Apple Client Pre-Requisites

Now that we have the FileWave basics taken care of, let us start integrating the Apple services into FileWave. This section will cover creating an APNS certificate and syncing FileWave with Apple's DEP and VPP.
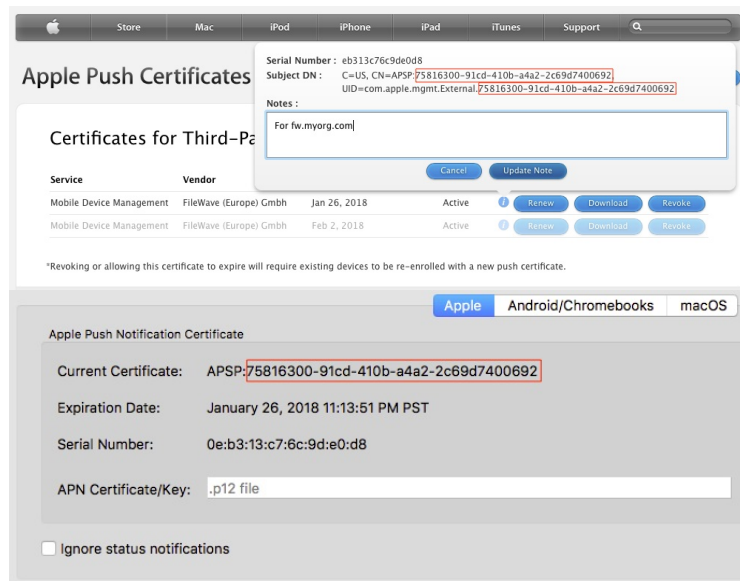
Apple Push Notification Service (APNS) Certificate

The Apple Push Notification Service Certificate or "APNS Cert" is what allows FileWave to send out Push Notifications to Apple devices including macOS, iOS, and tvOS. This step is absolutely critical for any Apple management within FileWave.

To create and upload an APNS certificate follow the instructions at one of the following links depending on your platform macOS or Windows. If you have a macOS machine available, the process is usually found to be easier on the Mac versus a Windows machine since macOS includes the built-in Keychain Assistant.

Since the APNS certificate must be renewed annually, we recommend you create calendar reminders 45, 30, and 15 days before the expiration. The FileWave Admin's Dashboard can also be configured to give you an alert of expiration via email.

When renewing your APNS certificate, be sure to use the same Apple ID that was used to originally create it. Creating a new certificate, or creating a certificate with a different Apple ID, rather than renewing the existing one used by FileWave, will break MDM communication with your mobile devices and require un-enrollment and re-enrollment. Take the following precaution to prevent this.

- Click the "Info" icon for your APNS certificate in your Apple Push Certificates Portal account and enter the DNS name for your server in the Notes field. This lets you know which server it is intended for.

