



Microsoft Intune

Integrate and Configure Jamf Pro and
Microsoft Intune for
Conditional Access for macOS



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This guide provides step-by-step instructions to integrate your Jamf Pro with your Microsoft Intune. This allows Jamf Pro to pass along device information to Intune that can be used for Conditional Access. You will go through the process of creating a compliance policy in Intune, configuring Conditional Access in Jamf Pro, deploying the Microsoft Company Portal application to your Mac computers, registering a Mac computer with Azure Active Directory, and then experiencing how Jamf Pro gathers information and passes it to Intune.

Resources:

<https://docs.jamf.com/technical-papers/jamf-pro/microsoft-intune/10.17.0/Introduction.html>

<https://docs.jamf.com/10.19.0/jamf-pro/administrator-guide/Preface.html>

<https://docs.microsoft.com/en-us/mem/intune/>

Use this guide to configure Jamf Pro and Microsoft Intune to limit access to resources like Office365 to only compliant Mac computers. Jamf Pro reports information to Microsoft Intune, which uses that information to allow or deny access to resources.

Items needed to complete this task:

- Jamf Pro offers two methods to connect to Microsoft Intune. This guide uses the Cloud Connector method.
 - Manual connection: Jamf Pro 10.9.0 or later.
 - Cloud Connector: Jamf Pro 10.18.0 or later hosted in Jamf Cloud.
- Microsoft Enterprise Mobility + Security (specifically Microsoft AAD Premium and Microsoft Intune).
- A Jamf Pro user account with Conditional Access privileges.
- Microsoft Intune Company Portal app for macOS v1.1 or later.
- Computers with macOS 10.11 or later that are using a local or mobile account (network accounts are not supported).

Depending on your environment, you may need to add the following domain names and ports as an exception or add them to your network firewall whitelist:

- login.microsoftonline.com
- graph.windows.net
- *.manage.microsoft.com
- Port 80/443 (HTTP/HTTPS protocol)



Section 1: Create Device Compliance Policy in Intune.

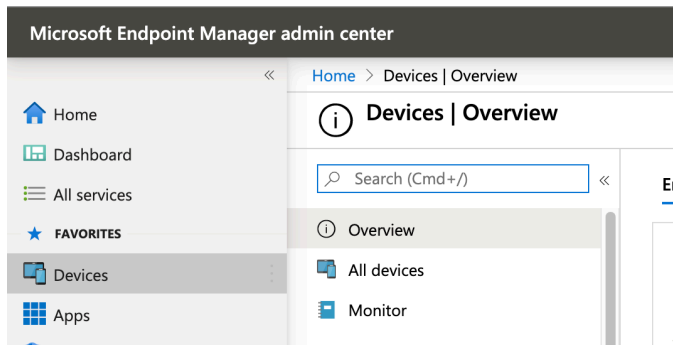
In this section, you'll create an Intune compliance policy for macOS. As an example, this guide uses a policy that includes, but is not limited to, the following requirements:

- System Integrity Protection is turned on.
- The version of macOS is at least 10.13.6.
- FileVault encryption is turned on.

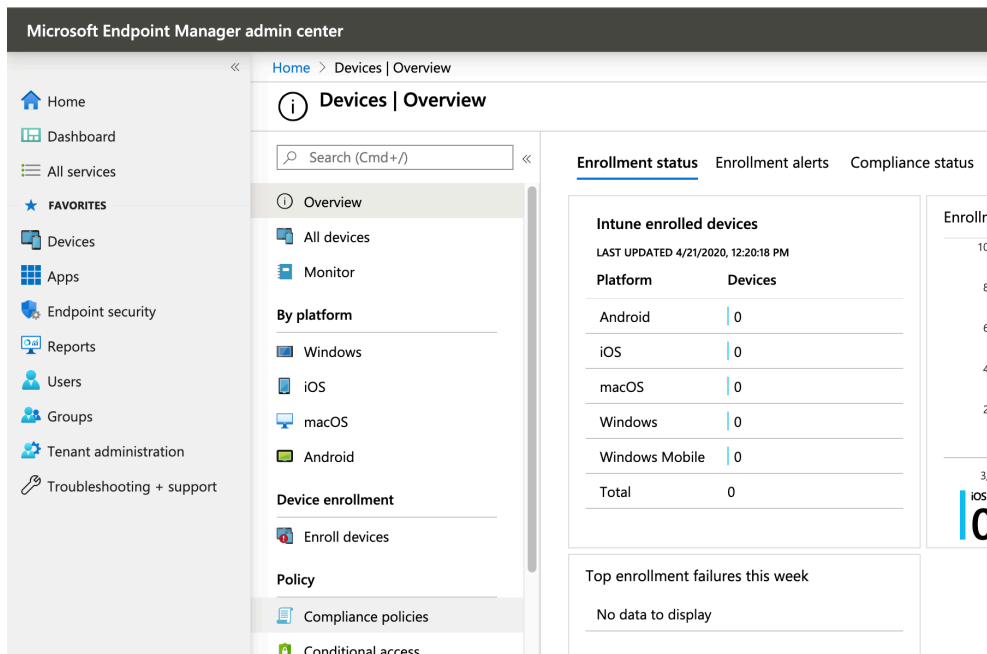
The compliance policy you create may vary depending on your organization's needs.

Note: For testing purposes this guide uses a test Mac that has FileVault turned off, in order to get an immediate result. We recommend that you turn off FileVault on your test Mac so that it is included in the compliance policy report.

1. Open a new browser window or tab and navigate to <https://devicemanagement.microsoft.com>.
2. Log in with credentials for a global administrator or an Intune service administrator.
3. In the left blade, click Devices.

