

# Microsoft Windows MDM Setup

Integration of FileWave with Microsoft Windows MDM requires some initial setup. This is likely a one-time configuration for your environment, depending on complexity.

On initial setup, we'll need to make sure we can satisfy the licensing pre-requisites, publish a custom FileWave client, set our acceptable use terms, and finally create and configure the AAD MDM application itself.

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# Pre-Requisites of Windows MDM Setup

## What

FileWave can integrate and use the framework of Microsoft Windows MDM to manage Windows endpoints, but there are licensing requirements that need to be satisfied (outside of FileWave).

## When/Why

Windows MDM requires certain licenses based on your organization's relationship with Microsoft. As far as FileWave-specific licensing is concerned, each endpoint need only have a FW client license.

## How

All Windows MDM function relies on Microsoft Entra Active Directory, so that must be in place for your organization. Specifically Microsoft Entra Premium P1 or P2. Many of their license bundles include that license. Additionally, you'll need AutoPilot access and access to the Microsoft store for business:

### Licensing requirements for AutoPilot:

[Windows Autopilot licensing requirements | Microsoft Learn](#)

(AutoPilot is the framework that allows your devices to enroll into FileWave when initially setup)

### Information on Microsoft Endpoint Management / InTune for Business:

[Endpoint Management at Microsoft | Microsoft Learn](#)

# Part 1: Custom FileWave Client

## What

Windows MDM with FileWave is implemented in a hybrid-mode. That is, we can issue MDM commands (such as installing a policy), but also wish to leverage our native FileWave client capabilities.

## When/Why

Our first step in setting up the integration for Windows MDM is to create and publish a customized FileWave client so that our newly MDM enrolled devices will have a functioning FileWave client installed upon enrollment.

## How

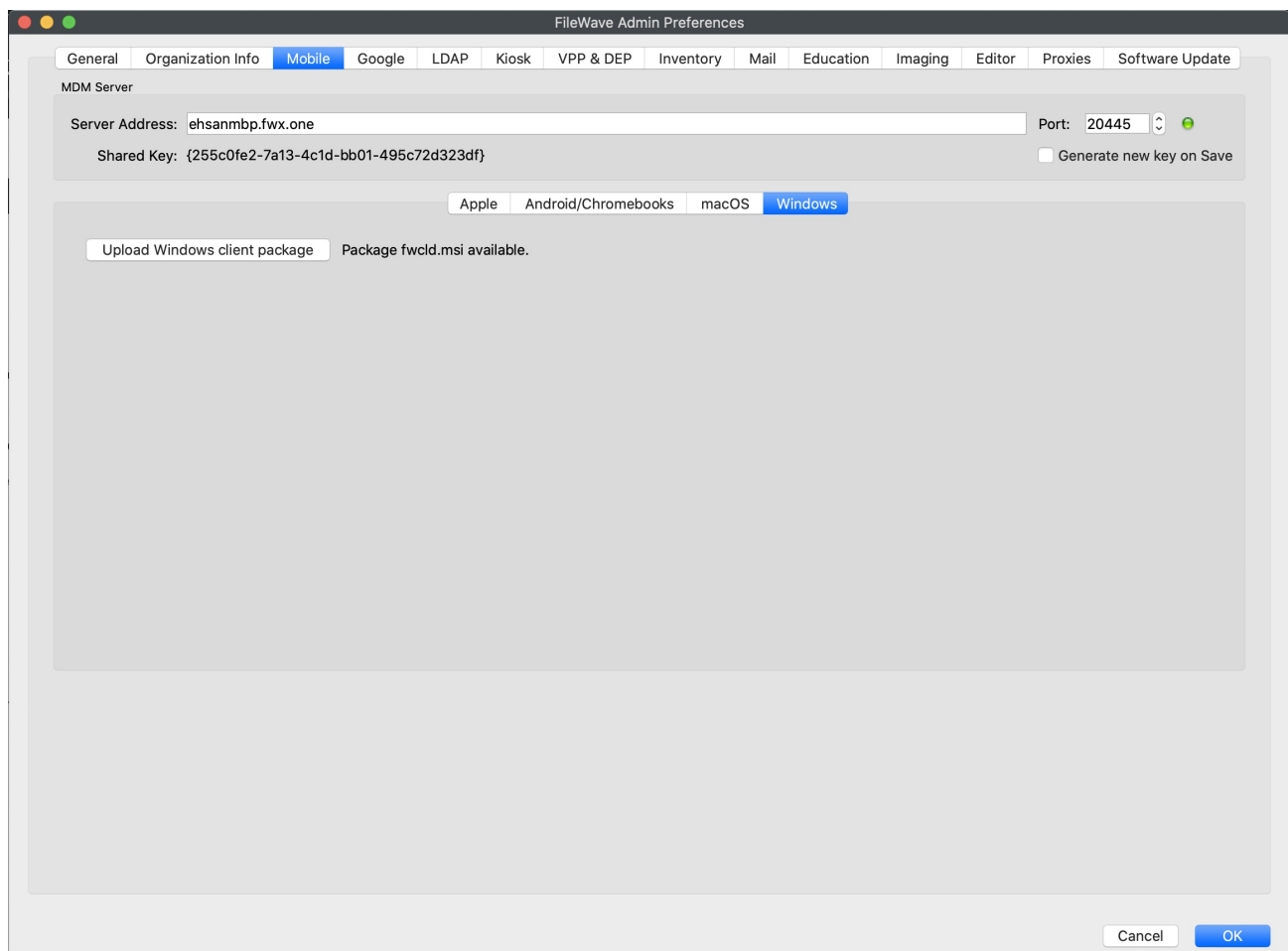
Before anything make sure that you have done following steps:

- ⚠ Your FileWave server is running healthy, and backups are being performed.
- ⚠ You have valid, trusted certificate installed on your FileWave server.
- ⚠ You have at least saved FileWave preferences once (open preferences in the native admin and save it.) This will set important configurations on your FileWave server (shared keys, etc.)
- ⚠ You have at least updated model once This will allow FileWave's internal URIs to be in place.

After you confirmed everything is ok, then you may upload the custom client MSI installer.

## Upload fwclcd msi package

1. Open the native admin and open preferences.
2. Go to the Mobile tab and look under the Windows sub-tab.
3. Upload your custom client.msi package on that tab as shown below. Create this installer with the [Customer Installer Builder](#).



# Part 2: Setting up Terms and Conditions

## What

When a device is enrolled in Windows MDM, a custom end-user terms page is required for the Microsoft application we'll be building later.

## When/Why


We'll need to establish our terms pages within the FileWave AnyWhere (Web admin), and they'll be used at enrollment time. These terms pages can be customized for your environment with the terms you prefer.

## How

### Editing Terms & Conditions

Terms & Conditions are for a page that are shows to users who are enrolling to your Server. You can customize this page via the FileWave Web Admin.

1. Click on the gear button next to Model update in FileWave Web Admin.
2. Navigate to Terms & Conditions tab.
3. Edit the title and/or the content of the page.



Back to FileWave Admin

Settings

User Management

Identity Provider

Terms & Conditions

Terms & Conditions

Title

Terms of Use

Content

I acknowledge that by enrolling my device, [Company name] administrators will have certain control. This includes visibility into inventory, installing apps, policies. I agree to keep company resources safe to the best of my ability and inform administrators as soon as I see a risk or in case device is lost or stolen.

Edit

# Part 3: Setting up the Portal App

## What

The configuration of your Windows MDM integration will all be driven by an application you yourself create in the Microsoft Entra Portal.

## When/Why

This application is the linch pin that ties your devices (in AutoPilot), through your user accounts (the group associated with the app), into redirection to your FileWave MDM server. Detailed setup steps follow.

## How

### Add Microsoft Entra ID account in FileWave

1. Open your FileWave AnyWhere (Web Admin) page and navigate to sources.
2. Click the Microsoft tab.
3. Click on New account and you should see the following form:

The screenshot shows the 'New Azure AD Account' form in the FileWave AnyWhere web admin interface. The form is divided into five steps:

- 1. Add FileWave as MDM application**: Includes a 'Login to Azure AD' button and instructions to login to Azure AD and add FileWave as an On-premises MDM application in the Mobility tab.
- 2. Paste URLs into Azure AD**: Includes fields for 'Terms of Use URL' and 'Discovery URL', both with 'Copy' buttons. The URLs are: <https://ehsanmbp.fwx.one:443/filewave/api/windows/> and <https://ehsanmbp.fwx.one:443/filewave/api/windows/>.
- 3. Enter information**: Includes fields for 'Tenant ID\*' and 'App ID\*'. Instructions: 'Find needed info in Overview tab'.
- 4. Download FileWave Certificate**: Includes a 'Download certificate' button. Instructions: 'Download FileWave Certificate then proceed to the next step'.
- 5. Upload FileWave Certificate into Azure AD**: Includes a 'Check status' button. Instructions: 'Go to Azure AD portal and upload it in Certificate & secrets tab'.

The left sidebar shows the navigation menu with 'Sources' selected. The top bar shows the breadcrumb 'New Azure AD Account' with a back arrow and a checkmark.

Keep this form open for completion in later steps.

## Configuring Microsoft Entra ID

### Creating MDM application

In order to enable MDM enrollment, first you need to configure your Microsoft Entra ID to recognizes your FileWave server as your MDM.