- Verify that the topic for the APNS certificate you're trying to renew matches the topic listed in the "Mobile" tab of the FileWave preferences. If they don't match then you're renewing the wrong APNS certificate and you run the risk of preventing Apple device management.
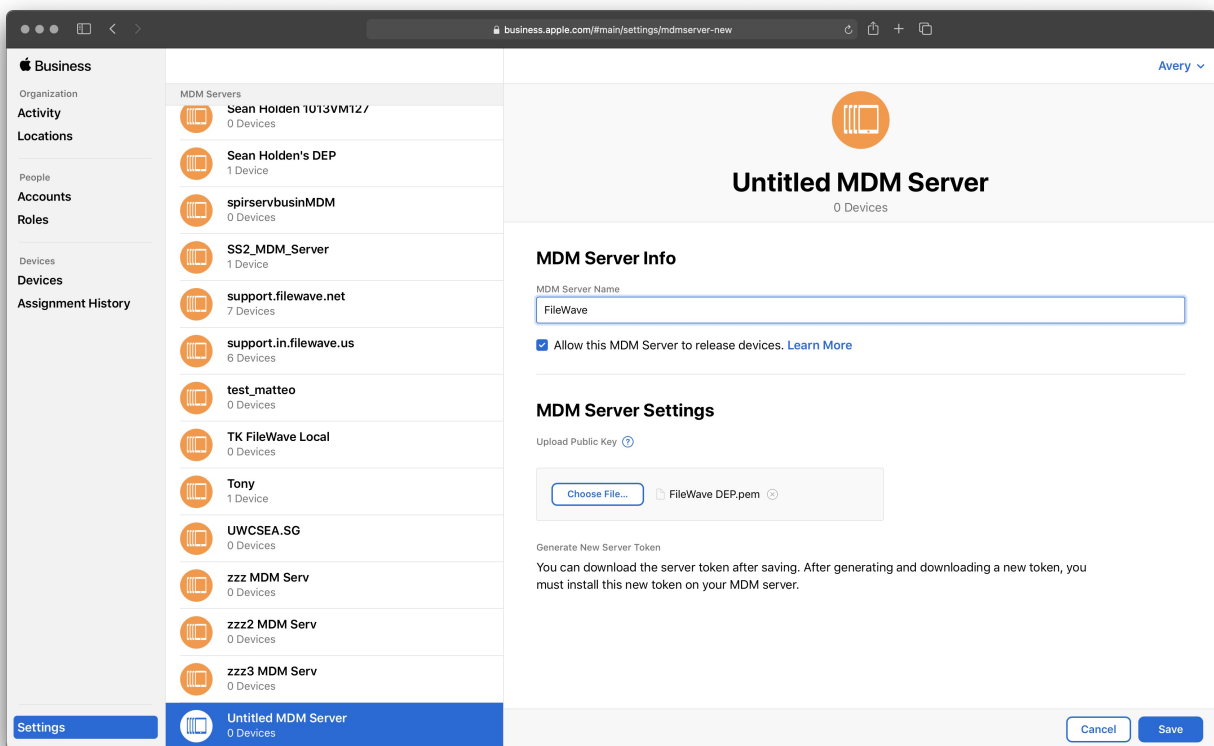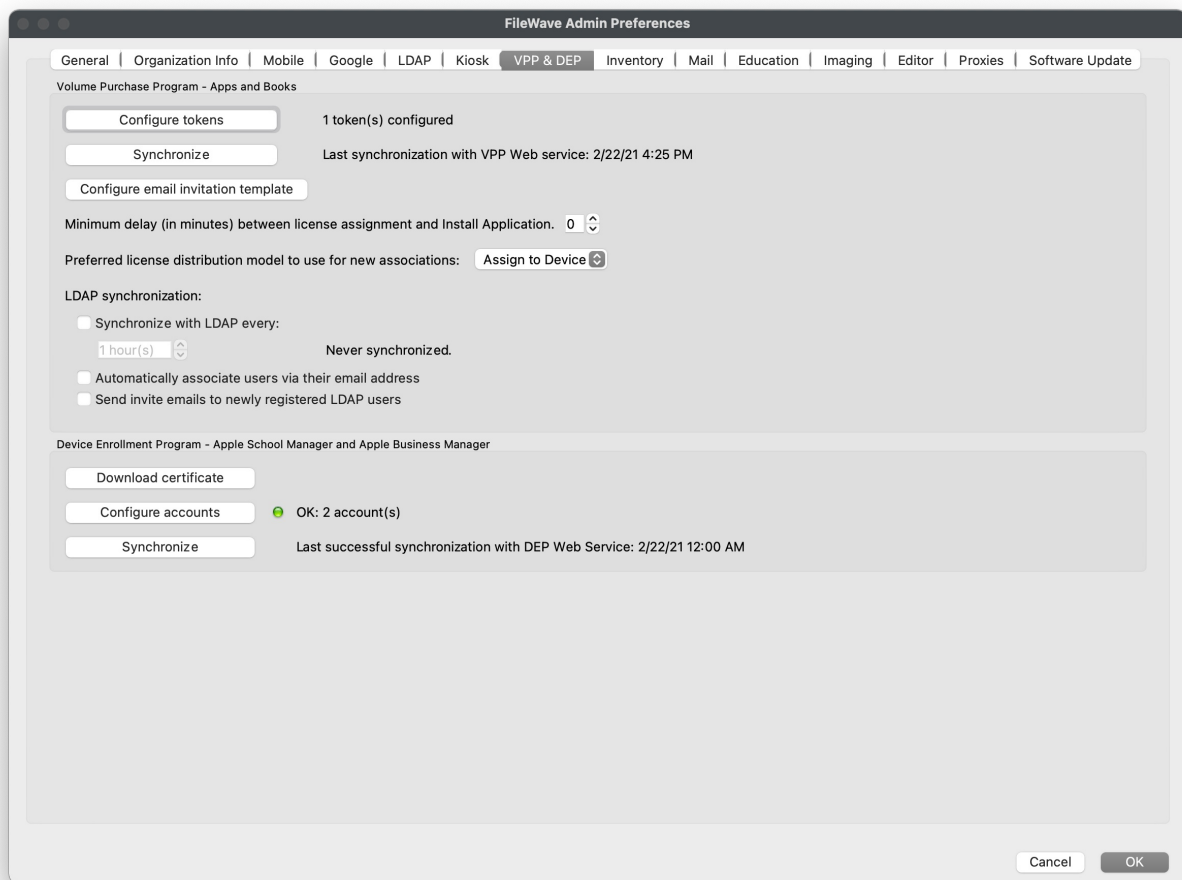

Apple Device Enrollment Program (DEP)

