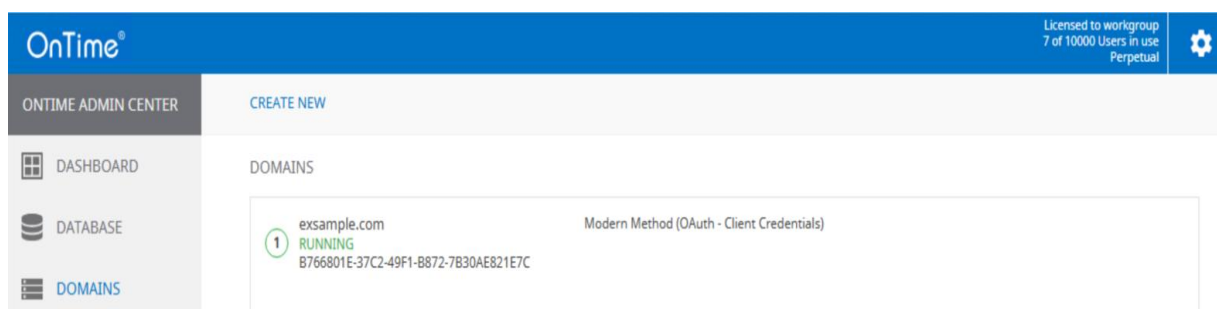
Navigate to OnTime admin dashboard



The screenshot shows the OnTime Admin Dashboard. The top header is blue with the OnTime logo and a license notice: "Licensed to IntraVision - OTMS-TEST2 1 of 10000 Users in use Perpetual". The left sidebar contains navigation links: DASHBOARD, DATABASE, DOMAINS (highlighted), GLOBAL SETTINGS, USERS, GROUPS, LEGEND, FIND TIME, CATERING, and VISITOR. The main content area has tabs for "EDIT LICENSE" and "REFRESH". Below these, there are sections for "Application", "Connection Services", and "Scheduled Services".

Section	Item	Status	Action	Last Status Change
Application	Application:	RUNNING	START STOP	20-05-2026 08:39:14
	Subscription for calendar changes:	8 OUT OF 8 CALENDARS	START STOP	20-05-2026 08:39:17
Connection Services	SQL Database Connection:	RUNNING		20-05-2026 08:39:13
	Active Exchange Domains:	2 OUT OF 2 RUNNING		
Scheduled Services	Directory Synchronisation:	SCHEDULED TO RUN TOMORROW 02:00	START	20-05-2026 08:39:22
	User & Group Synchronisation:	SCHEDULED TO RUN TOMORROW 02:00	START	20-05-2026 08:39:23
	Photo Synchronisation:	SCHEDULED TO RUN TOMORROW 02:00	START	19-05-2026 11:37:49
	Permission Synchronisation:	SCHEDULED TO RUN TOMORROW 02:00	START	19-05-2026 13:08:46
	Event Synchronisation:	SCHEDULED TO RUN TOMORROW 02:00	START	20-05-2026 08:39:16

and choose 'Domains'



The screenshot shows the OnTime Admin Dashboard with the "DOMAINS" tab selected. The top header is blue with the OnTime logo and a license notice: "Licensed to workgroup 7 of 10000 Users in use Perpetual". The left sidebar contains navigation links: DASHBOARD, DATABASE, and DOMAINS (highlighted). The main content area has a tab for "CREATE NEW". Below this, there is a table showing domain information.

Domain	Status	Method
example.com	RUNNING	Modern Method (OAuth - Client Credentials)

Select the 'Subscription' Tab

Save
Cancel
Register Application
Remove

ADD/EDIT DOMAIN

Domain Name
☐ Domain Disabled

Priority

Domain Type
☐ Disable EWS Options (Use Graph Only)

Microsoft 365
Source
Field Mapping
Synchronization
Subscription

Anchor EWS User

Proxy

Hostname

Port

Test Connection

App Registration

Application (client) ID

Directory (tenant) ID

Client Secret Value

Configuring Subscription Methods in OnTime Admin

a) Using EWS Based (Legacy) event subscription

From the drop-down list, 'Choose Subscription Method' select 'OnTime Server EWS Based (Legacy)'.

Click 'Save'. Then, in the OnTime Dashboard, stop and restart the application. (see the example below)

Save
Cancel
Register Application
Remove

ADD/EDIT DOMAIN

Domain Name
☐ Domain Disabled

Priority

Domain Type
☐ Disable EWS Options (Use Graph Only)