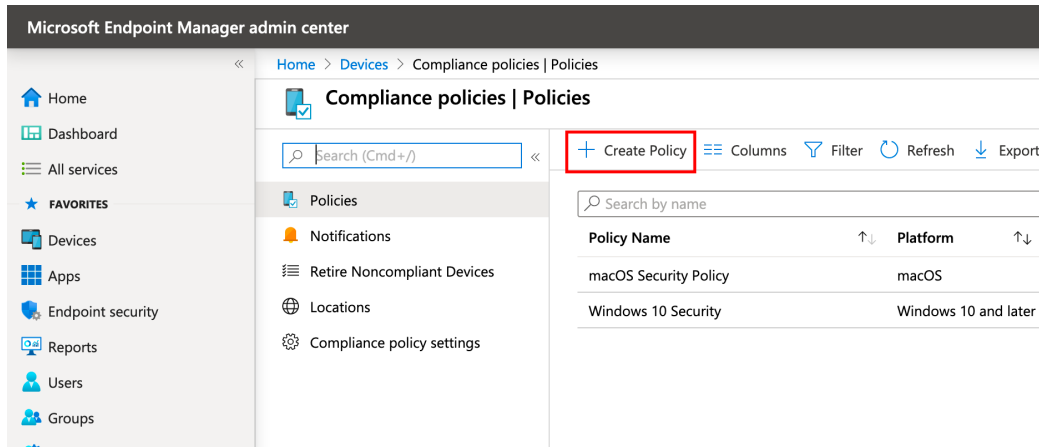


4. In the middle blade, Click Compliance Policies.





5. In the top of the window, Click Create Policy.



6. Enter a name for the policy. This guide uses “macOS Security Policy” as an example.

7. Optional: Enter a Description. This guide does not use the Description field.

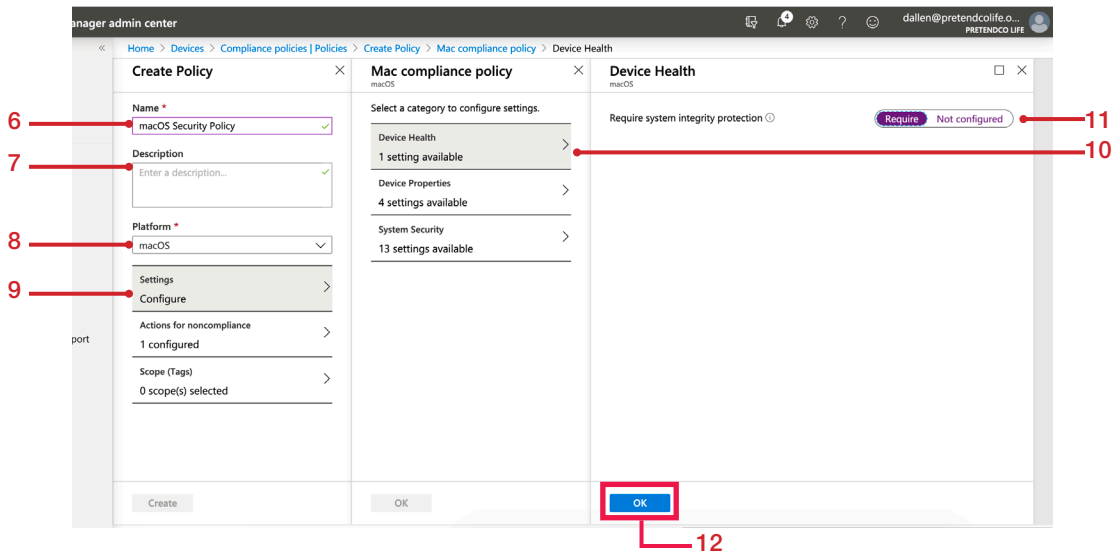
8. Click the Platform menu and choose macOS.

9. Click the Settings section to configure Settings.

10. Click Device Health.

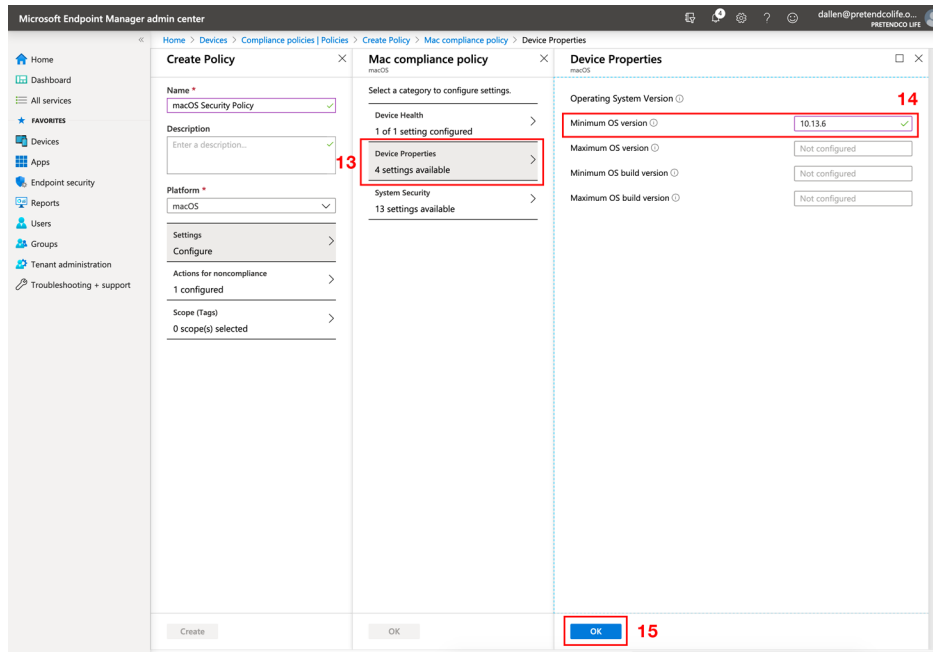
11. Next to “Require for system integrity protection,” click Require.