Now that we have the APNS created and imported, let us leverage Apple's Device Enrollment Program to automate the enrollment of our macOS, iOS, and tvOS devices.
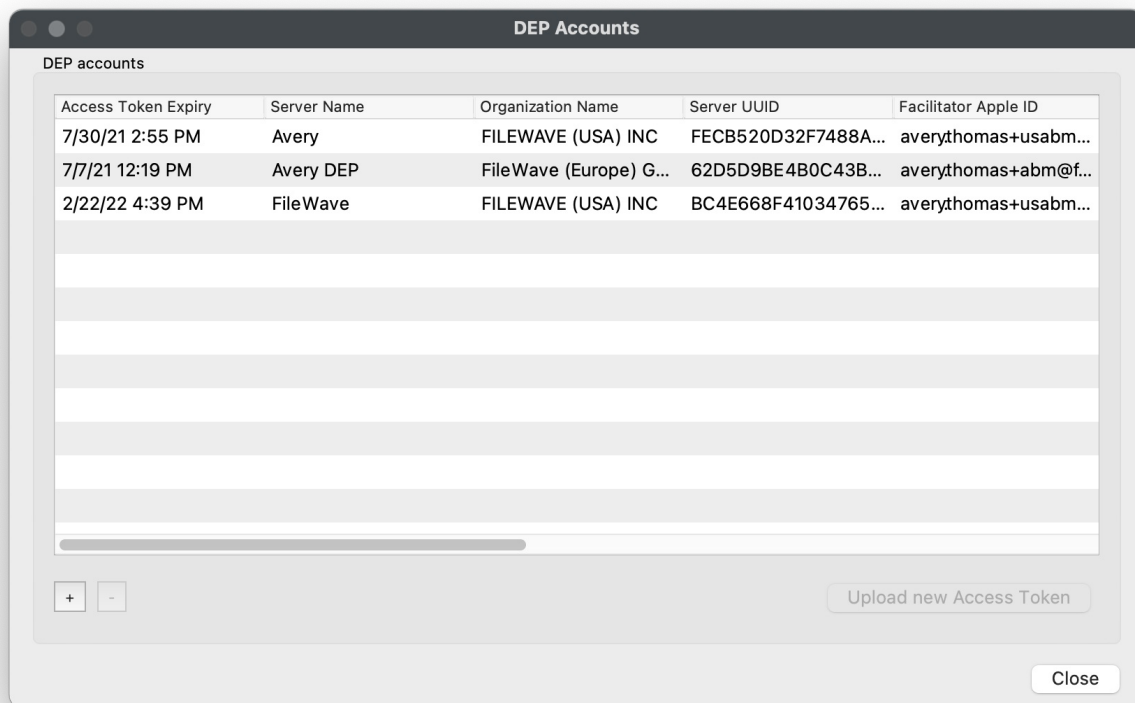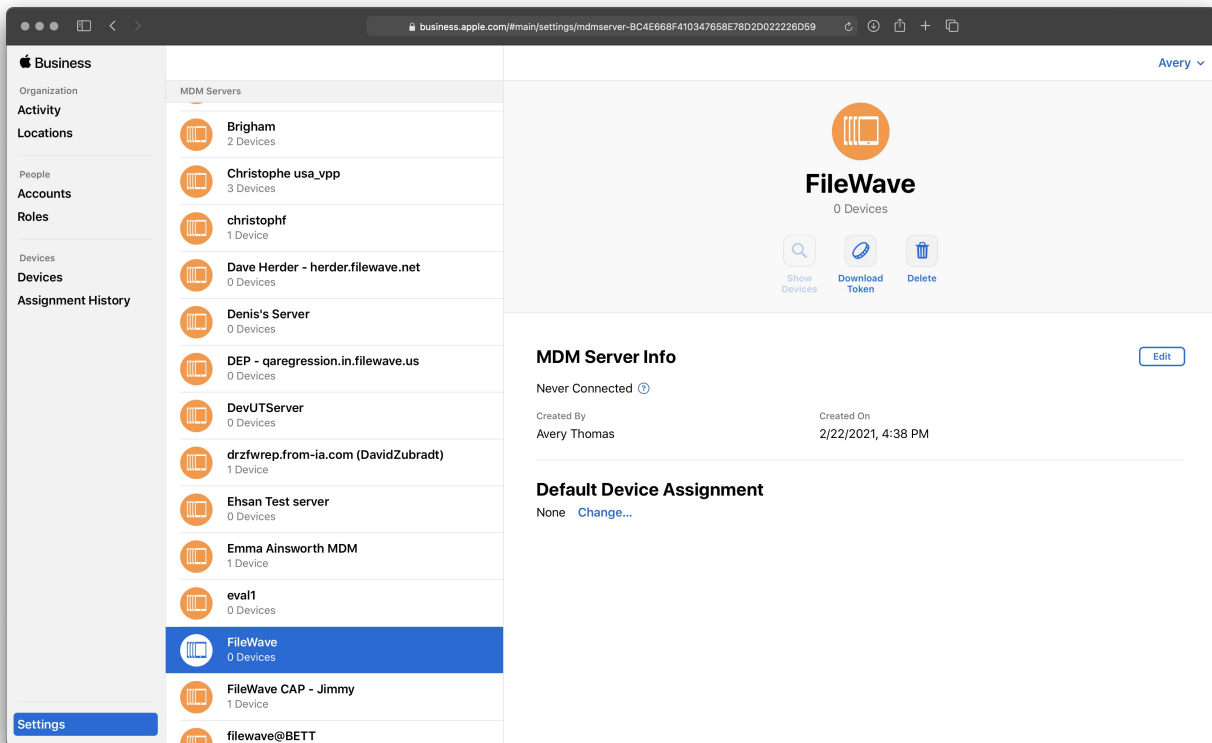
Add new MDM Server to Apple