Microsoft 365
Source
Field Mapping
Synchronization
Subscription

Choose Subscription Method

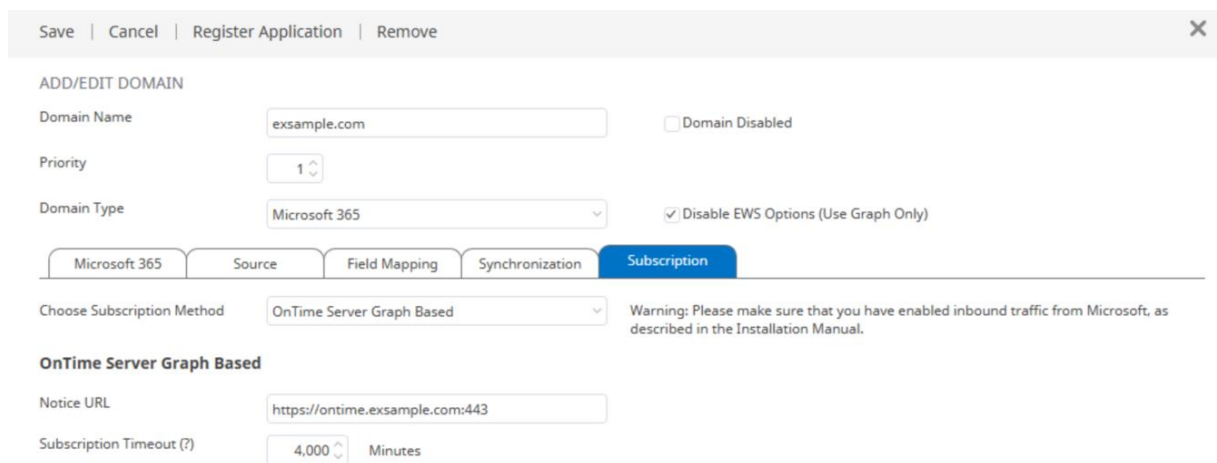
b) Using OnTime Server Graph Based event subscription

From the 'Choose Subscription Method' drop-down list, select 'OnTime Server Graph Based'.

Follow the section "[Prerequisites for Graph-Based OnTime Server Configuration](#)"

In the 'Notice URL' field, enter the full HTTPS OnTime server URL including the port number.

Click 'Save'. Then, in the OnTime Dashboard, stop and restart the application.



The screenshot shows the 'ADD/EDIT DOMAIN' configuration window. At the top, there are buttons: 'Save', 'Cancel', 'Register Application', and 'Remove'. Below this, the 'Domain Name' is set to 'example.com', 'Priority' is '1', and 'Domain Type' is 'Microsoft 365'. There is a checkbox for 'Domain Disabled' and a checked checkbox for 'Disable EWS Options (Use Graph Only)'. A tabbed interface shows 'Subscription' as the active tab. Under 'Choose Subscription Method', 'OnTime Server Graph Based' is selected. A warning message states: 'Warning: Please make sure that you have enabled inbound traffic from Microsoft, as described in the Installation Manual.' Below this, the 'OnTime Server Graph Based' section shows the 'Notice URL' as 'https://ontime.example.com:443' and the 'Subscription Timeout (?)' as '4,000' minutes.

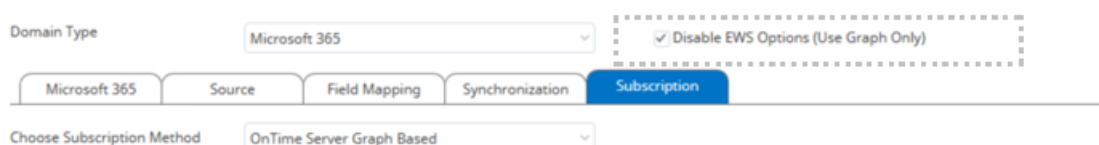
c) Using External Subscription Hub Graph-Based event subscription

From the drop-down list, 'Choose Subscription Method', select 'External Subscription Hub Graph-Based'. Go to [Subscription Hub Configuration](#)

Full disable using EWS

If you want to disable all connections to EWS, select the "Disable EWS Options (Use Graph Only)" checkbox. Click "**Save.**" Then, in the OnTime Dashboard, stop and restart the application.

This will switch all configurations to use only Microsoft Graph, and EWS can then be disabled at the tenant level.



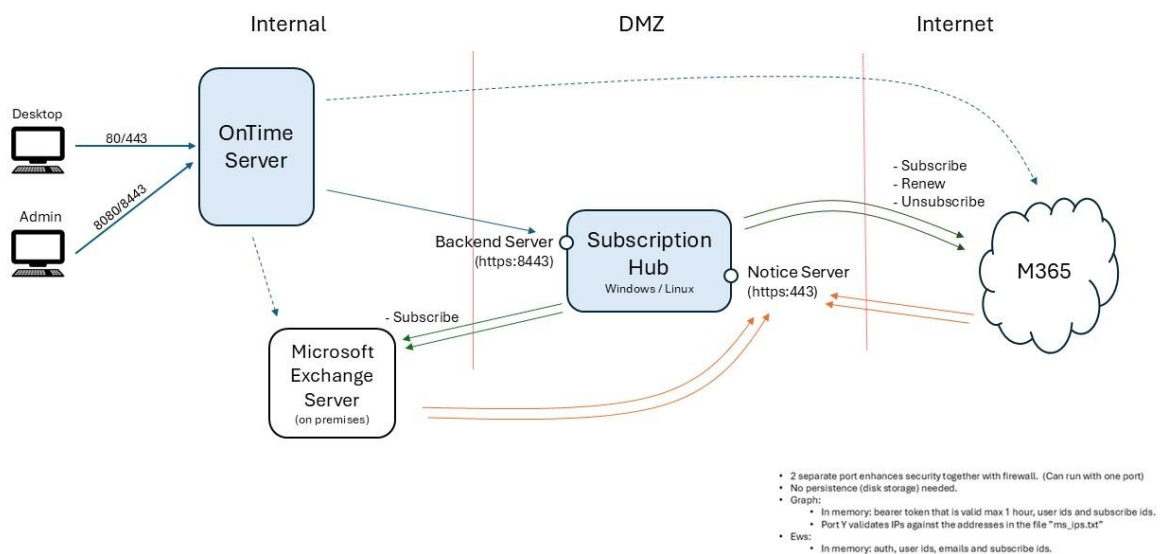
This screenshot is a close-up of the configuration interface. It shows the 'Domain Type' as 'Microsoft 365' and the 'Subscription' tab selected. The 'Choose Subscription Method' is 'OnTime Server Graph Based'. A dashed box highlights the 'Disable EWS Options (Use Graph Only)' checkbox, which is checked.