12. Click OK

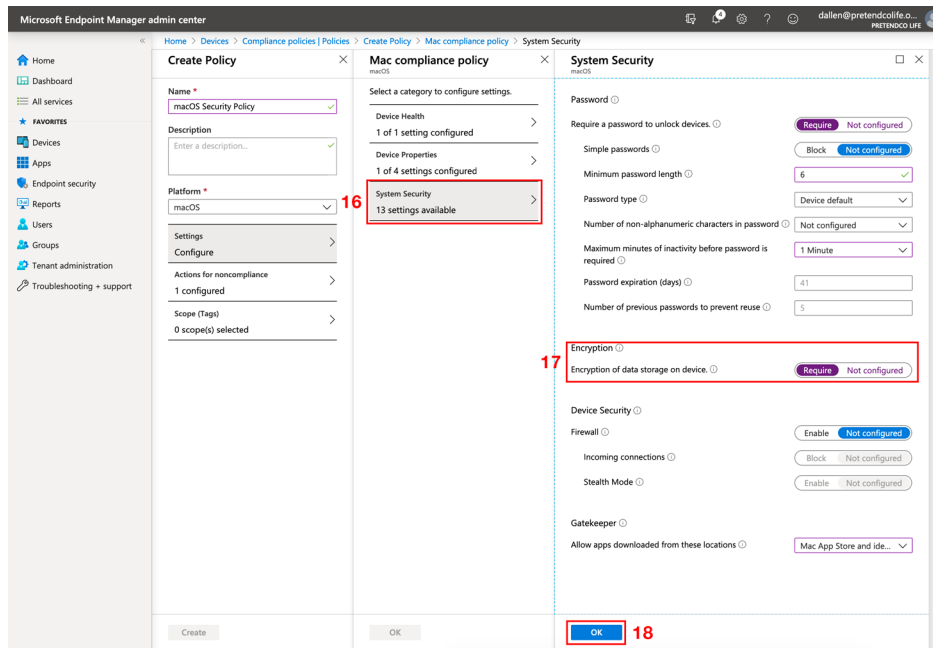




13. Click Device Properties.
14. In the “Minimum OS version” field, enter 10.13.6.
15. Click OK.



16. Click System Security.
17. Next to “Encryption of data storage on device,” click Require.”
18. Click OK.

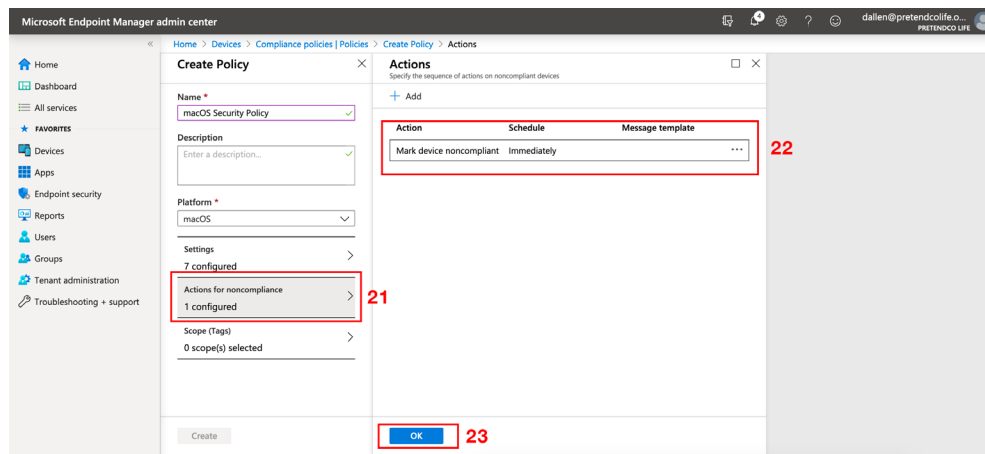




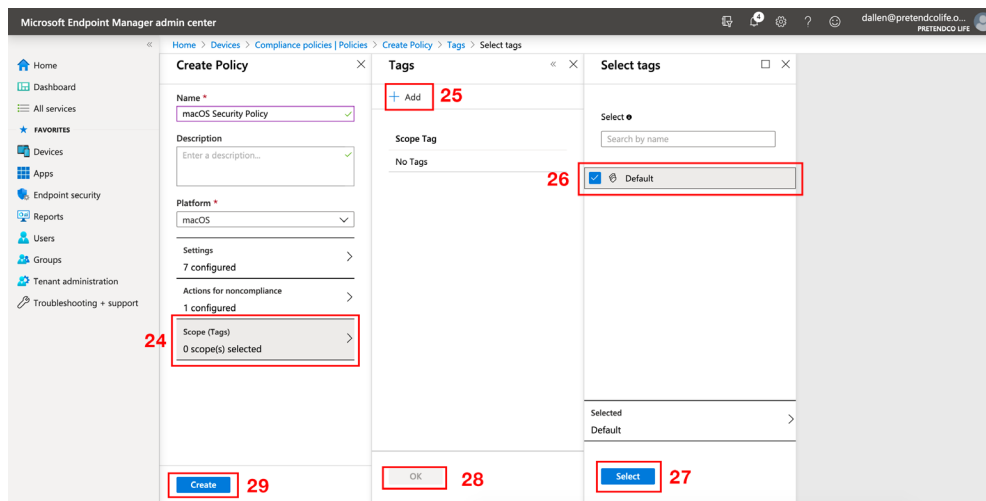
19. Confirm that the window displays the Settings you configured in the Mac compliance policy section.
20. Click OK.
21. Click “Actions for noncompliance.”
22. In the Actions section, leave the default values of “Mark device noncompliant” and “Immediately.”

Note: This guide uses the “Mark device noncompliant” action as an example for testing. In a production environment, you could specify a different action that restricts access to resources for a noncompliant Mac, but this is outside the scope of this guide.

23. Click OK.



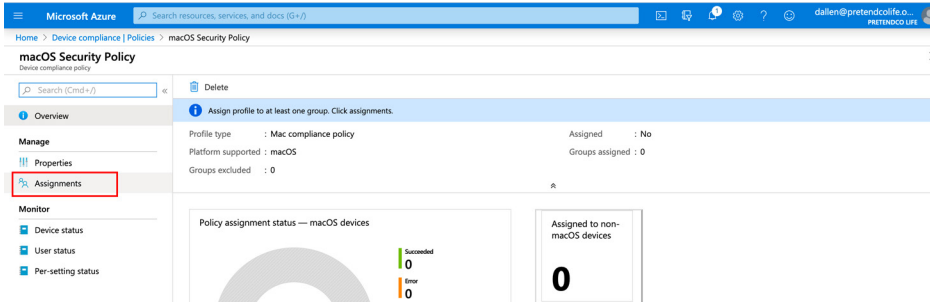
24. Click Scope (Tags).
25. Click +Add.
26. Select the checkbox next to Default.
27. Click Select.
28. Click OK.
29. Click Create.





30. In the overview page of the policy you just created, configure the following:

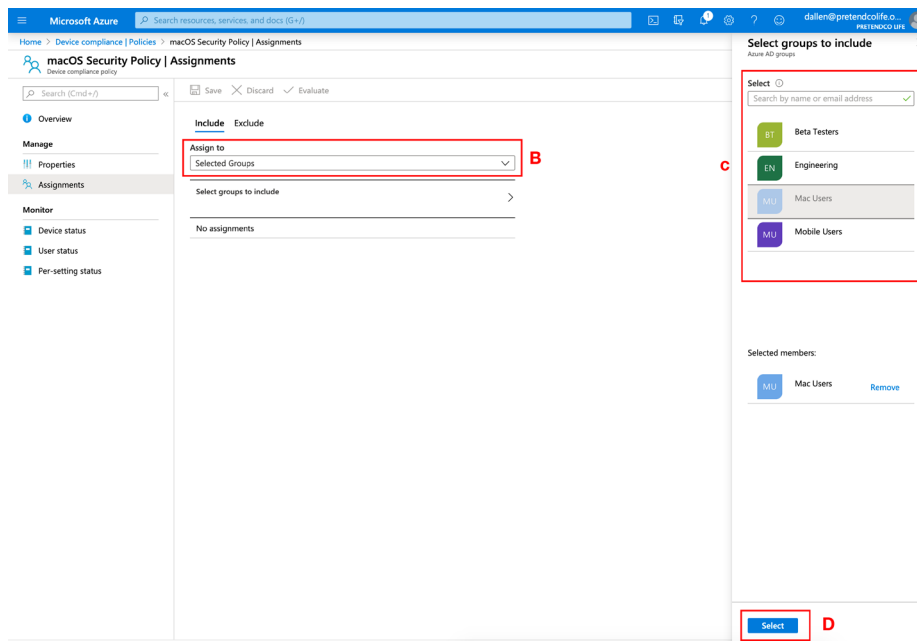
A. In the left blade, click Assignments.



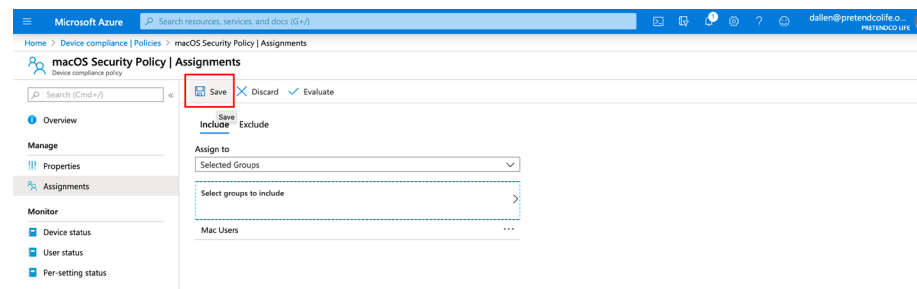
B. Click the “Assign to” menu and choose “Selected Groups.”

C. In the “Select Groups to include,” select the target group.

D. Click Select.



E. Click Save.



Verify a save confirmation message appears in the upper right.



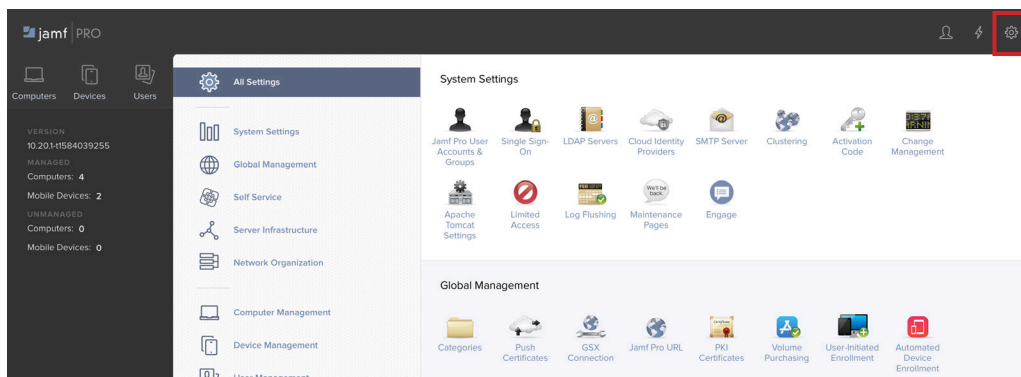
Section 2: Configure Conditional Access in Jamf Pro

In this section, you'll configure the connection between Jamf Pro and Microsoft Intune so that Jamf Pro can send information about enrolled Mac computers to Intune.