1. Log into Apple School Manager (ASM) or Apple Business Manager (ABM) using your organization's Administrator account.
2. Navigate to "Settings" in the lower left-hand corner.
3. Select "Device Management Settings" from the middle pane.
4. Click "Add MDM Server" from the right pane.
5. Change the "MDM Server Name" to "FileWave" or something distinguishable.
6. Navigate to "FileWave Admin > Preferences > VPP & DEP", click "Download Certificate" from the bottom "Device Enrollment Program" section, and authenticate.
7. Navigate back to ASM/ABM and "Choose File" to select the recently downloaded "FileWave DEP.pem".
8. Click "Save".
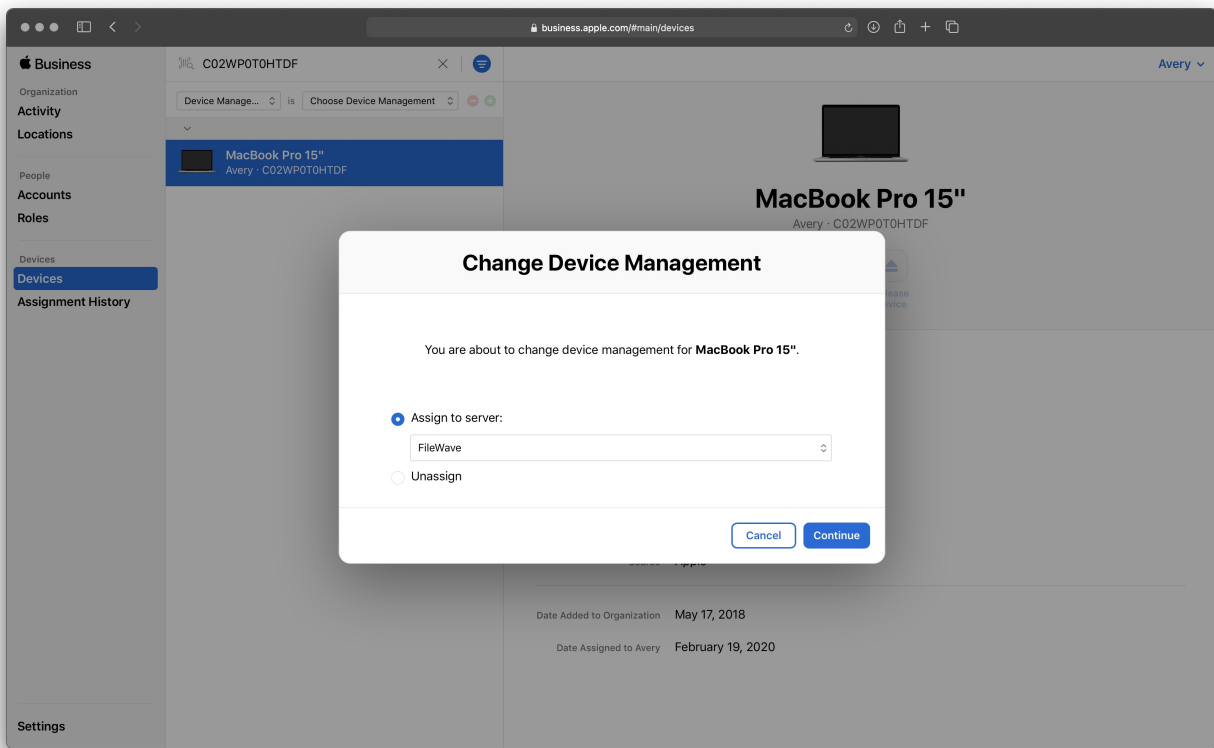
Sync Apple DEP within FileWave

1. After creating new MDM Server, select the new server from the list.
2. Click "Download Token" and accept the warning message.
3. Navigate to "FileWave Admin > Preferences > VPP & DEP", click "Configure accounts" from the bottom "Device Enrollment Program" section, and authenticate.
4. Click the "[+]" button in the lower left-hand corner and select the recently downloaded "FileWave_Token_XXXX-XX-XXTXX-XX-XXZ_smime.p7m" token file.

5. If data is populated in all of the columns of the "DEP Accounts" window, the token import was successful.

Access Token Expiry	Server Name	Organization Name	Server UUID	Facilitator Apple ID
7/30/21 2:55 PM	Avery	FILEWAVE (USA) INC	FECB520D32F7488A...	avery.thomas+usabm...
7/7/21 12:19 PM	Avery DEP	FileWave (Europe) G...	62D5D9BE4B0C43B...	avery.thomas+abm@f...
2/22/22 4:39 PM	FileWave	FILEWAVE (USA) INC	BC4E668F41034765...	avery.thomas+usabm...

Assign devices from ASM/ABM to FileWave MDM Server

1. Select "Devices" from the left-hand pane within ASM/ABM.
2. Search for devices by Serial Number (comma separated) or use the Filter icon to choose all "Unassigned" devices.
3. With the device(s) selected, click "Edit Device Management" and select the newly created FileWave MDM Server.
4. Navigate to "FileWave Admin > Assistants > DEP Association Management"
5. Hold down the Option or Alt key on your keyboard and click the "Synchronize (full sync)" button in the lower right-hand corner.
6. You should now see all devices assigned in Step 3 within FileWave's DEP Associations window.

Create DEP Profile and enroll Apple Devices

- These workflows will be covered in the <u>DEP Enrollment</u> section.
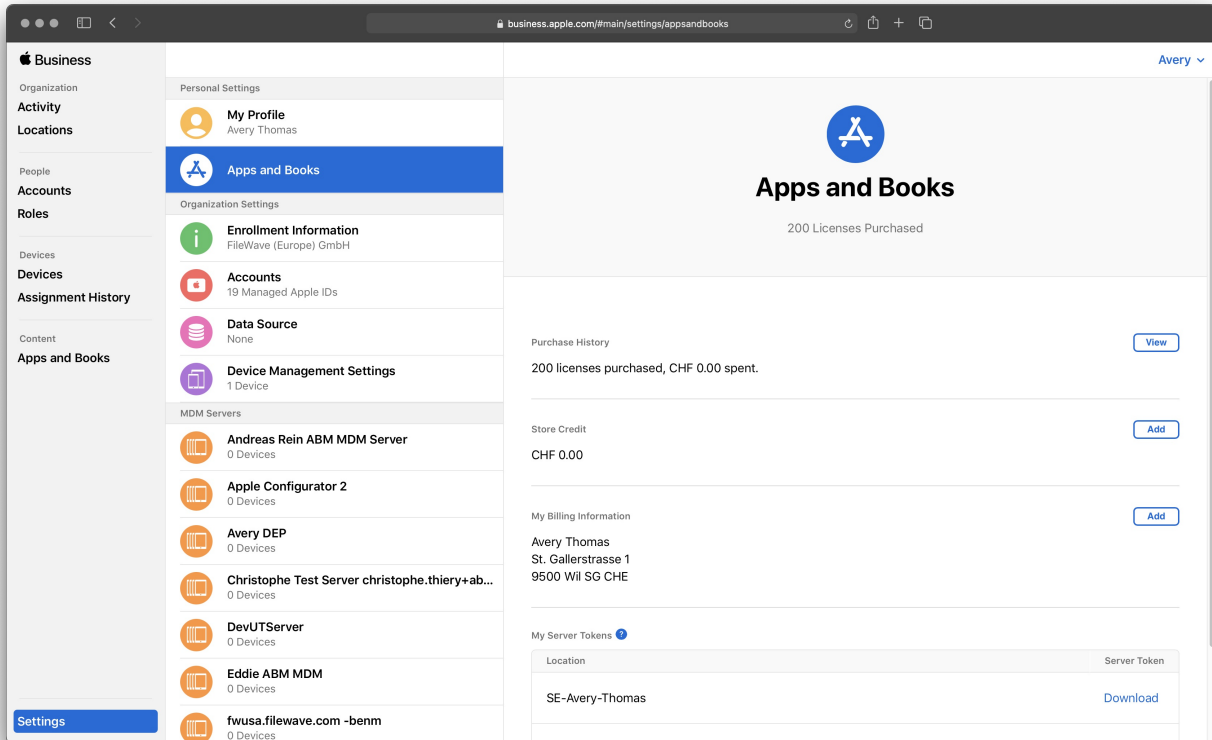
Apple Volume Purchase Program (VPP)