1. Go to your Microsoft Entra ID portal: <https://aad.portal.azure.com>
2. From dashboard navigate to Microsoft Entra Active Directory → Mobility (MDM and MAM) and then click Add application.
3. In new application form, select On-premises MDM application, give it a name and a log and click on add\_.\_

Azure Active Directory admin center

Dashboard > FWX.io

FWX.io | Mobility (MDM and MAM)

Overview

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Add application

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Name
AlernMDM
Alex Sosim MDM application
Alex_MDM_APP
Alexi_AzureMDM
AlexS_AzureMDM
AlmirM_AzureMDM
Avery_AzureMDM
BrandonY_AzureMDM
BranMDM
DarceyApp
EhsanMDM
EmirS_MDM
FW_1450_Test
FWBeta
HAMID MDM
HariS_AzureMDM
JerryCApp
JohnBApp
Jure's MDM
Kevin FW Instance
KonstantinL_AzureMDM
ManishaM_MDM
MariaM AzureMDM

## Configuring your MDM application

- Go back to the list of MDM applications from step 2 above, and open the application you have just created. You should be able to see the following options:
  - MDM user scope: This is where you indicate which users can enroll their devices using this MDM application. you can either choose:
    - All: Force all users to use this MDM application. (Preferred)
    - Some: You can select user groups which are allowed to use this MDM application to enroll their devices. If you do use this then you will need to make sure that you make a Group to restrict this, and add all of the users who will have their devices managed by MDM in that same group.
  - MDM terms of use URL:  
Copy the value from the form you opened up in you FileWave AnyWhere (Web Admin) earlier.
  - MDM discovery URL:  
Copy the value from the form you opened up in you FileWave AnyWhere (Web Admin) earlier.

It is very important that if you have another solution in place like Intune that you make sure that you do not have both Intune and FileWave enabled for the same users. You may get an error about not having permission to enroll devices. You can test this by disabling the Intune MDM (or another vendor) in Microsoft Entra by setting it to None and then wait 5 minutes and you would be able to enroll using FileWave. Think about which MDM solution you want to be for your different users in your environment. A single device can only really be in a single MDM. You can enroll to Intune for MDM and install the FileWave agent for instance, but then you could only push Windows Profiles from Intune. Everything else would work just fine in FileWave for those devices.

## Integrating FileWave and Microsoft Entra

After configuring your MDM application, on the same page, you will see a small link that reads: On-premises MDM application settings. Click on it in order to open your on-premise application settings. You should see the following page:

**Documentation app**

Search (Cmd+/)

Overview

Quickstart

Integration assistant

Manage

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Authentication

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Token configuration

API permissions

Expose an API

App roles

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Roles and administrators | Preview

Manifest

Support + Troubleshooting

Troubleshooting

New support request

Essentials

Display name : Documentation app

Application (client) ID : 25912fa2-f003-4938-b4f6-6b74634e7cde

Object ID : Zc8c228e-737c-4cea-bb5f-21560f616a0d

Directory (tenant) ID : b92445c3-2c1d-4cbe-ae6c-809fd9dce9e

Supported account types : My organization only

Client credentials : Add a certificate or secret

Redirect URIs : Add a Redirect URI

Application ID URI : https://fwxio2.onmicrosoft.com/f18223e0-0794-4d30-bc94-3a2ab1...

Managed application in L... : Documentation app

Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure AD Graph. We will continue to provide technical support and security updates but we will no longer provide feature updates. Applications will need to be upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph. [Learn more](#)

Get Started Documentation

### Build your application with the Microsoft identity platform

The Microsoft identity platform is an authentication service, open-source libraries, and application management tools. You can create modern, standards-based authentication solutions, access and protect APIs, and add sign-in for your users and customers. [Learn more](#)

**Call APIs**

Build more powerful apps with rich user and business data from Microsoft services and your own company's data sources.

[View API permissions](#)

**Sign in users in 5 minutes**

Use our SDKs to sign in users and call APIs in a few steps. Use the quickstarts to start a web app, mobile app, SPA, or daemon app.

[View all quickstart guides](#)

**Configure for your organization**

Assign users and groups, apply conditional access policies, configure single sign-on, and more in Enterprise applications.

[Go to Enterprise applications](#)

From here there are only few steps left!

1. Copy the Application ID and Tenant ID from this page and paste it in the Microsoft Entra Account form in FileWave AnyWhere (Web Admin) (which you kept open from earlier)
2. The Application ID URI value in your MDM app (in Microsoft Entra ID) must match your FileWave server URL, to fix that, go to "Expose an API" on the left side, and edit the URL there. The URL should be like <https://example.filewave.net> replacing that with your server's DNS name.