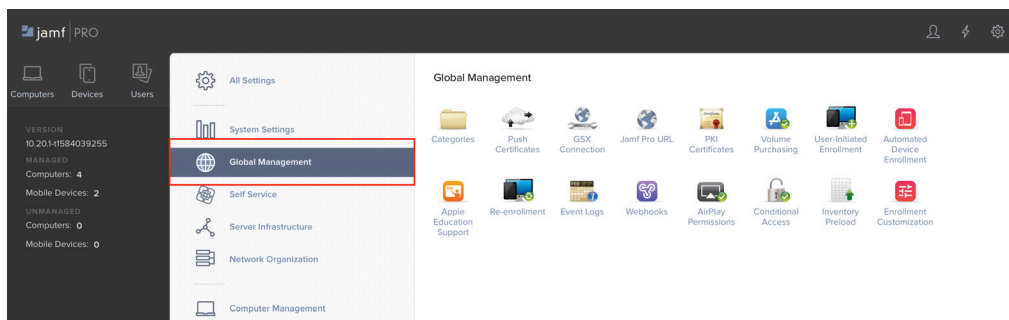
1. In a new browser window or tab, navigate to your cloud-hosted Jamf Pro.
2. Log in with the credentials for a Jamf Pro administrator account.



3. In the upper-right corner, click Settings (looks like a gear) to open All Settings.

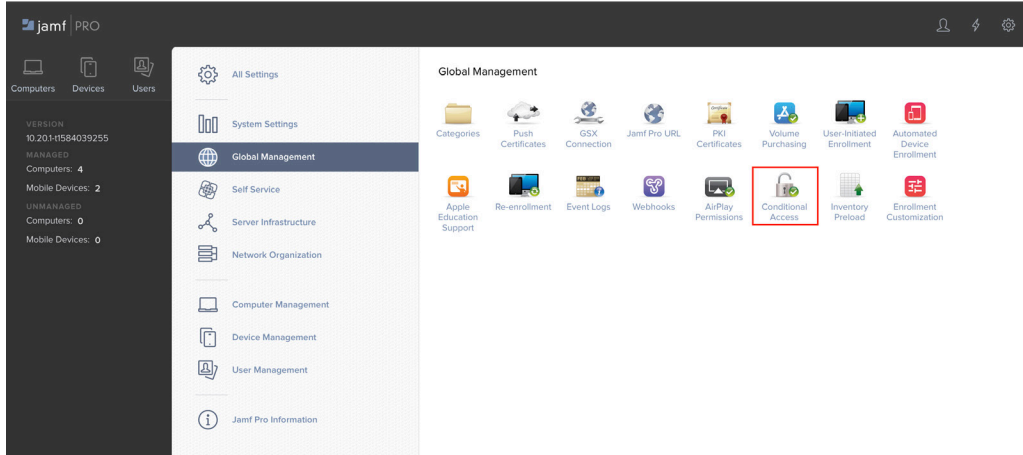


4. In the middle column, click Global Management.

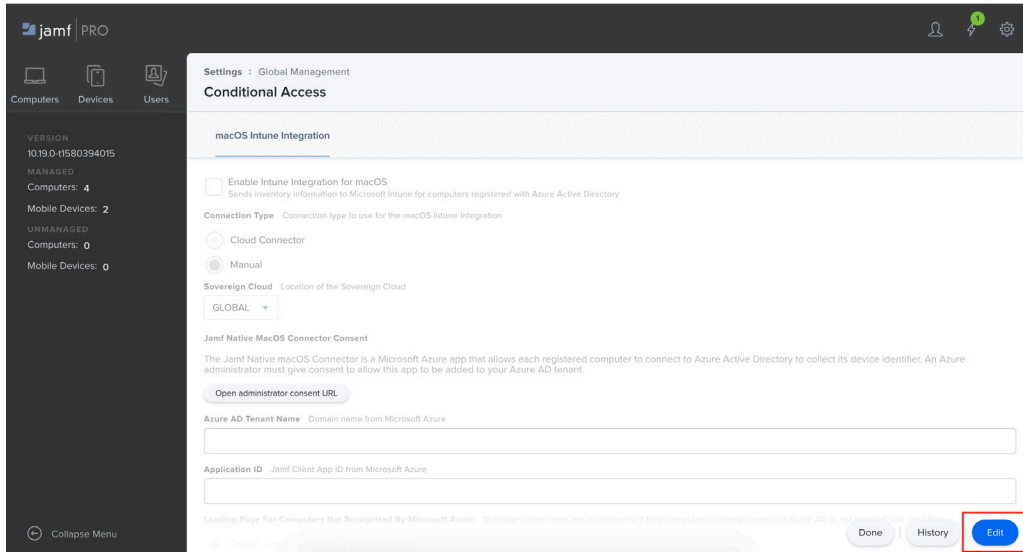




5. Click Conditional Access.

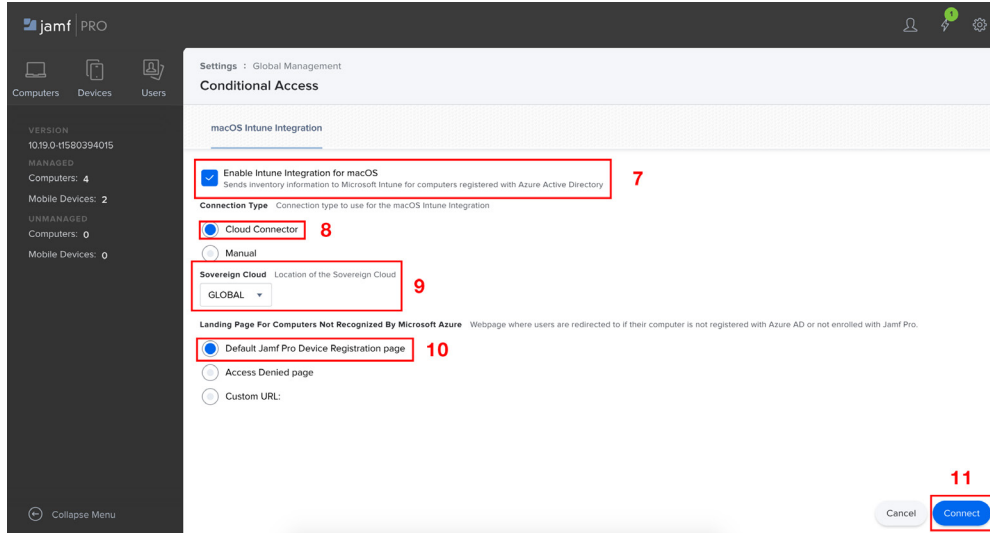


6. In the bottom-right corner, click Edit it.

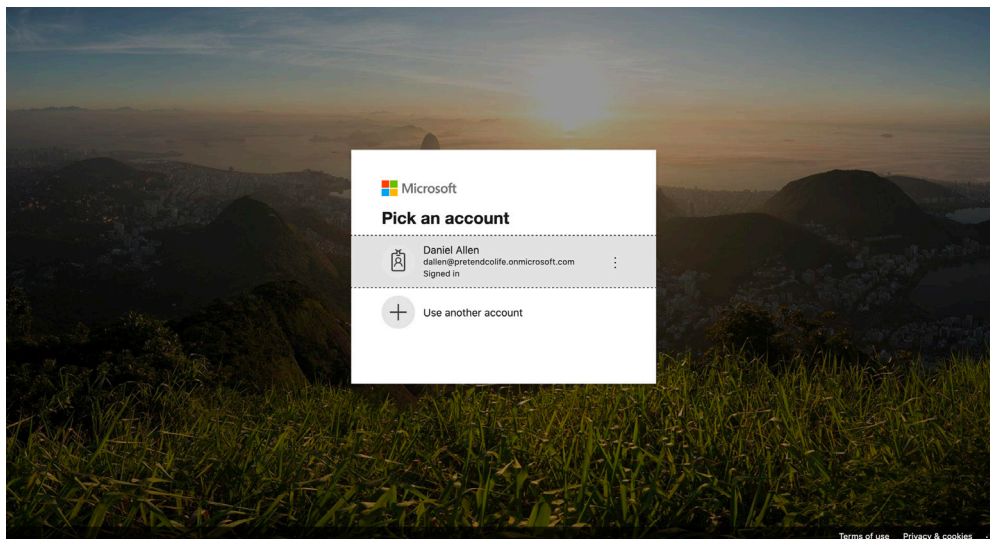




7. Select the checkbox for the “Enable Intune Integration for macOS” option.
8. For the Connection Type, select Cloud Connector (configuring the connection type of Manual is outside the scope of this guide),
9. If necessary, click the Sovereign Cloud menu and choose the appropriate cloud from Microsoft.
10. Select the landing page for computers not recognized by Microsoft Azure. This guide uses “Default Jamf Pro Device Registration page” as an example.