The Apple Volume Purchase Program (VPP) is integrated into Apple School Manager and Apple Business Manager and allows you to purchase and deploy applications from the App Store. When purchasing (free or paid) VPP licenses you will need to assign the licenses to a "Location" within ASM/ABM and each "Location" within ASM/ABM corresponds with a VPP Token. You will import each VPP Token into FileWave to sync the licenses assigned to the particular "Location".

If you are just starting out with ASM/ABM, you'll most likely just have one "Location" and therefore one VPP Token. If you are currently using a VPP Token in another MDM it is recommended to create a new "Location" for the evaluation of FileWave. This is recommended because importing a VPP Token that is used in another MDM will result in the automatic revoking of any deployed VPP licenses from that MDM. If you are not concerned with the licenses being revoked, please feel free to continue to import the existing VPP Token.

This section will not cover creating a new "Location" in ASM/ABM but more information can be found here from Apple School Manager User Guide or found here from Apple Business Manager User Guide.

Download VPP Token from ASM/ABM

1. Log into Apple School Manager (ASM) or Apple Business Manager (ABM) using your organization's Administrator account.
2. Navigate to "Preferences" in the lower left-hand corner.
3. Select "Payments and Billing" from the middle pane.
4. Find the desired "Location" name from the "My Server Tokens" section.
5. Click "Download".

Import VPP Token into FileWave Admin

1. Navigate to "FileWave Admin > Preferences > VPP & DEP", click "Configure tokens" from the top "Volume Purchase Program" section, and authenticate.
2. Click the "[+]" button and name the Token. This name is only used to distinguish the VPP Tokens within FileWave.
3. Optionally, fill out the "Department", "Owner", and "Owner Email" fields.
4. Click "Import" button and select the recently download VPP Token "sToken_for_XXXX.vpptoken".
5. The VPP Token should now be visible in the "Edit Apps and Books server tokens" window and ready for use.

VPP Token Permission

> ℹ️ If you do not see the added VPP Token this is because your FileWave Admin account has not been granted permission to the VPP Token. Please consult the "Allow new users to access existing VPP Tokens" section to grant permission to the VPP Token.

VPP service token

VPP service token details:

Token name: `averythomas+vpp@filewave.com`

Department:

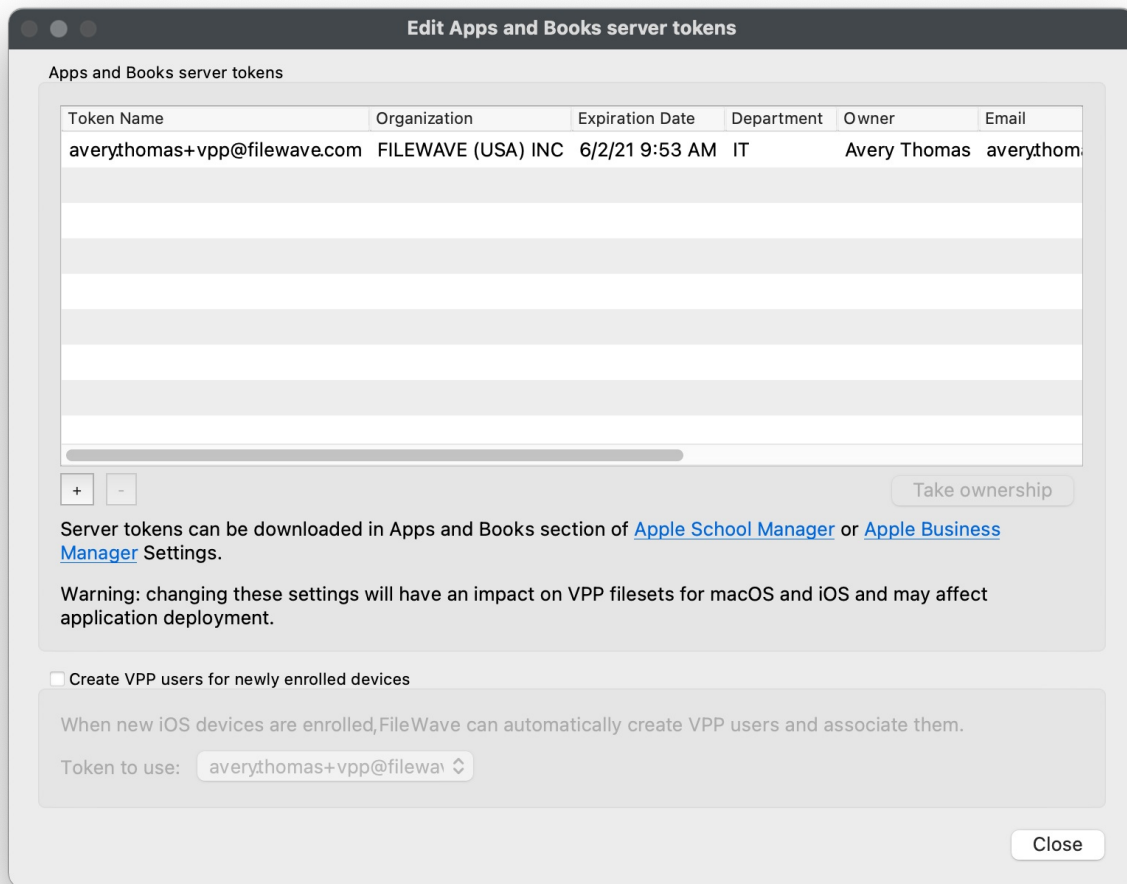Owner: `|`

Owner email:

App Store: `United States` ⇕   `English` ⇕

Token:

eyJleHBEYXRlIjoiMjAyMi0wMi0yNFQxNToxNDoyOCswMDAwIiwidG9rZW4i
OiJrOHUvZHgvTndqeEk0TWlyZ0tQa2a2NNNnBDd0ltR1o0bmc0UUNocnhVdW
VPS0xkdnRvOVk2cWlxLzddQL3U4RitYZkttUGNkaU4rVytXTThrRjBHVUhFdk
hiZGQyT2JISXZqSEZFRlpwOWhrSHEzOC9aMW9iMWVOdTZ1a3FYZGo3Y2Z
HeGdKNnYvKzVYZ1FlVkxEc1XXXHc9PSIslm9yZ05hbWUiOiJGaWxlV2F2ZSA
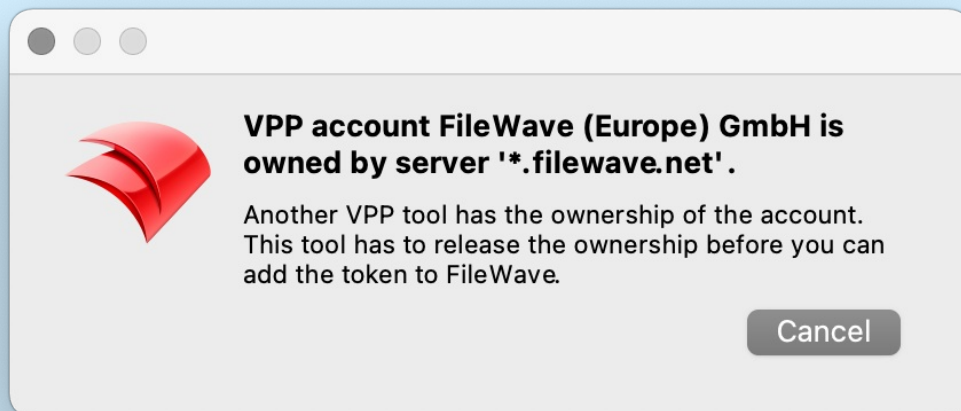oRXVyb3BlKSBHbWJJIln0=

Import...

Auto create filesets

When filesets are created in License Management, they will be added to the following group:

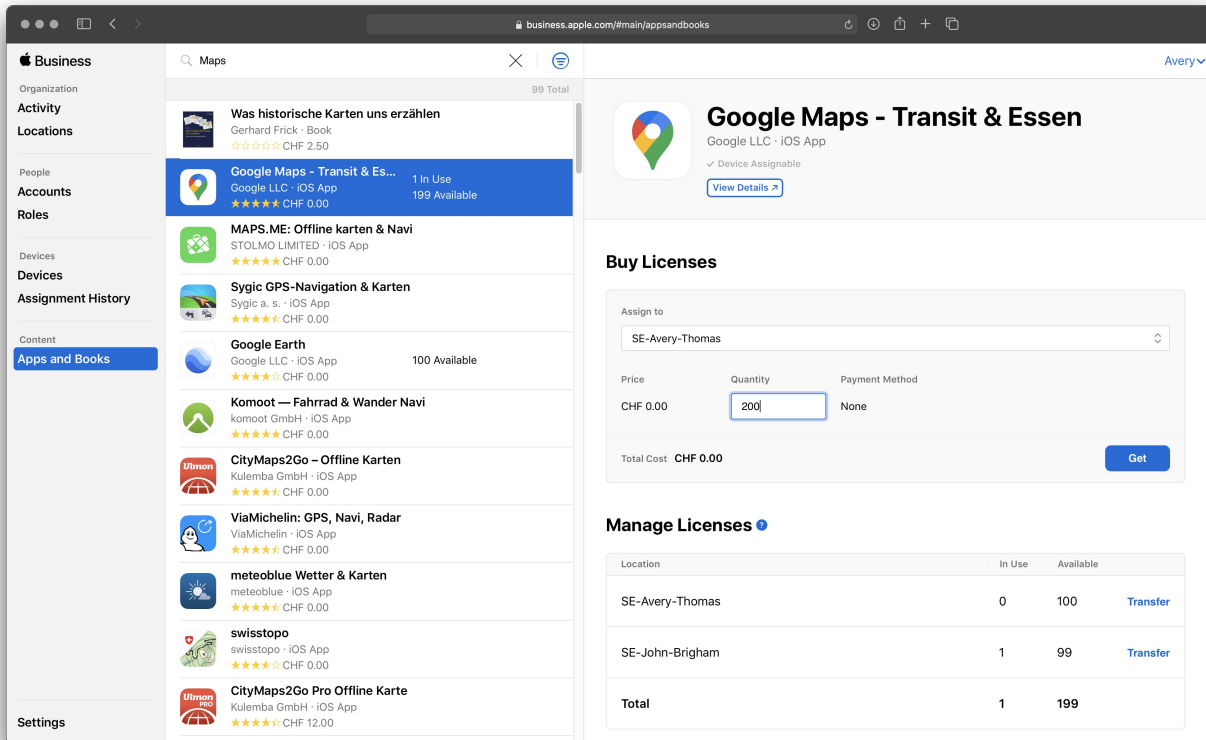`(Root)`   Choose...   Reset to defaults

Cancel   Save

VPP Ownership

If you receive a message about the VPP Token being owned by another VPP tool, please inform your FileWave SE and they can assist in taking ownership of the VPP Token. Taking ownership of the VPP Token will result in the revoking of any previously deployed VPP licenses from another MDM so please proceed with caution. If you want to avoid licenses being revoked, please create a new "Location" within ASM/ABM and purchase new license or assign existing license to the new "Location".

Purchase VPP Licenses from ASM/ABM

Please consult Apple School Manager User Guide or Apple Business Manager User Guide for more in-depth information regarding purchasing Apps and Books.
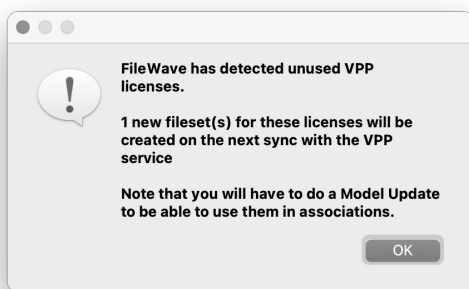
1. Log into Apple School Manager (ASM) or Apple Business Manager (ABM) using your organization's Administrator or Content Manager account.
2. Select "Apps and Books" from the left pane.
3. Search for the application name you wish to purchase and verify its intended platform (iOS App vs. macOS App).
4. Select the desired "Location" from the "Assign to" drop-down menu.
5. Specify the quantity of licenses you'd like to purchase.
   1. Please enter a reasonable amount of licenses to cover your future device population but not too many (100,000+) as it may slow down the VPP sync process.
6. Click "Get" button to complete your purchase.
7. Licenses will usually be available within 5 minutes of purchase and you will be emailed by Apple when your licenses are available.

Sync VPP Licenses into FileWave

Now that we have at least one VPP Token imported into FileWave and licenses purchased, we can sync VPP within FileWave and automatically create Filesets for each VPP application.

1.

   Open FileWave Admin and navigate to "License Management" from the left pane.
2. Click the "Synchronize VPP" button in the black menu bar.
   - FileWave syncs with VPP automatically every 5 minutes but this will force a VPP synchronization and "Refreshes" the view.
3. You should receive a pop up message asking if you'd like to automatically create Filesets for your VPP applications. Click

"OK".

4. You should now see the VPP License information in the "License Management" section and a new Fileset in the "Filesets" section.
   - If you'd like to change where the VPP Filesets are imported to, please refer to this section of "Software Group Structure".

FileWave Admin

Update Model | New License | New License from Fileset | Edit License | Refresh | Duplicate | Create Fileset | Synchronize VPP | Delete

License Management

- Dashboard — 2
- Clients
- Filesets
- Associations
- Imaging
- Classroom
- iOS Inventory
- License Management — 1
- Boosters
- Inventory Queries
  - Sample Queries
  - Demo

Licenses ☐ Requiring Attention   Total number of license definitions:51   Search licenses...

Name	Installed	Owned	Reserved	Compliance Status	Platform	Token Name
Pimple Popper Lite	5	10		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – Pimple Popper Lite	5		10			
NC K-3 Formative Assessment Process Evidence	5	10		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App - NC K-3 Formative Assessment Process Evidence	5		10			
Subway Surfers	0	50		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – Subway Surfers	0		50			
Barbie Magical Fashion – Dress Up	0	50		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – Barbie Magical Fashion – Dress Up	0		50			
YouTube – Watch Videos,Music,and Live Streams	5	20		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – YouTube - Watch Videos,Music,and Live Streams	5		20			
Nick Jr.Books – Read Interactive eBooks for Kids	0	50		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – Nick Jr.Books – Read Interactive eBooks for Kids	0		50			
ZOOM Cloud Meetings	5	100		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – ZOOM Cloud Meetings	5		100			
Draw Something Classic	0	10		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App - Draw Something Classic	0		10			
Littlest Pet Shop	0	50		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App - Littlest Pet Shop	0		50			
Managed View	5	100		License Compliant	iOS (VPP)	averythomas+vpp@filewave.com
IOS App – Managed View	5		100			
Google Maps - Transit & Food	0	100		License Compliant	iOS (VPP)	Euro ABM VPP
IOS App – Google Maps - Transit & Food	0		None (dyna...			
Duolingo - Language Lessons	5	100		License Compliant	iOS (VPP)	Euro ABM VPP
IOS App – Duolingo - Language Lessons	5		None (dyna...			
Google Earth	5	100		License Compliant	iOS (VPP)	Euro ABM VPP
IOS App – Google Earth	5		None (dyna...			
Wikipedia	0	100		License Compliant	iOS (VPP)	Euro ABM VPP
IOS App – Wikipedia	0		None (dyna...			
How to Be Free	1	20		License Compliant	Book (VPP)	averythomas+vpp@filewave.com
App Store Book - How to Be Free	0		None (dyna...			
A Good Car	0	20		License Compliant	Book (VPP)	averythomas+vpp@filewave.com
App Store Book - A Good Car	0		20			
Cats	1	20		License Compliant	Book (VPP)	averythomas+vpp@filewave.com
App Store Book - Cats	0		19			

