# Deploying iOS Devices Using Apple Configurator 2 and Jamf Pro

Technical Paper
Jamf Pro 10.4.0 or Later
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# Contents

# Introduction

## What's in This Guide

This guide provides step-by-step instructions for deploying iOS devices using Apple Configurator 2 and Jamf Pro (formerly the Casper Suite).

## Additional Resources

- Use Device Enrollment
  Decide whether to use Apple Configurator 2 or Apple Deployment Programs to deploy iOS or macOS devices in education and business environments.

- Apple Configurator 2 Help
  Access the Apple Configurator 2 help documentation.

- *Jamf Pro Administrator's Guide*
  Find more instructions related to enrollment, configuration, security management, and distribution with Jamf Pro.

# Choosing a Deployment Method

Use one of the following deployment methods that best suits your organization:

- [Automated enrollment](#)—This method uses a PreStage enrollment to enroll devices with Jamf Pro (formerly the Jamf Software Server), supervise them, and configure device setup. First, a PreStage enrollment is created in Jamf Pro and then a blueprint is created in Apple Configurator 2. The blueprint is then applied to devices, which connects the devices to a Wi-Fi network and applies the settings in the PreStage.
  This method also allows you to apply a supervision identity to devices as they are enrolled with Jamf Pro. This is done by associating a supervision identity with the DEP instance that is configured in the PreStage.
  **Note**: To use this method, your organization needs to be enrolled in Apple's Device Enrollment Program (DEP) or Apple School Manager (ASM).

- [Manual enrollment with an enrollment URL](#)—With this method, an Apple Configurator 2 blueprint is used to connect devices to an enrollment URL, which enrolls the devices with Jamf Pro. The blueprint is also used to supervise the devices, configure device settings, and apply a supervision identity. To apply the blueprint, devices must be connected to an Apple Configurator 2 workstation with a USB cable.
  **Note**: To use the optional flow in this method and add devices to a remote management instance, your organization needs to be enrolled in Apple's Device Enrollment Program (DEP) or Apple School Manager (ASM).

- [Manual enrollment with an enrollment profile](#)––With this method, an Apple Configurator 2 blueprint is used to apply an enrollment profile to devices, which enrolls the devices with Jamf Pro. The blueprint is also used to supervise the devices, configure device settings, and apply a supervision identity. To apply the blueprint, devices must be connected to an Apple Configurator 2 workstation with a USB cable.
  **Note**: Use this method if your organization does not participate in one of Apple's device enrollment options.

Once devices are enrolled with Jamf Pro, they can be managed remotely using Jamf Pro.

# Supervision Identities

Starting with Apple Configurator 2, supervised devices can be paired with multiple Apple Configurator 2 workstations. To ensure that devices are paired securely, each workstation must have a matching supervision identity and an identity certificate (.p12 file) with a private key. The identity is applied to devices when enrolled using a PreStage enrollment or paired with an Apple Configurator 2 workstation. If the wrong identity is applied to a device, the device must be wiped, re-supervised, and re-enrolled to change the identity.

Supervision identities can be created in Apple Configurator 2 or Jamf Pro. If the identity you want to use is already in Apple Configurator 2, you can use it with any of the workflows explained in this paper. Otherwise, you can use Jamf Pro to create a new supervision identity that can be downloaded as an identity certificate and private key.

For more information about supervision identities, see About identities in Apple's Help documentation.

## Use a Supervision Identity from Apple Configurator 2

1. Download the identity from Apple Configurator 2:

   a. Navigate to **Preferences > Organizations** and select the identity.

   b. Click the **Action** pop-up menu (gear icon) and then choose **Export Supervision Identity**.

   c. Enter a password for the identity.
   You will need to enter the password when uploading the identity to Jamf Pro.

   d. Save the identity.
   The identity is saved to the workstation as a .p12 file.

2. Upload the identity to Jamf Pro so it can be accessed from other Apple Configurator 2 workstations.
   See "Uploading a Supervision Identity" on the Supervision Identities page in the *Jamf Pro Administrator's Guide*.

3. From an Apple Configurator 2 workstation, log in to Jamf Pro.

4. Download the supervision identity (.p12).
   See "Downloading a Supervision Identity" on the Supervision Identities page in the *Jamf Pro Administrator's Guide*.

5. Double-click the .p12 file and add it to Keychain Access.

6. Import the identity to Apple Configurator 2 by choosing the identity.
   See Generate or choose a supervision identity in Apple's Help documentation.

   Repeat steps 3–6 on other Apple Configurator 2 workstations.

# Create and Use a Supervision Identity from Jamf Pro

1. Create a supervision identity using Jamf Pro.
   See Supervision Identities in the *Jamf Pro Administrator's Guide*.

2. From an Apple Configurator 2 workstation, log in to Jamf Pro.

3. Download the supervision identity (.p12).
   See "Downloading a Supervision Identity" on the Supervision Identities page in the *Jamf Pro Administrator's Guide*.