11. Click Connect.

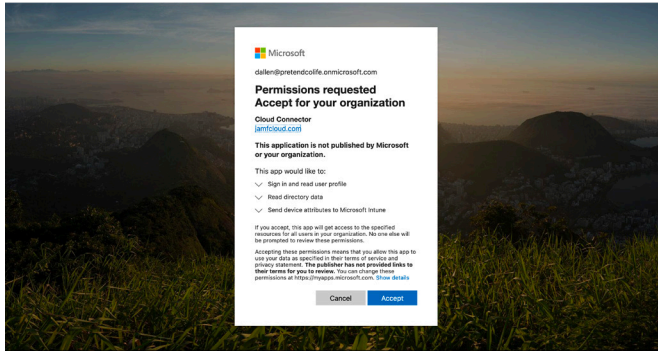


12. Confirm that you’re redirected to the application registration page in Microsoft.
13. Log in again with a Microsoft Azure global administrator or an Intune service administrator account.





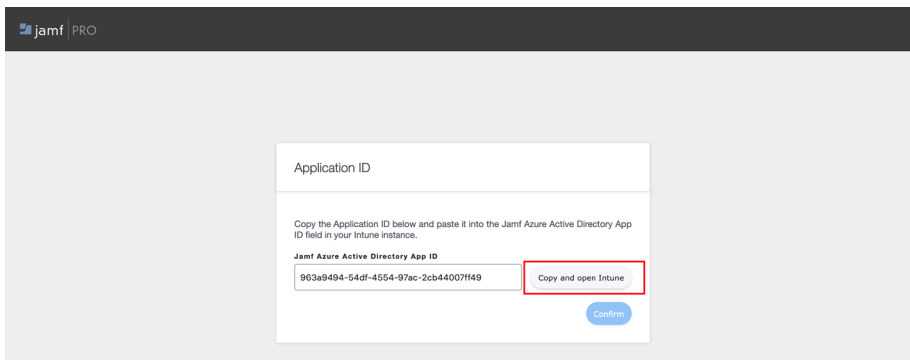
14. Read the application permissions that Jamf requests, then click Accept.



15. Log in again with a Microsoft Azure global administrator or an Intune service administrator account.

16. Confirm that you're redirected to the Application ID page.

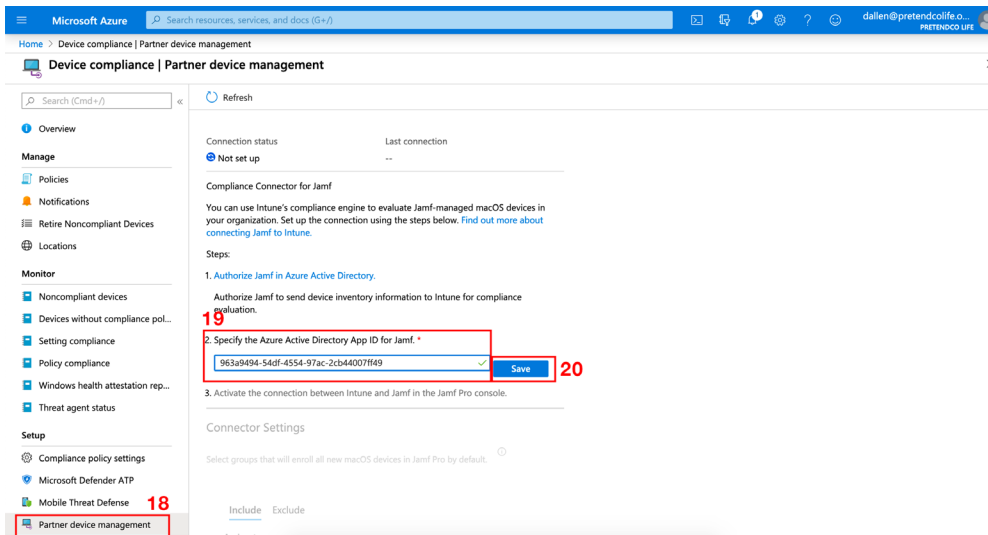
17. Click "Copy and open Intune."



18. Confirm that a new tab opens to the Microsoft "Partner device management" blade in Microsoft Azure.

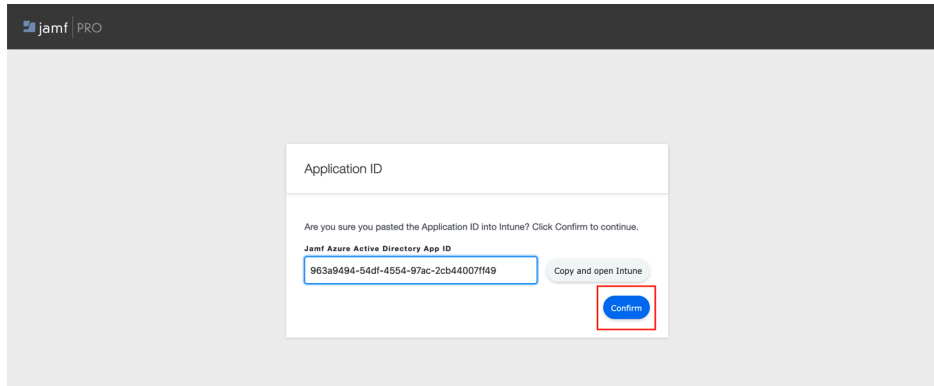
19. Click the "Specify the Azure Active Directory App ID for Jamf" Field then paste the Application ID into the field.