External Subscription Hub Graph Based / Subscription Hub Topology

For many years, the notification mechanism in OnTime for Microsoft has relied on **streaming subscriptions**, a technology that in turn depends on **Exchange Web Services (EWS)**. However, Microsoft has officially announced the deprecation of EWS in Microsoft 365, and with it the end of streaming subscriptions. This change is currently scheduled to take effect on **October 1, 2026**.

Once EWS is removed, the existing subscription-based notifications used by OnTime in Microsoft 365 will no longer function. Streaming subscriptions will continue to work for OnTime connected to an Exchange on-premises environment.

To address this – and to introduce a more robust, scalable, and future-proof synchronisation model — we have introduced the **OnTime Subscription Hub** in OnTime for Microsoft.



Why the Subscription Hub?

- **Removes dependency on EWS** by moving from streaming subscriptions to Microsoft Graph-based technology
- **Improves scalability and performance** by offloading subscription handling from the main OnTime server
- **Prepares all OnTime environments for the coming Microsoft 365 changes**

By separating the subscription handling into its own dedicated service, the Subscription Hub significantly reduces processing load on the core OnTime server. For that reason, **we in general recommend running the Subscription Hub on a separate system rather than on the main OnTime server.**

Requirements:

Operating System

- **Windows:** Windows Server 2019 or later, or Windows 10 or later
- **Linux:** Kernel 4.18 or later, glibc 2.28 or later

CPU

- The Subscription Hub service requires a single CPU core.
- Additional cores may be beneficial for the operating system but are not required by the application.

Memory

- Operating system requirements **plus 1 GB** for Subscription Hub.
- Actual memory usage depends on the number of subscriptions (users).
- The service consumes **less than 1 KB of RAM per subscription**.

Disk

- Operating system requirements **+ 1 GB** for application files and logs.

Network

- The Subscription Hub requires inbound access from the internal OnTime server on port **80 or 443**.
- It is recommended deploying Subscription Hub in a DMZ, as this avoids the need to open additional firewall ports.

Register Subscription Hub in “Microsoft Entra ID”

The following permissions are required for Subscription Hub functionality to work with Microsoft Entra ID. The following permissions are required.

Calendars.Read, User.Read

- a) Login to <https://portal.azure.com>
- b) Select View ‘Manage Microsoft Entra ID’
- c) Click ‘App Registrations’
- d) Click ‘New registration’
- e) Enter a ‘Name’ for the application.
Choose ‘Accounts in this organizational directory only - Single tenant’.
Populate ‘Redirect URL’, insert <https://example.com:8443/ontimegcms/code.html>
- this field cannot be empty
Select a Platform ‘Web’
Click ‘Register’.
- f) On next page (Overview) Copy the values [Application (client) ID] into a text editor e.g. Notepad.
- g) Click ‘Add a certificate or secret’ for Subscription Hub
- h) Click ‘+ New client secret’ for Subscription Hub
- i) Add a description, such as ‘Subscription Hub for OnTime Client Secret’
- j) Choose expiration. Click Add
- k) Click ‘API permissions’ tab. Click ‘Add a permission’.
- l) Click ‘Microsoft Graph’
- m) Click ‘Application permissions’
- n) The following ‘API permissions’ must be checked, type a few letters in the Search field and tick the following permissions:
Calendars.Read (application), User.Read (delegated)
- o) Click ‘Add a permission’

- p) Click "Grant admin consent for *Your Company*"
 - Click 'Yes' to answer the question 'Do you want to grant consent ...'

Subscription Hub “otSubHub” Installation and Configuration Steps

1. **Unzip the installation file**

Unzip the file ‘otSubHub-10.x.zip’ from the OnTime server into a temporary folder on the Subscription Hub server. (Required when installing the Subscription Hub on a separate machine). If you are using the same machine for both OnTime and Subscription Hub, You may simply unzip package locally on that machine. (For both options, see example below)

2. **Run the installer**

Go to the folder where you extracted the files and run install.cmd as Administrator. (see example below)
The Subscription Hub service will be installed in the folder ‘c:\node\otsubhub’.

3. **Add SSL certificates**

Create a folder named ‘certs’ (under C:\node) and copy the PEM certificate files used by your domain into the folder ‘c:\node\certs’. (see example page 169)

4. **Edit the configuration file**

Open the configuration file ‘otSubHub.json’ located in ‘C:\node\otsubhub’.

