

Integration with Apple Configurator 2

VMware Workspace ONE UEM

You can find the most up-to-date technical documentation on the VMware website at:

<https://docs.vmware.com/>

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Introduction to Apple Configurator 2

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Workspace ONE UEM powered by AirWatch integrates with Apple Configurator to enable you to supervise and manage scaled deployments of Apple iOS devices.

Administrators can create configuration profiles, import existing profiles from the iPhone Configuration Utility, install specific operating system versions and enforce iOS device security policies.

Install and run Apple Configurator 2 from a macOS laptop to integrate with the Workspace ONE UEM console to supervise and configure one or many devices at the same time.

- Install the Workspace ONE UEM MDM profile as part of the configuration to enroll devices silently.
- Supervise dedicated line-of-business devices that are shared among different users.
- Create configuration profiles to change device settings for Wi-Fi networks, preconfigure mail and Microsoft Exchange settings, and more.
- Distribute public apps without entering an Apple ID on the device using Configurator.
- Create blueprints to automate device management. Use blueprints as templates to configure profiles and application and push them quickly to devices
- Add Supervision to devices and take advantage of even more management capabilities including showing or hiding applications, modifying the device name, wall paper, passcodes, keyboard short cuts and more.
- Back up user settings and app data, including new user-created data using Configurator.

Apple Configurator 2 also works with Apple's Device Enrollment Program (DEP) to automate Mobile Device Management (MDM) enrollment and the Volume Purchase Program (VPP) by assigning managed licenses apps to devices.

Apple Configurator 2 Integration Requirements

Before you start the integration process, make sure you have all the required components mentioned in this section.

- A Basic or Directory user account with staging settings enabled if you are staging devices for end users.

- A macOS computer, which will be used to connect to iOS devices using Apple Configurator 2 running macOS EL Capitan or later and iTunes 12.3 or later.
- The latest version of Apple Configurator 2 available in the App Store and access to the Workspace ONE UEM console.

These instructions are based on the use of Apple Configurator 2 version 2.2.1. Any other versions of the software may function differently.

Important Integration with any third-party software product is not guaranteed, and is dependent upon the proper functioning of those third-party solutions.

- iOS devices including iPad, iPhone, iPod touch, Apple TV (2nd generation or later)
- USB cable or USB 2.0 or high speed hubs or carts to connect devices

Supervised Devices and MDM

Once a device is supervised and enrolled in Workspace ONE UEM, you can use some of the enhanced features available for configuration when compared to normal device.

Benefits of Supervised Mode

Following are the enhanced features available for configuration:

Enhanced Security

- **Elevated Restrictions over MDM**
 - Prevent User from Removing Applications. Removing applications can also be restricted locally on the device using restrictions under System Configuration.
 - Prevent AirDrop.
 - Prevent users from modifying iCloud and Mail account settings which prevents account modification.
 - Deactivate iMessage.
 - Set iBookstore Content rating restrictions.
 - Deactivate Game Center and iBookstore.
- **Enhanced Security**
 - Prevent end users from visiting websites with adult content in Safari.
 - Restrict which devices can connect to specified AirPlay destinations, such as Apple TVs.
 - Prevent the installation of certificates or unmanaged configuration profiles.
 - Force all device network traffic through a global HTTP proxy.
- **Kiosk Mode**
 - Lock down devices to one app with single app mode and deactivate the home button.
- **Customize Wallpaper and Text on Device**

■ **Enable or Clear Activation Lock**

For a complete list of features and functionality available to supervised and unsupervised devices, refer to the *iOS Functionality Matrix: Supervised vs. Unsupervised*.

Apple Configurator 2 with the Device Enrollment Program

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You may optionally use Apple Configurator 2 in conjunction with the Apple's Device Enrollment Program.

Use both of these deployment programs together to automate device enrollment, add Supervision, prevent the removal of an MDM profile, and to add supervised identities to devices.

Supervised Identities for Configurator 2 Devices

Apple Configurator 2 allows you to supervise devices and pair them with other Apple Configurator 2 workstations.