20. Click Save.



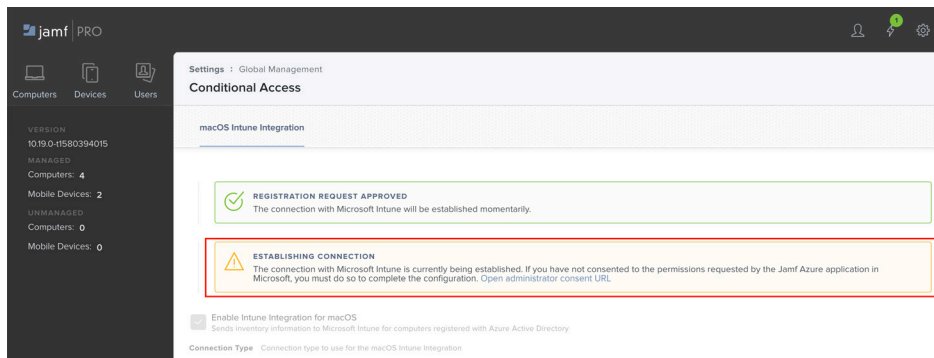


21. Navigate back to the Jamf tab with the Application ID and click Confirm.



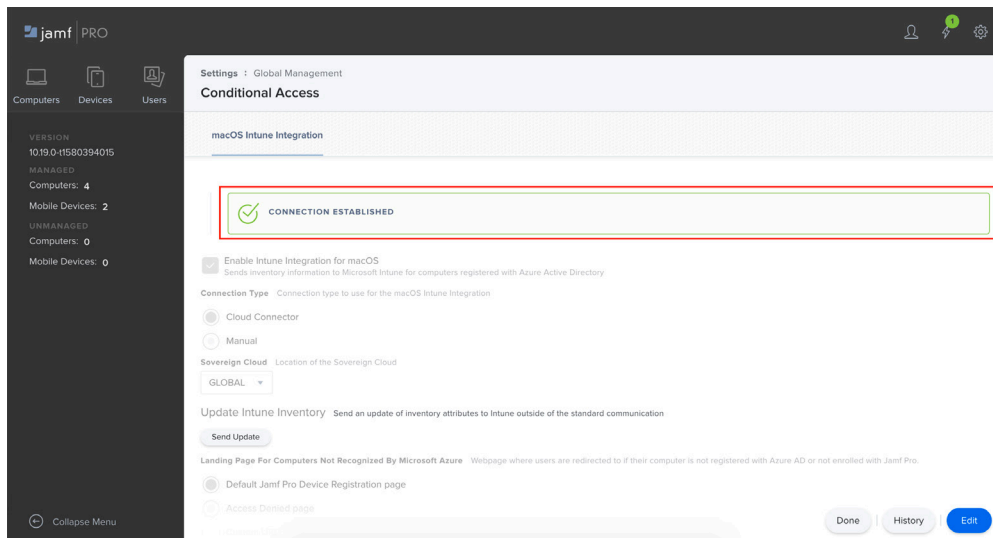
22. Confirm that you're redirected to the Conditional Access page in Jamf Pro.

23. You may see a yellow "Establishing Connection" notification.



24. If you don't see a green "Connection Established" bar after a few minutes, reload the browser page.

25. Confirm you see a green "Connection Established" notification.





Section 3: Deploy the Microsoft Company Portal Application to Mac computers.

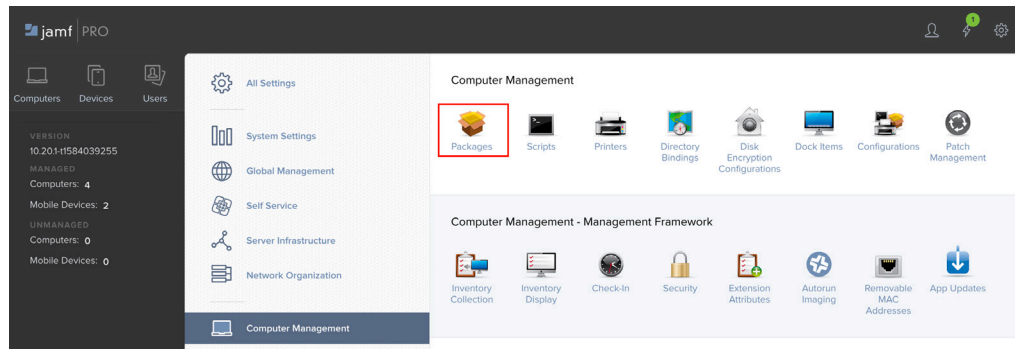
Microsoft Intune helps organizations manage access to corporate apps, data, and resources. Company Portal is the app that lets you, as an employee of your company, securely access those resources. The Company Portal Application is used to register the user's device with Azure Active Directory.

You can download the company portal at: <https://go.microsoft.com/fwlink/?linkid=862280>
This link downloads a package so you can upload it directly to Jamf Pro.

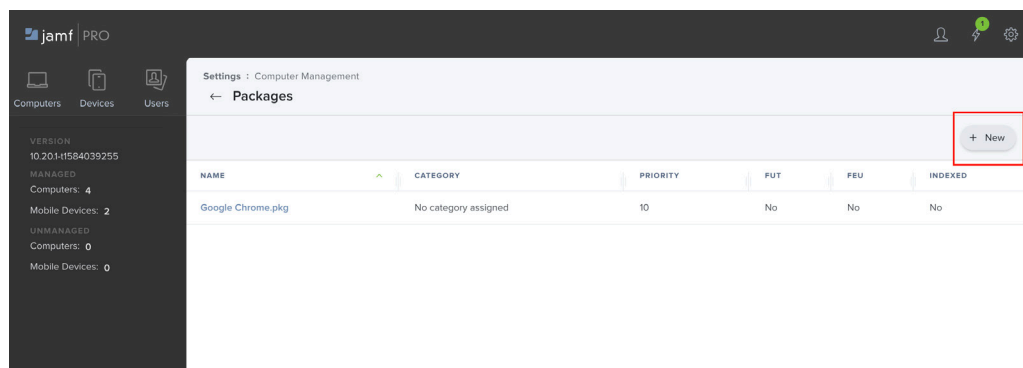
In this section, you will upload the Microsoft Company Portal application package and create a Smart Computer Group in Jamf to install Company Portal on. You will then create a policy to install Company Portal. After this, you will create a Smart Computer Group in Jamf for computers with Company Portal installed and then create a policy for users to launch Company Portal from Self Service to register the device with Azure Active Directory.