5. **Set the certificate paths**

In the configuration file ‘otSubHub.json’ update the paths for the certificate files ‘key.pem’ and ‘cert.pem’. (see example below)

6. **Set the service URL**

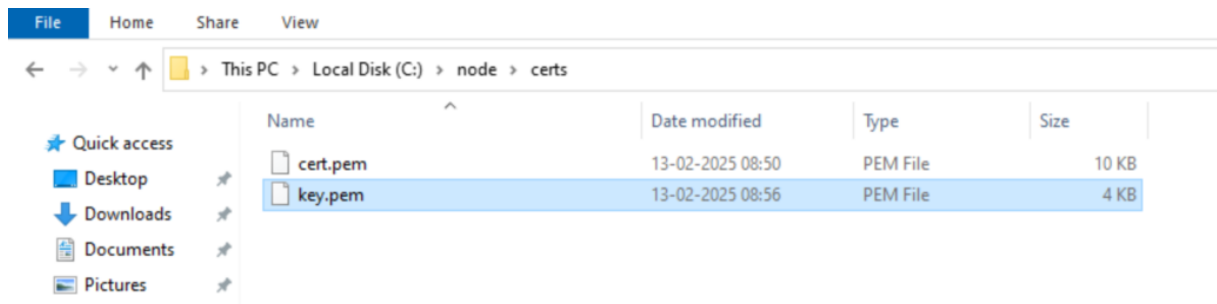
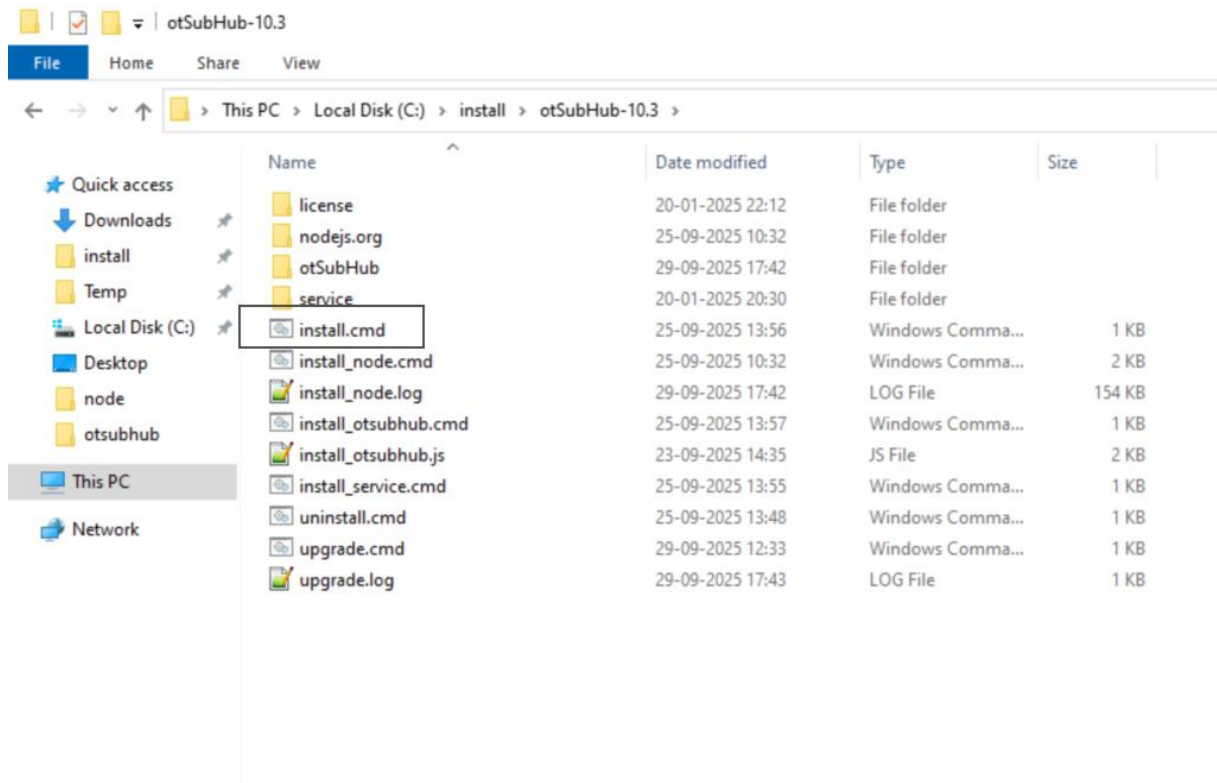
In the ‘URL’ field of the configuration file ‘otSubHub.json’ enter the full HTTPS domain name where the service will run. (see example below)

7. **Save and restart the service**

Save your changes and ‘restart the Subscription Hub service’ on the server. (see example below)

Additional Notes:

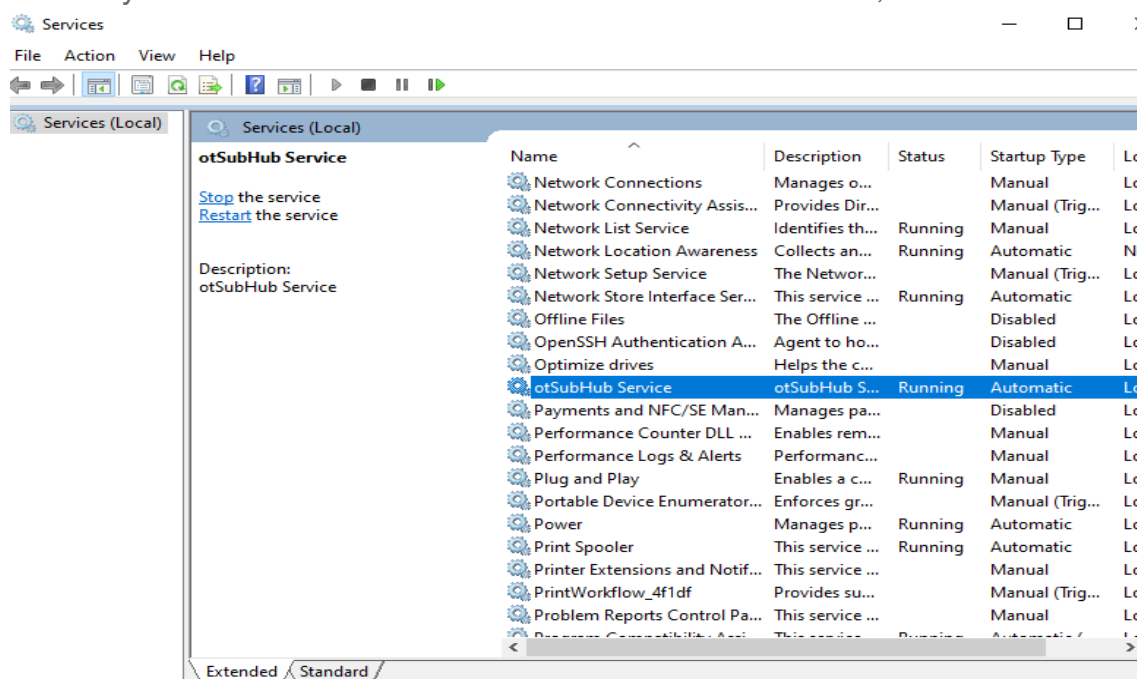
- If the protocol for the ‘backendServer’ is set to https, it will automatically use the ‘key’ and ‘cert’ from the ‘noticeServer’, unless you set them differently.
- Both services can also run on the same port if required.
- Log files for the Subscription Hub service are stored in the folder. ‘C:\node\otsubhub’.



Example of the 'otSubHub.json' file is shown below:

```
{
  "noticeServer": {
    "protocol": "https",
    "port": 443,
    "key": "c:/node/certs/key.pem",
    "cert": "c:/node/certs/cert.pem",
    "payload": {
      "URL": "https://otsubhub.example.com",
      "clientState": " o5vy+WNM2JurnOc/HuEFg+tsVco= "
    }
  },
  "backendServer": {
    "protocol": "http",
    "port": 8443,
    "secretKey": " kH7KoGfl42Wqp5f/flKrCBJnB2l "
  },
  "graph": {
    "expiration_min": 60,
    "subscribe_threads": 3,
    "renew_threads": 3,
    "unsubscribe_threads": 5
  },
  "ews": {
    "subscribe_threads": 5
  }
}
```

You may now find 'otSubHub' listed under Windows Services, as shown below:



Since the Subscription Hub server only requires HTTPS access from the internet, we recommend applying an IP filter in the firewall. See Microsoft Graph Change Notifications for more details.

<https://learn.microsoft.com/en-us/microsoft-365/enterprise/additional-office365-ip-addresses-and-urls?view=o365-worldwide>

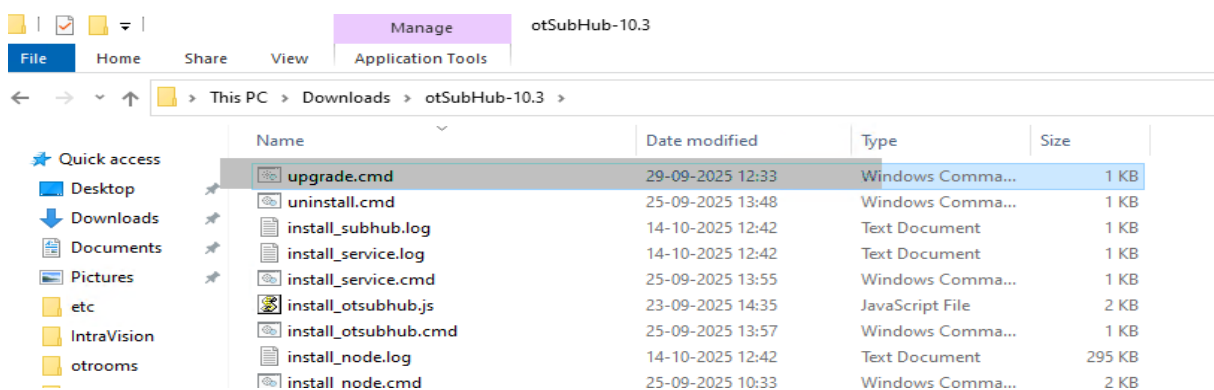
See the section *Microsoft Graph Change Notifications* for more information

Note: 'clientstat' is a unique value defined in the *otSubHub.json* file during installation of the *otSubHub* service. It represents the 'clientState' property included in each change notification (max length: 128 characters) and allows the client to verify the notification's authenticity by matching it with the subscribed 'clientState' value.

Note: The 'secretKey' is a unique value generated in the *otSubHub.json* file during *otSubHub* installation. It is sent from the backend server (OnTime) to the Subscription server, defining the 'secretKey' property exchanged between them.

Upgrading Subscription Hub (otSubHub)

1. Unzip the file 'otSubHub-10.x.zip' from the OnTime server into a temporary folder on the Subscription Hub server. (This is needed if you are installing the Subscription Hub on a separate machine). If you are using the same machine for both OnTime and Subscription Hub, You may simply unzip the file locally on that machine.
2. Go to the folder where you extracted the files and run **upgrade.cmd** as an administrator. The Subscription Hub will be upgraded under existing 'C:\node\otsubhub' (see example below)
3. Finally, make sure that 'otSubHub' service listed under Windows Services after the upgrade assignment.