Everything is OK   Licenses Used/Total: Computers 26/50000,Mobile 8/50000,Chromebooks 6/50,Model Number: 1800

FileWave Admin

Update Model | New Desktop Fileset | New Fileset Group | New Mobile Fileset | New Imaging Fileset | New Association | Export | Report | Properties | Scripts | Take Control | Tools | Delete

381 Filesets, 45 Fileset Groups   Filter Filesets

- Dashboard — 2
- Clients
- Filesets
- Associations
- Imaging
- Classroom
- iOS Inventory
- License Management — 1
- Boosters
- Inventory Queries
  - Sample Queries
  - Demo

Name	Size	Version	Files	Modified	ID	Default Revision
iOS					342	
iOS – Books					16092	
iOS – Profiles					352	
iOS – Restricted Use					17852	
iOS – VPP					343	
App Store Book – How to Be Free			1		143655	Initial Revision
IOS App – Best vpn proxy Betternet - unlimited VPN security			4		16074	Initial Revision
IOS App – Best vpn proxy Betternet - unlimited VPN security 1			1		142382	Initial Revision
IOS App – CNN: Breaking US & World News,Live Video			2		16055	Initial Revision
iOS App – Duolingo - Language Lessons			1		199530	Initial Revision
IOS App – Evernote - stay organized			2		16069	Initial Revision
IOS App – Evernote - stay organized 1			1		142496	Initial Revision
IOS App – Google Chrome – The Fast and Secure Web Browser			4		16049	Initial Revision
iOS App – Google Earth			1		199529	Initial Revision
IOS App – Google Maps - Navigation & Transit			1		16058	Initial Revision
iOS App – Google Maps - Transit & Food			1		199531	Initial Revision
IOS App – HBO GO			2		16064	Initial Revision
IOS App – Instapics for Instagram			1		16050	Initial Revision
IOS App – Kids A-Z			1		16051	Initial Revision
IOS App – Kids A-Z 1			1		72004	Initial Revision
IOS App – Managed View			4		105890	Initial Revision
IOS App – NC K-3 Formative Assessment Process Evidence			1		16085	Initial Revision
IOS App – Netflix			1		16065	Initial Revision
IOS App – Pimple Popper Lite			1		16084	Initial Revision
IOS App – Showtime Anytime			1		16081	Initial Revision
IOS App – Smashy Road: Wanted			1		16054	Initial Revision
IOS App – Snapchat			1		16060	Initial Revision
IOS App – Solitaire			1		16052	Initial Revision
IOS App – TestNav			1		16061	Initial Revision
iOS App – Wikipedia			0	Modified	199599	Initial Revision
IOS App – YouTube - Watch Videos,Music,and Live Streams			1		16088	Initial Revision
IOS App – ZOOM Cloud Meetings			3		16090	Initial Revision
macOS					341	
SuperPrefs					17668	
Testing					48711	

Everything is OK   Licenses Used/Total: Computers 26/50000,Mobile 8/50000,Chromebooks 6/50,Model Number: 1800

Enrollment Credentials

If you choose, you can prompt the user to authenticate the enrollment with a generic account name and password or with your AD/Okta/Google Credentials. You can also turn off authentication completely if you want a more streamlined process.

- Okta Credentials:<u>IdP Setup: Okta</u>
- Google Credentials:<u>IdP Setup: Google</u>
- Microsoft Entra AD: <u>IdP Setup: Microsoft Entra ID</u>
- LDAP Credentials: <u>Using LDAP to enroll macOS/iOS/Android devices</u>

Generic Username/Password:

1. From the server type one of the following, depending on your enrollment strategy:
   Manual Enrollment(OTA)
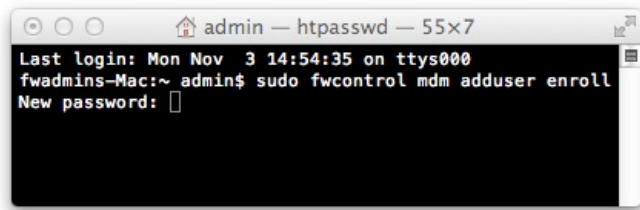
   ```
   sudo fwcontrol mdm adduser [name]
   ```

   Device Enrollment Program (DEP):

   ```
   sudo fwcontrol mdm adddepuser [name]
   ```

   Where [name] is the name of the account
2. Enter your server's root password
3. Enter a password for this account

```
Last login: Mon Nov  3 14:54:35 on ttys000
fwadmins-Mac:~ admin$ sudo fwcontrol mdm adduser enroll
New password:
```

No Authentication:

1. From the server type the following:

   ```
   cp /usr/local/filewave/apache/conf/mdm_auth.conf.example_no_auth
   /usr/local/filewave/apache/conf/mdm_auth.conf
   ```

2. When asked to overwrite the original, enter 'y' for yes
3. Restart the apache service to put the new configuration into place

   ```
   /usr/local/filewave/apache/bin/apachectl graceful
   ```