Each workstation must also have a matching supervision identity for authentication. The identity is applied to devices when enrolled using a DEP profile or paired with an Apple Configurator 2 workstation. If the wrong identity is applied to a device, the device must be device wiped to change the identity

Create a Supervision Identity for Apple Configurator 2.

Create a supervision identity to add your organization's information to devices so that it will appear for users. Then, add supervision identities to other Apple Configurator 2 workstations to securely configure devices.

- 1 Navigate to **Apple Configurator 2 > Preferences**.
- 2 Select **Organizations**.
- 3 Select the **+** action button.
- 4 Follow the prompts to create a new supervision identity. Select **Done**.
- 5 Enter credentials and select **Update Settings**.
- 6 Select the **gear** button in the **Organizations** window.
- 7 Select **Export Supervision Identity** and choose where to save it. Select **Save**.
- 8 Add a **Password** to the identity.

This .p12 file will be uploaded to the UEM console when creating a Device Enrollment Program profile.

Automated and Manual Enrollment for Apple Configurator

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Configure devices to allow for automatic enrollment using Apple's Device Enrollment Program (DEP).

Automated Enrollment for Apple Configurator

Overview

Before beginning, ensure that you uploaded a supervised identity when setting up DEP. Then, navigate to Apple Configurator 2 on your desktop and create a Wi-Fi configuration profile for your organization's network and a blueprint with MDM information and a supervised identity attached. For more information on Wi-Fi profiles and blueprints, see the Apple [Configurator 2](#) help documentation.

Use functionality in Apple Configurator 2 to create a Wi-Fi profile and apply a blueprint that allows devices to automatically enroll with the UEM console.

- 1 Navigate to **File > New Profile** in Apple Configurator 2.
- 2 Select **Wi-Fi > Configure** and enter the profile information. Optionally, choose to sign the profile. Then save the profile configuration.
- 3 Navigate to **Blueprints > Edit Blueprints > New** to prepare a blueprint to apply to the profile.
- 4 Select the blueprint and select **Prepare**.
- 5 Choose **Automated Enrollment** from the Configuration drop-down menu. Select **Next**.
- 6 **Choose** the configuration profile that you just created. Select **Next**.
 - a If required, enter the credentials for the MDM server if Authentication was turned on when configuring a Device Enrollment Program profile.
- 7 Select **Prepare**.
- 8 Navigate to the device browser and select a device or device group.
- 9 Select **Actions > Apply** and choose the blueprint needed for enrollment.

All blueprint actions and profiles are pushed to devices.

Apple Configurator Manual Enrollment

Manual Enrollment refers to the process of manually creating user accounts and user groups for each of your organization's users. If your organization is not integrating Workspace ONE UEM with a directory service, this is how you create user accounts.

Set up manual enrollment through an *Prepare a Blueprint to Enroll with an MDM Profile* or *Prepare a Blueprint to Enroll with an Enrollment URL*. You can save time and effort of uploading individual user account details filling out and uploading CSV (comma-separated values) template files that contain all user information through the batch import feature.

Generate the MDM Enrollment Profile or Enrollment URL for Apple Configurator Enrollments

Create an enrollment profile for the desired organization group in the UEM console.

The enrollment profile contains MDM enrollment settings along with a certificate that uniquely identifies the MDM server URL, group ID, and username to assign to the device.

- 1 Navigate to **Devices > Device Settings > Devices & Users > Apple > Automated Enrollment**.
- 2 Select **Enable Automated Enrollment**.

You may need to **Override** the current organization group to do this.

- 3 Select the **Platform** for staging.
- 4 Select the appropriate **Staging Mode** depending on how the device is going to be used. Pre-register devices by selecting **None** or **Single User** mode to pre-assign an end user to each device.

If you do not register any devices, the enrollment user is dependent on the Staging Mode selected.

- **None** – Does not stage device for other users. For non-registered devices, all devices will be enrolled under the Default Enrollment User. In this case, only non-staging users are available as default staging user options.