Configuring the Subscription Hub in OnTime Admin

1. **Copy Credentials**
Copy the values of the 'Client Application ID' and 'Client Secret Value' from the registered Subscription Hub application into a text editor, e.g., Notepad
2. **Navigate to the OnTime Admin Centre**
3. **Open 'Domains' Section**
From the left-hand navigation bar, select Domains.
4. **Configure Subscription Hub**
Select the Subscription Hub tab and enter the two values from step 1 under 'Subscription Hub App Registration' (see example below).
5. **Set Subscription Hub URL**
Open the 'otSubHub.json' file located in 'C:\node\otsubhub' in a text editor, copy the Subscription Hub URL (including the port number) values, and paste it into the 'Subscription Hub URL' field (see example below).
6. **Insert Secret Key**
Open the 'otSubHub.json' file located in 'C:\node\otsubhub' in a text editor, copy the 'secretKey' value, and paste it into the 'Secret Subscription Hub Application Key' field (see example below).
7. **Enable Subscription Hub**
Enable the option Enable Subscription Hub and save the changes. (see example below).

localhost:8080/ontimegcms/admin

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ONTIME ADMIN CENTER

Save | Cancel | Register Application | Remove

ADD/EDIT DOMAIN

Domain Name: ☐ Domain Disabled

Priority:

Domain Type:

Office 365 | Source | Field Mapping | Advanced | **Subscription Hub**

Subscription Hub

Enable Subscription Hub: ☒ Yes

Subscription Hub URL:

Secret Subscription Hub Application Key:

Trust All Subscription Hub Certificates: ☐ Yes

Subscription Hub App Registration

Application (client) ID:

Directory (tenant) ID:

Client Secret Value:

An example of the 'otSubHub.json' file is shown below.

```
{
  "noticeServer": {
    "protocol": "https",
    "port": 443,
    "key": "c:/node/certs/key.pem",
    "cert": "c:/node/certs/cert.pem",
    "payload": {
      "URL": "https://otsubhub.example.com",
      "clientState": "o5vy+WNM2JurnOc/HuEFg+tsVco="
    }
  },
  "backendServer": {
    "protocol": "http",
    "port": 8443,
    "secretKey": "kH7KoGfl42Wqp5f/fIKrCBJnB2l"
  },
  "graph": {
    "expiration_min": 60,
    "subscribe_threads": 3,
    "renew_threads": 3,
    "unsubscribe_threads": 5
  },
  "ews": {
    "subscribe_threads": 5
  }
}
```

8. Now by navigating to the OnTime Admin Dashboard, you may view the status of 'SUBHUB' when it is running (see example below)

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ONTIME ADMIN CENTER
EDIT LICENSE
REFRESH

DASHBOARD
DATABASE
DOMAINS
GLOBAL SETTINGS
USERS
GROUPS
LEGEND

DASHBOARD

Application

Application:
RUNNING
START
STOP
Last Status Change: 04-11-2025 11:22:37

Subscription for calendar changes:
7 OUT OF 7 CALENDARS
START
STOP
Last Status Change: 04-11-2025 11:22:56

Connection Services

SQL Database Connection:
RUNNING
Last Status Change: 04-11-2025 11:22:35

Active Exchange Domains:
1 OUT OF 1 RUNNING / 1 OUT OF 1 SUBHUB

Domains/Source

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ONTIME ADMIN CENTER

Dashboard
Database
DOMAINS
Global Settings
Users
Groups
Legend
Find Time
Catering
Visitor

Save | Cancel | Register Application | Remove

ADD/EDIT DOMAIN

Domain Name
example.com
☐ Domain Disabled

Priority
1

Domain Type
Microsoft 365

Microsoft 365
Source
Field Mapping
Advanced
Subscription Hub

LDAP
☐ Enable LDAP

Persons
bm-sec-grp@ontimecalendar.com

Rooms
bmtest-room2@ontimecalendar.c...
behrouzroom2@ontimecalendar....

Shared Desks

Equipment

Exclude from Domain

Resolve Persons
Resolve Rooms
Resolve Shared Desks
Resolve Equipment

To get the correct information, please application and run the sync from the

Source is where you configure users included in your OnTime setup.

‘Untick’ ‘Enable LDAP’.

Add distribution groups of persons, rooms, shared desks, equipment you want to be included in the OnTime calendar. The email addresses of these distribution groups are written into the fields. More groups or individuals can be added, separated by commas.

Click **‘Save’** to save your Domain Settings.