4. Double-click the .p12 file and add it to Keychain Access.

5. Import the identity to Apple Configurator 2 by choosing the identity.
   See Generate or choose a supervision identity in Apple's Help documentation.

   Repeat steps 2–5 on other Apple Configurator 2 workstations.

# Automated Enrollment

## Requirements

To deploy devices using automated enrollment, you need:

- Jamf Pro 9.82 or later
- iOS devices supported by Apple Configurator 2
- A Mac with Apple Configurator 2 installed
- Enrollment in Apple's Device Enrollment Program (DEP)

For detailed Apple Configurator 2 requirements, see Requirements in Apple's Help documentation.

## Deploy Devices Using Automated Enrollment

1. Make sure Jamf Pro is integrated with DEP.
   See Integrating with the Device Enrollment Program in the *Jamf Pro Administrator's Guide*.
   To automatically apply a supervision identity as devices are enrolled using a PreStage enrollment,
   make sure a supervision identity is specified for the DEP or ASM instance in the PreStage.
   See "Adding a Supervision Identity to a DEP Instance" on the Supervision Identities page in the *Jamf Pro Administrator's Guide*.

2. Create a PreStage enrollment and add devices to the scope.
   Make sure device supervision is selected in the PreStage. Also, select which steps in the iOS Setup Assistant to skip.
   See Mobile Device PreStage Enrollments in the *Jamf Pro Administrator's Guide*.

3. In Apple Configurator 2, create a Wi-Fi configuration profile.
   See Create and edit configuration profiles in Apple's Help documentation.

4. Create the blueprint that will be used to apply the profile.
   See About Blueprints in Apple's Help documentation.

5. Prepare the blueprint.
   Make sure to select "Automated Enrollment", add the Wi-Fi configuration profile, and provide credentials to Jamf Pro if required in the PreStage enrollment.
   See Prepare devices using automated enrollment in Apple's Help documentation.

6. Apply the blueprint to devices.
   See About Blueprints in Apple's Help documentation.

   The devices connect to the network that is specified in the Wi-Fi configuration profile. Then they are enrolled with Jamf Pro and configured with the settings in the PreStage enrollment.

# Manual Enrollment with an Enrollment URL

## Requirements

To deploy devices using manual enrollment and a static enrollment URL, you need:

- Jamf Pro 9.82 or later
- iOS devices supported by Apple Configurator 2
- A Mac with Apple Configurator 2 installed

To deploy devices using manual enrollment and a dynamic enrollment URL, you need:

- Jamf Pro 9.96 or later
- iOS devices supported by Apple Configurator 2
- A Mac with Apple Configurator 2 installed
- An SMTP server set up in Jamf Pro

For detailed Apple Configurator 2 requirements, see Requirements in Apple's Help documentation.

For information on static and dynamic Apple Configurator 2 enrollment URLs, see Apple Configurator Enrollment Settings in the *Jamf Pro Administrator's Guide*.

Apple Configurator 2.5 or later allows you to add devices with iOS 11 or later to an Apple Device Enrollment Program. For more information, see the "Manually add devices to the Device Enrollment Program (part of Apple School Manager and Apple Deployment Programs)" on the Prepare devices manually page in Apple's Help documentation.

## Deploy Devices Using Manual Enrollment with an Enrollment URL

1. In Jamf Pro, enable the Apple Configurator enrollment method(s) you intend to use.
   See Apple Configurator Enrollment Settings in the *Jamf Pro Administrator's Guide*.

2. If you are enrolling via a dynamic URL, use an enrollment invitation to generate and view the enrollment URL or send it to the person operating the Apple Configurator workstation.
   See "Viewing or Sending a Dynamic Apple Configurator Enrollment URL via a Mobile Device Enrollment Invitation" on the Apple Configurator Enrollment Settings page in the *Jamf Pro Administrator's Guide*.

3. Make sure a supervision identity is in Jamf Pro and on Apple Configurator 2 workstations.

4. In Apple Configurator 2, add the enrollment URL for Jamf Pro to the MDM server preferences.

- If you are enrolling via the static URL, enter the static Apple Configurator enrollment URL for Jamf Pro.
  The static Apple Configurator enrollment URL for Jamf Pro is the URL for Jamf Pro followed by "/configuratorenroll". For example, "https://jss.mycompany.com:8443/configuratorenroll".

- If you are enrolling via dynamic URL, the enrollment URL is available in Jamf Pro or in the email or SMS message sent via the enrollment invitation, depending on whether you chose to view or send the URL.
  See [Mobile device management server preferences](#) in Apple's Help documentation.

5. If users will not connect to a network independently, create a Wi-Fi configuration profile.
   See [Create and edit configuration profiles](#) in Apple's Help documentation.

6. Create a blueprint that will be used to apply the profile and enroll devices with Jamf Pro.
   See [About Blueprints](#) in Apple's Help documentation.

7. Modify the device information for the blueprint if desired.
   See [Modify device information](#) in Apple's Help documentation.