Important If you do not pre-register your devices and select **None** and specify a default enrollment user, then all devices that receive the .mobileconfig file will be enrolled to that user. To ensure devices are enrolled to distinct users, pre-register them to specific users or create a staging user account and select **Single User** as your **Staging Mode**.

- **Single User** – Stages device for a single, known or unknown user. Only staging users are available as Default Enrollment User options. When end users open the Workspace ONE Intelligent Hub, they must enter credentials to fully enroll the staged device. At that time, the device details will update in the UEM console and the device is associated with that end user.

- **Multi User** – Places device into Shared Device Mode. This stages the device for multiple, known or unknown users. Only staging users are available as Default Enrollment User options. When end users open the Workspace ONE Intelligent Hub, they must enter credentials to check out the device for use.
- 5 Select **Copy** and follow the prompt to copy the **MDM Server URL**. Save this information so you can paste into an Apple Configurator 2 blueprint later.

Alternatively, select **Export** to save a **.mobileconfig** file that includes the name of the organization group.
 - If you performed this step on a macOS computer, note that your macOS device may display a System Preferences window asking you to install the profile. Select **Cancel**.
 - If you performed this step on a Windows PC, then transfer the file to the macOS computer that is running Apple Configurator 2.
 - 6 Select **Save and Copy URL** to save the staging settings.

Prepare a Blueprint to Enroll with an MDM Profile

Use Apple Configurator 2 on the staging macOS computer to manually prepare devices.

This workflow allows you to enroll devices, add supervision and choose what screens are seen during device's Setup Assistant.

- 1 Navigate to **File > New Profile** in Apple Configurator 2.
- 2 Select **Wi-Fi > Configure** and enter the profile information. Optionally, choose to sign the profile. Then save the profile configuration.
- 3 Navigate to **Blueprints > Edit Blueprints > New** to prepare a blueprint to apply to the profile.
- 4 **Name**
- 5 Select the blueprint and select **Prepare**.
- 6 Choose **Manual** as the enrollment type. Select **Next**.
- 7 Select **Do not enroll in MDM**. Select **Next**.
- 8 Choose the **Server** for device management.
- 9 Select **Supervision** to the management capabilities.
- 10 Select whether to **Allow devices to connect to other computers**. Select **Next**.
- 11 Choose the **Organization** to assign devices. Select **Next**.
- 12 Configure the **iOS Setup Assistant** steps by selecting which screens are available to the end user.
- 13 Select **Prepare**.
- 14 Select **Add > Profiles** in the Apple Configurator 2 window.
- 15 Choose the Wi-Fi profile that you created earlier and add it to the blueprint.

What to do next

Next, deploy this blueprint using the steps found in *Deploy Enrollment Profiles for Apple Configurator 2 Enrollments*.

Then Add an Enroll Blueprint with *Add an Enroll Blueprint to Enroll with an MDM Profile*.

Add an Enroll Blueprint to Enroll with an MDM Profile .

This is the second step to enrolling with an MDM profile through Apple Configurator 2.

Create an Enroll blueprint in addition to the Prepare blueprint you created earlier and push these two blueprints to devices together

- 1 Navigate to **Blueprints > Edit Blueprints > New** to prepare a blueprint to apply to the profile.
- 2 **Name**this blueprint Enroll.
- 3 Select the blueprint and select **Add > Profiles**.
- 4 Choose the .mobileconfig profile that you created in the UEM console and add it to the blueprint.

Do not prepare the blueprint.

What to do next

Deploy the enrollment profiles using *Deploy Enrollment Profiles for Apple Configurator 2 Enrollments*.

Prepare the blueprint to enroll with an MDM profile, using *Prepare a Blueprint to Enroll with an MDM Profile*..

Prepare a Blueprint to Enroll with an Enrollment URL

Configure devices so that users can enroll directly in to an organization group instead of adding an MDM profile to the device.