Upload the Microsoft Company Portal Application Package

1. Log in to Jamf Pro and navigate to All Settings > Computer Management > Packages.



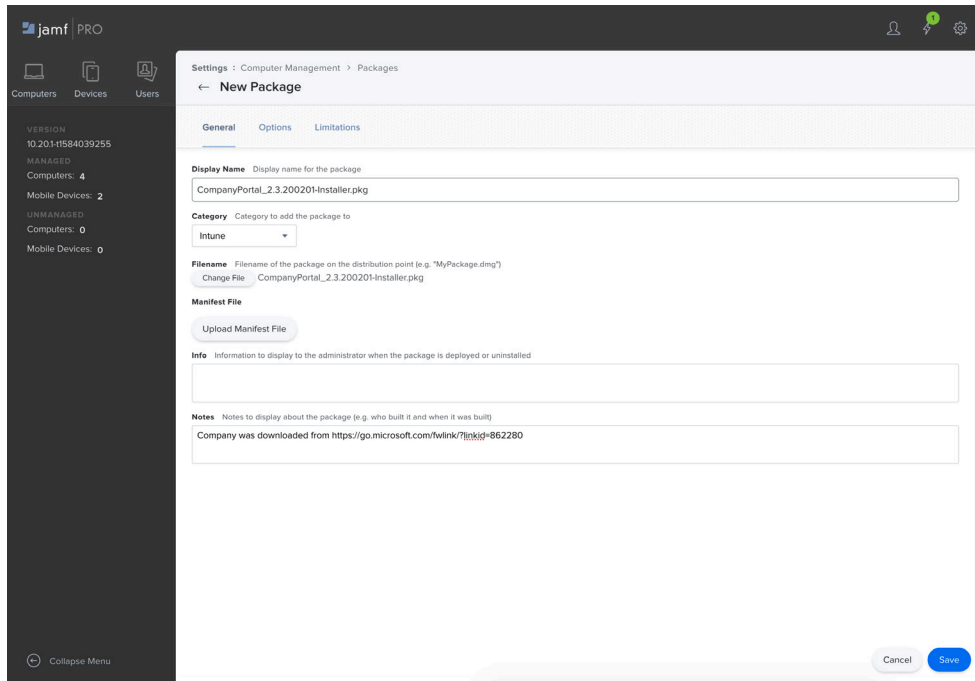
2. In the upper-right corner, click New.



Note: do not enter anything in the Display Name field yet because Jamf Pro automatically enters the name of the file after you complete the next two steps.

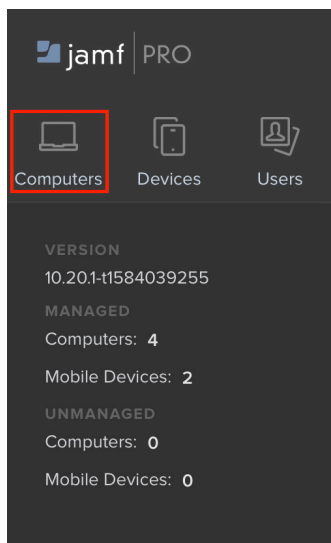


3. In the Filename section, click Choose File.
4. Select the package you just downloaded in the previous section. By default, Safari uses your Downloads folder, then click Choose.
 Optional: Click the Category menu then choose an appropriate category. This guide uses Intune as an example category (to create a new category, you can navigate to All Settings > Global Management > Categories, click New, enter a name in the Display Name field, click Save, then go back to step 1).
5. Optional: In the Notes field, enter the URL from the beginning of this section.
6. Click Save.



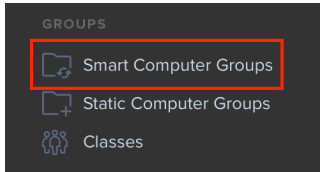
Create a Smart Group to scope the installation of Company Portal app

1. In the upper-left corner, click Computers.





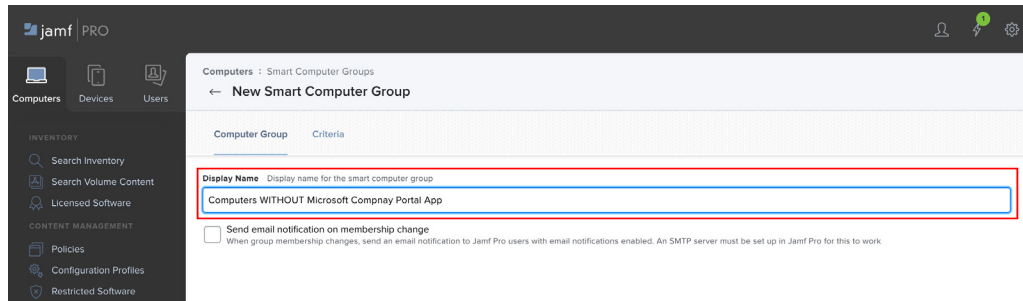
2. In the sidebar, click Smart Computer Groups.



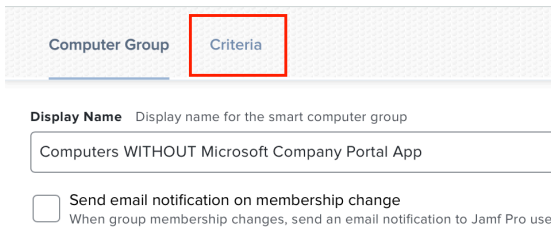
3. In the upper-right corner, click New.



4. In the Display Name field, enter a name for the Smart Group. This guide uses Computers WITHOUT Microsoft Company Portal App as an example.



5. Click the Criteria tab.





6. Click Add.

7. Click Choose to the right of Application Title.

8. Click the Operator menu and choose "Does Not Have."

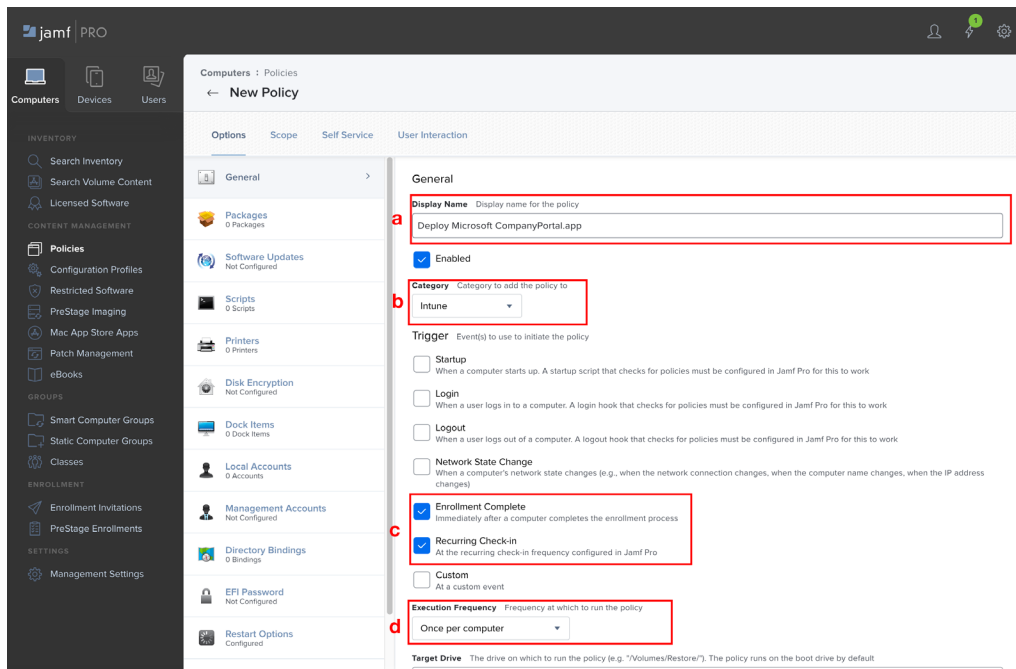
9. In the Value field, Enter **Company Portal.app**.