8. Prepare the blueprint:
   See [Prepare devices manually](#) in Apple's Help documentation.

   a. Choose "Manual Configuration" from the **Prepare with** pop-up menu.

   b. (Optional) Select the **Add to Device Enrollment Program** chekbox if you want to manually add to your DEP instance the devices (iOS 11 or later) that were not purchased directly from Apple, an Apple Authorized Reseller, or an authorized cellular carrier. The **Activate and complete enrollment** checkbox is selected by default. Use this setting for an existing device that has a record in, and is managed by, Jamf Pro. When you deselect the checkbox, after the blueprint is applied, the device is left at the Setup Assistant, and the end user needs to complete the enrollment.

   c. Select Jamf Pro as the MDM solution.

   d. (Optional) Sign in to the Device Enrollment Program. Use the Apple ID that allows you to manage devices in your DEP instance.

   e. Choose the supervision identity.

   f. Select which steps in the iOS Setup Assistant to skip.

9. If you created a Wi-Fi profile, add the Wi-Fi profile to the blueprint.
   See [Add or remove configuration profiles](#) in Apple's Help documentation.

10. Connect devices to the Apple Configurator 2 workstation using a USB cable.

11. Apply the blueprint.
    See [About Blueprints](#) in Apple's Help documentation.

    The devices are configured with the settings in the blueprint and enrolled with Jamf Pro.

    **Note**: If you receive the "The cloud configuration server is unavailable or busy. [MCCloudConfigErrorDomain – 0x80EF (33007)]" error message, your device is not eligible to be added to your organization's DEP. For example, the device is already enrolled in a different DEP instance.

# Further Considerations

When you add an iOS device to DEP using Apple Configurator, the end user has a 30-day provisional period to remove the device from enrollment, supervision, and management. The 30-day provisional period begins after the device is activated. During that period, the end user will see a banner on the lock screen notifying them of the updated remote management state and will be able to remove the management profile in **Settings > Device Management > Profile**. After 30 days, opting out of remote management will not be possible.

# Manual Enrollment with an Enrollment Profile

## Requirements

To deploy devices using manual enrollment and an enrollment profile, you need:

- Jamf Pro 9.82 or later
- iOS devices supported by Apple Configurator 2
- A Mac with Apple Configurator 2 installed

For detailed Apple Configurator 2 requirements, see Requirements in Apple's Help documentation.

## Create an Enrollment Profile

1. In Jamf Pro, create an enrollment profile.
   See "Creating an Enrollment Profile for Use with Apple Configurator" on the Enrollment Profiles page in the *Jamf Pro Administrator's Guide*.

2. Download the trust profile (`Trust Profile.mobileconfig`) from Jamf Pro.
   See "Downloading the Trust Profile" on the Enrollment Profiles page in the *Jamf Pro Administrator's Guide*.

3. Download the enrollment profile (`<Nameofprofile>.mobileconfig`) from Jamf Pro.
   See "Downloading an Enrollment Profile" on the Enrollment Profiles page in the *Jamf Pro Administrator's Guide*.

## Create and Upload the Supervision Identity

Make sure a supervision identity is in Jamf Pro and on Apple Configurator 2 workstations.

## Create the "Prepare" Blueprint

The "Prepare" blueprint will be used to apply a Wi-Fi configuration profile and the supervision identity.

1. In Apple Configurator 2, create a Wi-Fi configuration profile.
   See Create and edit configuration profiles in Apple's Help documentation.

2. Create a blueprint and name it "Prepare".
   See About Blueprints in Apple's Help documentation.

3. Modify the device information for the blueprint if desired.
   See Modify device information in Apple's Help documentation.

4. Prepare the blueprint:
   See Prepare devices manually in Apple's Help documentation.

   a. Choose "Manual Configuration" from the **Prepare with** pop-up menu.

   b. Choose "Do not Enroll in MDM" from the **Server** pop-up menu.
      Devices will be enrolled with Jamf Pro through the enrollment profile, not the blueprint.

   c. Select your supervision options and choose a supervision identity.

   d. Select which steps in the iOS Setup Assistant to skip.

5. Add the Wi-Fi profile to the blueprint.
   See Add or remove configuration profiles in Apple's Help documentation.

6. Add the trust profile (`Trust Profile.mobileconfig`) to the blueprint.

# Create the "Enroll" Blueprint

The "Enroll" blueprint will be used to enroll devices with Jamf Pro by installing the trust profile and the enrollment profile.

1. Create a blueprint and name it "Enroll".
   See About Blueprints in Apple's Help documentation.

2. Add the enrollment profile (`<Nameofprofile>.mobileconfig`) to the blueprint.
   See Add or remove configuration profiles in Apple's Help documentation.

   **Note**: Do not prepare this profile.

# Deploy Devices Using Manual Enrollment with an Enrollment Profile

1. Connect devices to the Apple Configurator 2 workstation using a USB cable.

2. Apply the "Prepare" blueprint to the devices.
   See About Blueprints in Apple's Help documentation.

3. Apply the "Enroll" blueprint to the devices.

   The devices are first configured with the settings in the "Prepare" blueprint. Then they are enrolled with Jamf Pro using the "Enroll" blueprint.