- 1 Navigate to **Blueprints > Edit Blueprints > New** to prepare a blueprint to apply to the profile.
- 2 Select the blueprint and select **Prepare**.
- 3 Name the blueprint Enroll.
- 4 Choose **Manual** as the enrollment type. Select **Next**.
- 5 Choose **New Server** from the drop-down menu. Select **Next**.
- 6 Enter the **Name** of the new server.
- 7 Paste the enrollment **URL** that was generated in the UEM console into the text box.
- 8 Add the anchor certificates as required.
- 9 Select **supervision** to the management capabilities.
- 10 Select whether to **Allow devices to connect to other computers**. Select **Next**.
- 11 Choose the **Organization** to assign devices. Select **Next**.

- 12 Configure the **iOS Setup Assistant** steps by selecting which screens are available to the end user.
- 13 Select **Prepare**.
- 14 Select **Add > Profiles** in the Apple Configurator 2 window.
- 15 Choose the Wi-Fi profile that you created earlier and add it to the blueprint.

What to do next:

Add an Enroll blueprint using *Add an Enroll Blueprint to Enroll with an MDM Profile*.

Deploy Enrollment Profiles for Apple Configurator 2 Enrollments

Configure device for enrollment by deploying profiles to devices.

Configure devices with an enrollment profile by pushing both the Prepare and Enroll blueprint, or, configure devices to enroll through a URL by pushing the Enroll blueprint that was set up with an enrollment URL.

- 1 Connect iOS devices to the macOS staging computer using USB.
The number of devices attached to staging computer appears in a badge.
- 2 Navigate to the device browser and select a device or device group.
- 3 Select **Actions > Apply** and choose the **Prepare** blueprint.
- 4 If you are configuring devices with an enrollment profile, repeat the previous step and choose the **Enroll** blueprint.

The devices are configured with settings from the **Prepare** blueprint and enrolled using the profile added to the **Enroll** blueprint.

Apple Configurator Device Enrollment

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Once you have selected and set up your device enrollment method, you can begin enrolling devices.

- 1 Push the Workspace ONE Intelligent Hub to devices using Enrollment.
For more information, see *Workspace ONE Intelligent Hub Enrollment in this guide*.
- 2 Enroll devices into Workspace ONE UEM using Apple Configurator end user device enrollment.
For more information, see *Apple Configurator End User Device Enrollment*.
- 3 Verify Configurator 2 device enrollment into Workspace ONE UEM.
For more information, see *Verify Configurator 2 Device Enrollment into Workspace ONE UEM*.
- 4 Remove supervision from a Configurator 2 device. For more information, see *Remove Supervision from a Configurator 2 Device*.
- 5 Upload a signed profile to the Workspace ONE UEM console.

Workspace ONE Intelligent Hub Enrollment

After you configure devices for enrollment either with an MDM profile or URL, any profiles, apps, or other settings you configured in the UEM console need to be pushed using the UEM console so they are assigned to the staging user.

At a minimum, push the Workspace ONE Intelligent Hub as a public, managed application from the UEM console, so that end users can enroll their devices when ready.

Apple Configurator End User Device Enrollment

After installing the Workspace ONE Intelligent Hub, end users can enroll into Workspace ONE UEM depending on the staging method you selected earlier.

Following are the possibilities for end users to enroll into Workspace ONE UEM:

- If you preregistered the device, then it should be automatically assigned to the user it is associated with in the UEM console.

- If you selected **None** as the staging mode, the device is already enrolled to the Default Enrollment User you selected.
- If you did not preregister devices and opted for **Single User Staging**, then users are prompted to enter their credentials when they enroll using the Workspace ONE Intelligent Hub.
- If you selected **Multi User Staging**, then the device will launch into Shared Device mode, where end users can enter their credentials to check the device out.

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- If you did not preregister devices and opted for **Single User Staging**, then users are prompted to enter their credentials when they enroll using the Workspace ONE Intelligent Hub.
- If you selected **Multi User Staging**, then the device will launch into Shared Device mode, where end users can enter their credentials to check the device out.

Verify Configurator 2 Device Enrollment into Workspace ONE UEM

Once the devices are either prepared or supervised using Apple Configurator 2, you can view all enrolled devices in the UEM console.