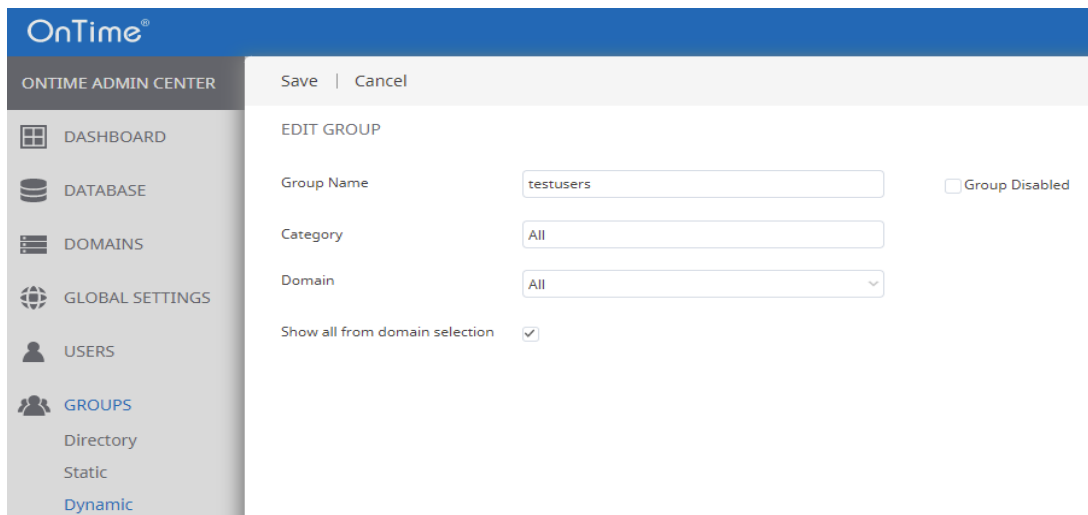
To reflect your new settings, go to the Dashboard - Stop and Start the Application. Then check that the “Database Service” and “Exchange Service” both show “Running”

Groups

Select ‘Groups/Dynamic’ to create a group of persons included in OnTime selected above in the ‘Synchronization Source’ section in your **Domain settings**.

Click ‘Create New’. Creating at least one group will ensure that users will see more than one user in OnTime.

Enter a Group name, enter a Category (text) to be shown in the user interface, choose 'All' in Domain, tick ‘Show all from domain selection’.



The screenshot shows the OnTime Admin Center interface. On the left is a sidebar with navigation links: DASHBOARD, DATABASE, DOMAINS, GLOBAL SETTINGS, USERS, and GROUPS. The GROUPS section is expanded, showing sub-options: Directory, Static, and Dynamic. The main content area is titled 'EDIT GROUP' and contains the following fields: 'Group Name' with the value 'testusers', 'Category' with the value 'All', and 'Domain' with a dropdown menu set to 'All'. There is a checkbox labeled 'Group Disabled' which is unchecked. At the bottom, there is a checkbox labeled 'Show all from domain selection' which is checked. At the top of the main content area, there are 'Save' and 'Cancel' buttons.

Click **‘Save’**.

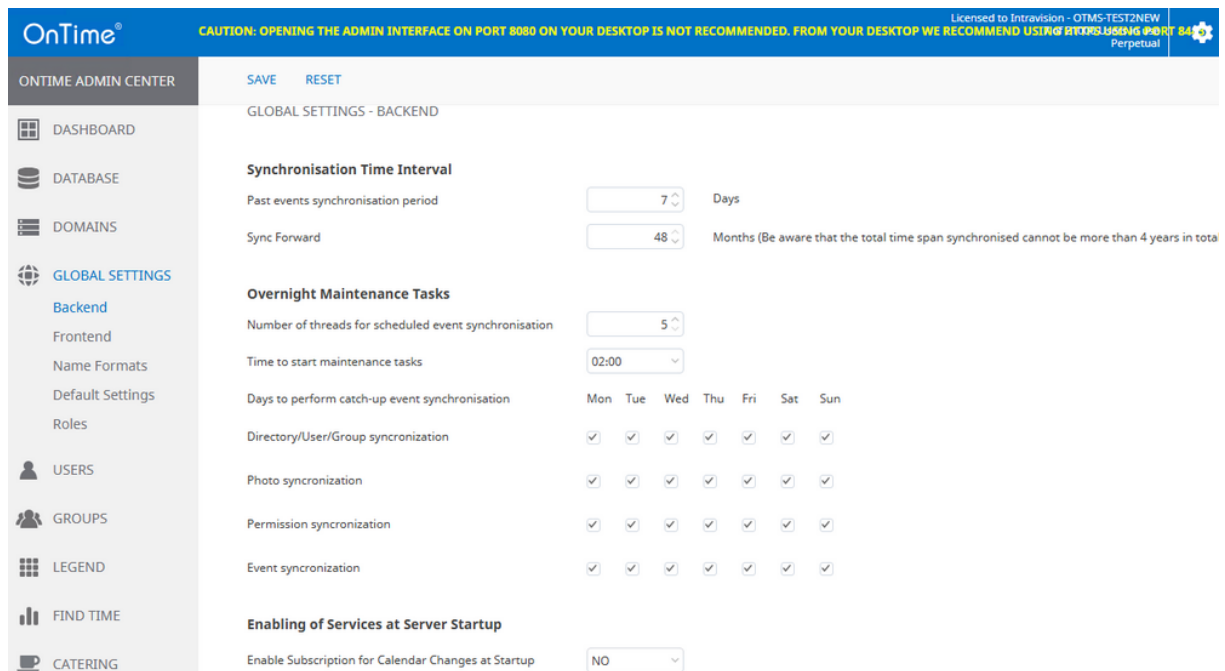
Changes in the 'dynamic groups' must be followed by clicking “Start” at “User & Group Sync” in the **Dashboard**.

Global Settings - Backend

Click Global/Backend

Choose 'Yes' at 'Enable subscription for Calendar Changes at Startup'.

- Click 'Save' to ensure the synchronisation subscription service starts every time you click stop/start at the 'Application Status' in the Dashboard.