**FW Support Server | Expose an API**

Search

Got feedback?

Application ID URI : https://support.filewave.net

Scopes defined by this API

Define custom scopes to restrict access to data and functionality protected by the API. An application that requires access to parts of this API can request that a user or admin consent to one or more of these.

Adding a scope here creates only delegated permissions. If you are looking to create application-only scopes, use "App roles" and define app roles assignable to application type. [Go to App roles](#)

+ Add a scope

Scopes	Who can consent	Admin consent display ...	User consent display na...	State
https://support.filewave.net/user_impersonation	Admins and users	Access FW Support Server	Access FW Support Server	Enabled

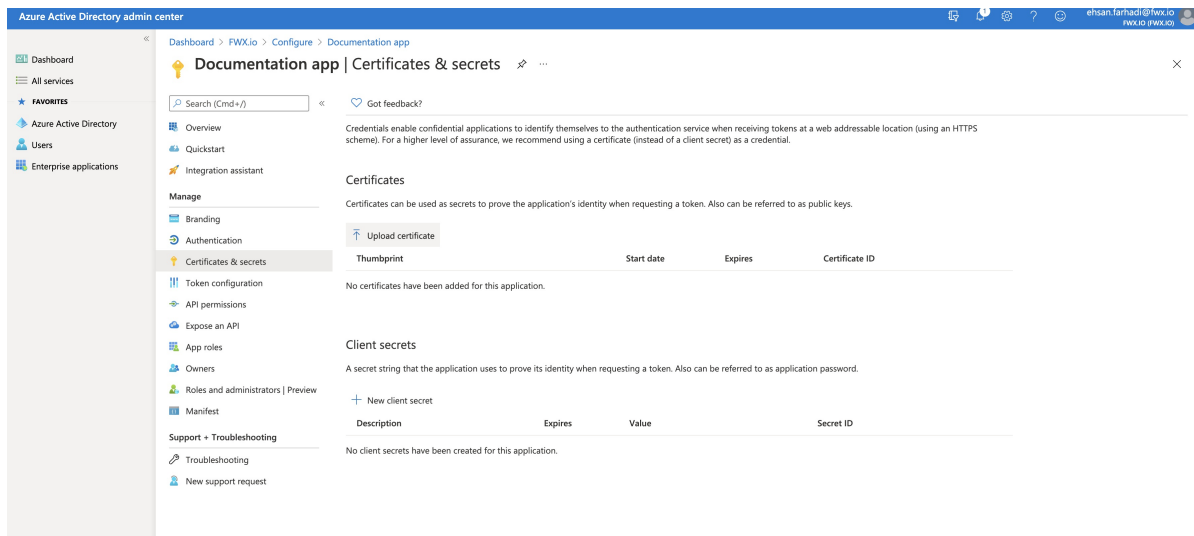
Authorized client applications

Authorizing a client application indicates that this API trusts the application and users should not be asked to consent when the client calls this API.

+ Add a client application

Client Id	Scopes
No client applications have been authorized	

3. Go back to the Microsoft Entra account form in your FileWave AnyWhere (Web Admin), and download the FileWave certificate.
4. Once you have the certificate, go back to the Microsoft Entra ID portal, navigate to Certificates & secrets and upload your certificate to your Microsoft Entra MDM application there.



5. Once the Certificate is uploaded, wait couple of seconds, then go back to FileWave AnyWhere (Web Admin), in the already open Microsoft Entra account form and click on Check Status button.
6. As soon as you see the green light, go ahead and save your Microsoft Entra account.

You are now ready to enroll a device in to Windows MDM.

## Application tenant or consent messages

You may see a message similar to below:

- AADSTS500011 – The resource principal named [URI] was not found in the tenant named [guid]. This can happen if the application has not been installed by the administrator of the tenant or consented to by any user in the tenant. You might have sent your authentication request to the wrong tenant.

If you're trying to log in from an application that doesn't support user consent flow or you're unable to use it otherwise, you can use the same special login URL crafting trick that I proposed in my article for resolving consent-related issues when getting error AADSTS650001, and create a URL like this:

- [https://login.microsoftonline.com/\[tenant\\_name\\_in\\_onmicrosoft.com-form\]/oauth2/authorize?client\\_id=\[appId\]&response\\_type=code&redirect\\_uri=http://your-uri-here&nonce=1234&resource=https://graph.windows.net&prompt=consent](https://login.microsoftonline.com/[tenant_name_in_onmicrosoft.com-form]/oauth2/authorize?client_id=[appId]&response_type=code&redirect_uri=http://your-uri-here&nonce=1234&resource=https://graph.windows.net&prompt=consent).

If the application requires admin consent, you may replace "consent" with "admin\_consent".