Once the devices populate, administrators can manage and deploy updates and apps to all the devices using Workspace ONE UEM.

Remove Supervision from a Configurator 2 Device

According to Apple's Configurator 2 documentation, you can remove the Supervised status of a device, but doing so erases all content and settings, including apps and media.

If you want to preserve the data on the device, you should make a backup of it first. Note that a backup of a supervised device can be restored only to another supervised device.

To remove supervision from a device, open Configurator 2, select the device, and then select **Actions > Advanced > Erase all content and settings**. This will remove the supervision and reset the device to the default factory settings.

iOS Functionality Matrix: Supervised vs. Unsupervised

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The following table shows all the available iOS profile functionality that you can control using the UEM console and the minimum iOS version that applies.

Features and Functionality	Does Not Require Supervision	Requires Supervision	OS Notes
Passcode			
Passcode settings	✓		-
Wi-Fi			
Wi-Fi settings	✓		-
Auto-Join	✓		iOS 7
Wi-Fi Hotspot 2.0 settings	✓		iOS 7
Proxy settings	✓		iOS 7
QOS Marking Policy	✓		iOS 10
VPN			
VPN settings	✓		-
Per-App VPN	✓		iOS 7
Connect automatically	✓		iOS 7
Email			
Email settings	✓		-
Prevent Moving Messages	✓		iOS 7
Disable recent contact sync	✓		iOS 7
Prevent Use In 3rd Party Apps	✓		iOS 7
Use S/MIME	✓		iOS 7
Exchange ActiveSync			
EAS settings	✓		-

Features and Functionality	Does Not Require Supervision	Requires Supervision	OS Notes
Use S/MIME	✓		iOS 7
Per-Message S/MIME	✓		iOS 8
Prevent Moving Messages	✓		iOS 7
Prevent Use In 3rd Party Apps	✓		iOS 7
Disable recent contact sync	✓		iOS 7
Prevent Mail Drop	✓		iOS 9
Default Calling App	✓		iOS 10
LDAP			
LDAP settings	✓		-
CalDAV			
CalDAV settings	✓		-
Subscribed Calendars			
Subscribed Calendar settings	✓		-
CardDAV			
CardDAV settings	✓		-
Web Clips			
Web Clip settings	✓		-
Credentials			
Credentials certificate settings	✓		-
SCEP			
SCEP settings for certificate authority	✓		-
Global HTTP Proxy			
Global HTTP Proxy settings		✓	iOS 7
Single App Mode			
Single App Mode – Lock device into a single app		✓	iOS 7
Optional settings for "Lock device into a single app"		✓	iOS 7
Autonomous single app mode		✓	iOS 7
Web Content Filter			

Features and Functionality	Does Not Require Supervision	Requires Supervision	OS Notes
Web Content Filter settings (Allowlist, Denylist, Permitted URLs)		✓	iOS 7
Web Content Filtering with 3rd Party Provider		✓	iOS 8
Managed Domains			
Managed Email Domains	✓		iOS 8
Managed Web Domains	✓		iOS 8
Managed Safari Password Domains	✓		iOS 9.3
Network Usage Rules			
Network Usage Rules	✓		iOS 9
macOS Server Accounts			
macOS Server Accounts	✓		iOS 9
Single Sign On			
Single Sign On settings with Kerberos authentication	✓		iOS 7
Single Sign On settings with Renewal certificates	✓		iOS 8
AirPrint			
AirPrint destination settings	✓		iOS 7
AirPlay Mirroring			
AirPlay Destination settings (Allowlist)		✓	iOS 7
AirPlay Passwords	✓		
Access Point			
Advanced Access Point settings	✓		
App Installation Settings			
Silent App Installation		✓ +VPP	
Control Cellular Settings			
Voice Roaming	✓	✓	iOS 7
Data Roaming	✓	✓	iOS 7
Personal Hotspot	✓	✓	iOS 7
Wallpaper Settings			