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ONTIME ADMIN CENTER [SAVE](#) [RESET](#)

GLOBAL SETTINGS - BACKEND

Synchronisation Time Interval

Past events synchronisation period Days

Sync Forward Months (Be aware that the total time span synchronised cannot be more than 4 years in total)

Overnight Maintenance Tasks

Number of threads for scheduled event synchronisation

Time to start maintenance tasks

Days to perform catch-up event synchronisation

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Directory/User/Group synchronization	☒	☒	☒	☒	☒	☒	☒
Photo synchronization	☒	☒	☒	☒	☒	☒	☒
Permission synchronization	☒	☒	☒	☒	☒	☒	☒
Event synchronization	☒	☒	☒	☒	☒	☒	☒

Enabling of Services at Server Startup

Enable Subscription for Calendar Changes at Startup

Dashboard

The main page of the 'OnTime Admin Center' is the Dashboard. This page presents an overview of the processes in OnTime. When you change the values in the other pages, you must restart the OnTime application by clicking "Stop/Start" in the according section.

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ONTIME ADMIN CENTER
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REFRESH

DASHBOARD
DATABASE
DOMAINS
GLOBAL SETTINGS
USERS
GROUPS
LEGEND
FIND TIME
CATERING
VISITOR

DASHBOARD

Application

Application:
RUNNING
START
STOP
Last Status Change: 02-12-2025 10:03:23

Subscription for calendar changes:

7 OUT OF 7 CALENDARS
START
STOP
Last Status Change: 02-12-2025 10:03:28

Connection Services

SQL Database Connection:
RUNNING
Last Status Change: 02-12-2025 10:03:22

Active Exchange Domains:
1 OUT OF 1 RUNNING

Scheduled Services

Directory Synchronisation:
SCHEDULED TO RUN TOMORROW 02:00
START
Last Status Change: 02-12-2025 10:03:27

User & Group Synchronisation:
SCHEDULED TO RUN TOMORROW 02:00
START
Last Status Change: 02-12-2025 10:03:28

Photo Synchronisation:
SCHEDULED TO RUN TOMORROW 02:00
START
Last Status Change: 02-12-2025 09:48:01

Permission Synchronisation:
SCHEDULED TO RUN TOMORROW 02:00
START
Last Status Change: 02-12-2025 10:02:26

The section **Persistent** shows the status of the OnTime Application and the automatic subscription of calendar changes. Both should be running within normal production.

The section **Connection** shows the status of the connections to the OnTime SQL database and the Exchange service. Both should be running within normal production.

The section **Scheduled** normally shows the status stopped because running is done automatically at midnight. But the five positions within this section can be started on-demand to reflect changes at once.

Directory Sync takes care of updating users/groups from Exchange.

User & Group Sync synchronises the Exchange users/groups onto the OnTime SQL tables.

Photo Sync imports the users' photos/avatars from the Exchange server

Permission Sync updates the users' permissions to update other users' calendars

Event Sync is synchronising all users calendar entries and may take a considerable amount of time.

Quick Install Guide

Page 36

Intra>ision

OnTime User – Calendar

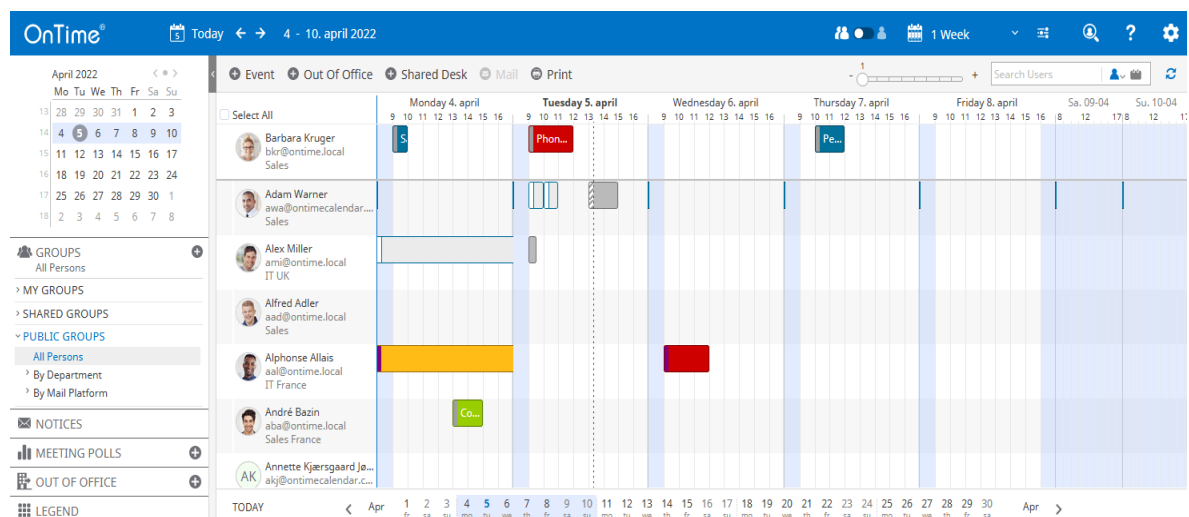
OnTime Client Web Desktop

OnTime from the user perspective:

From a browser, open the user URL — for example:

<http://ontime.example.com/ontimegcms/desktop>

Note: Insert your relevant URL instead of 'ontime.example.com'.



OnTime Client Web Mobile

OnTime from the user perspective:

From a mobile browser - Open the user URL – for example:

<http://ontime.example.com/ontimegcms/mobile>

Note: Insert your relevant URL instead of 'ontime.example.com'