Features and Functionality	Does Not Require Supervision	Requires Supervision	OS Notes
Set Lock Screen Image		✓	iOS 7
Set Lock Screen Message		✓	iOS 9.3+
Set Home Screen Image		✓	iOS 7
Set Home Screen Layout		✓	iOS 9.3+
Notifications			
Notification settings		✓	iOS 9.3+
Queries and Commands			
Supervised status	✓		iOS 7
Personal Hotspot status	✓		iOS 7
Clear Activation Lock		✓	iOS 7
Clear Restrictions Passcode		✓	iOS 8
Configure iOS Updates		✓	iOS 9 Prior to iOS 10.3, DEP is also required
Delay iOS Updates		✓	iOS 11.3+
Custom Fonts and Messaging			
Custom Font Installation	✓		iOS 7
Custom Enrollment Messages	✓		iOS 7
Custom MDM Prompts	✓		iOS 7
Activation Lock Warning	✓		iOS 7

Supervise Devices with Configurator 1

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Learn how to supervise devices with Apple Configurator 1.

Procedure

- 1 Launch Apple Configurator on the staging Mac and select **Prepare** in the row of icons on top of the Apple Configurator window. The number of devices attached to the staging computer appears in a badge.
- 2 Configure **Settings**:
 - a **Name** – Choose a naming scheme for the device(s). Enable a sequential number to the name(s) of the device(s) by selecting the checkbox. If you do not want to start at 1, enter a new number in the Name field and then select the checkbox for an updated count.
 - b **Supervision** – Toggle this switch to **On** to supervise devices for added MDM functionality. Optionally select whether to **Allow devices to connect to other Macs**.
 - c **Organization Info...** – Write a brief description of the organization's information to be displayed on the device. For example, if you enter "Workspace ONE UEM" as the Name then the device will display "This iPad/iPhone is supervised by "Workspace ONE UEM" in device settings after configuration.
 - d **Update iOS** – This option will be grayed out when initially supervising devices.
 - e **Restore** – **Don't restore backup** is selected by default. If you have existing backups, select **Edit Stored Backup** to select an existing device backup to restore to.

If you choose **Don't Restore Backup** when you are preparing supervised devices, the device is erased. A backup image must be restored or the device must enable Apple Configurator-based enrollment and supervision.
- 3 Configure a Wi-Fi profile to enable Internet connectivity and allow the device to enroll into Workspace ONE UEM. In the **Profiles** section, select the **Add** icon (+) and then select **Create New Profile**. Proceed through the setup assistant, then select or create a new Wi-Fi profile.

If creating a new Wi-Fi profile, enter General settings, followed by your Wi-Fi network settings to allow the device to connect to your Wi-Fi network and save to create a new profile.

Ensure the Wi-Fi profile is checked in the **Profiles** section.

- 4 Select the **Setup** tab to configure options related to how the device is booted. Choose the screens you want to skip during the Setup Assistant when the device is booted.
- 5 Next, select the **Device Enrollment** payload. A dialog displays with a field for your **MDM Server URL**. Paste the URL you copied from the UEM console.

(If you need to copy this URL, you can navigate to **Devices > Device Settings > Devices & Users > Apple > Apple Configurator** in the UEM console and select **Copy** next to the MDM Server URL field.)
- 6 Select **Save**.
- 7 Connect the device to the Mac with Apple Configurator using a USB cord, or to provision many devices simultaneously, connect with a USB hub or iOS device cart.
- 8 Select the **Prepare** icon at the bottom of the Apple Configurator window to start configuration. This may take several minutes. You can track the progress of each step within Apple Configurator.
- 9 When the process completes, the device will display the Welcome message, indicating you can complete the Getting Started steps. Continue through the setup process, which will include connecting to the Wi-Fi network you configured previously, and be sure to select **Apply Configuration** when prompted.
- 10 Verify the device is Supervised by navigating to the **General** tab within device settings. You should see a message similar to the one below:
- 11 If you pushed the Workspace ONE Intelligent Hub as a public app, then it should begin to download and install on the device in a few moments.