10. Click Save.

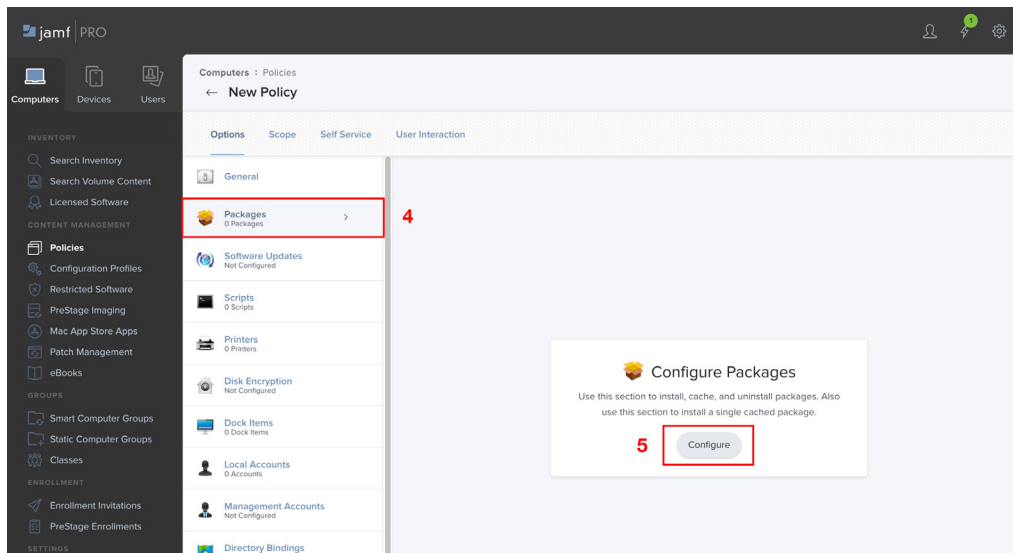


Create a policy to install Company Portal app

1. In the sidebar, click Policies.
2. Click New.
3. In the General Payload configure the following settings:
 - A. In the Display Name field, enter a name. This guide uses Deploy Microsoft Company Portal.app as an example.
 - B. Optional: Click the Category menu and choose an appropriate category.
 - C. In the Trigger settings, select the checkbox for Enrollment Complete and for Recurring Check-in.
 - D. Click the Execution Frequency menu and choose "Once per computer."



4. In the list of payloads, select Packages.
5. Click Configure.





6. Next to the Company Portal package, click Add.

Packages		⚙ Packages Settings
NAME	CATEGORY	
CompanyPortal_2.3.200201-Installer.pkg	Intune	Add
deplotify-with-installers.pkg	No category assigned	Add
Google Chrome.pkg	No category assigned	Add
		Cancel

7. Optional: Click the Distribution Point menu and choose an appropriate distribution point.

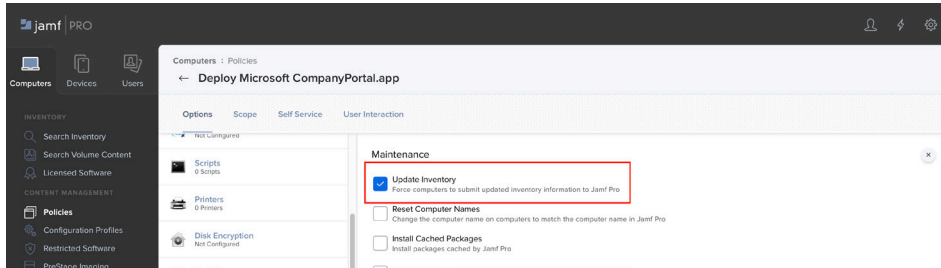
8. Leave the Action menu at its default value of Install.

9. Click the Maintenance payload.

10. Click Configure.



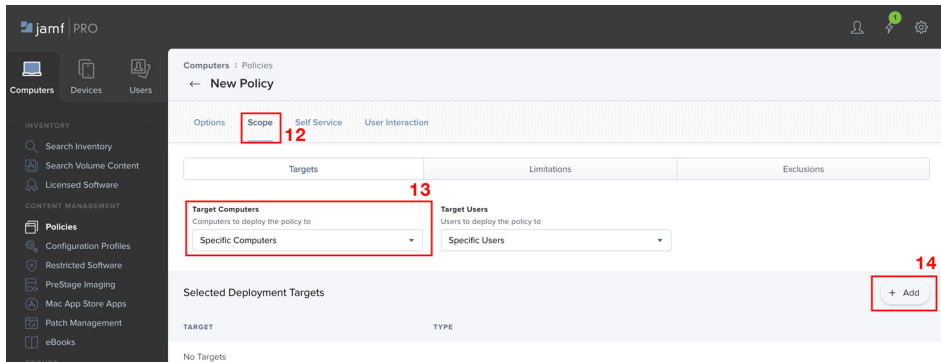
11. Confirm that the checkbox Update Inventory is selected.



12. Click the Scope tab.

13. Leave the Target Computers menu at its default value of Specific Computers.

14. Next to Selected Deployment Targets, click Add.

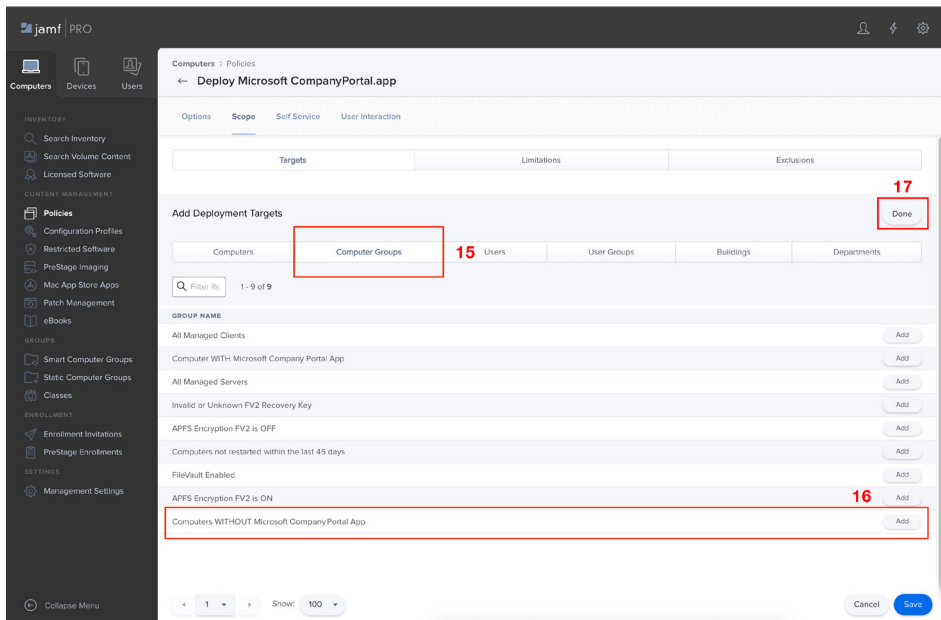


15. Click the Computer Groups tab.

16. Next to the Smart Computer Group you just created, click Add

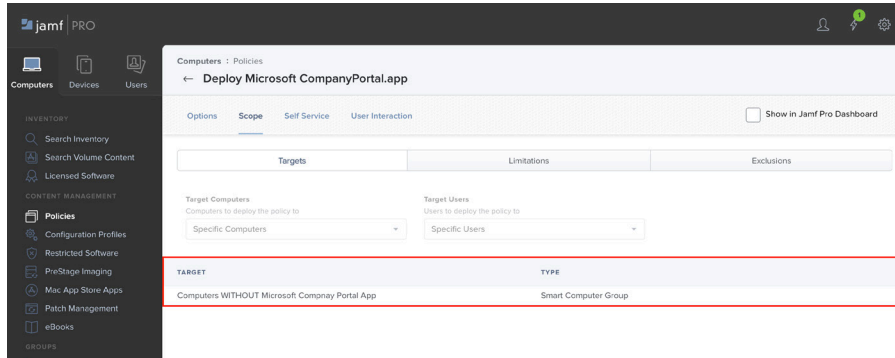
17. Next to Add Deployment Targets, click Done.

18. Click Save.



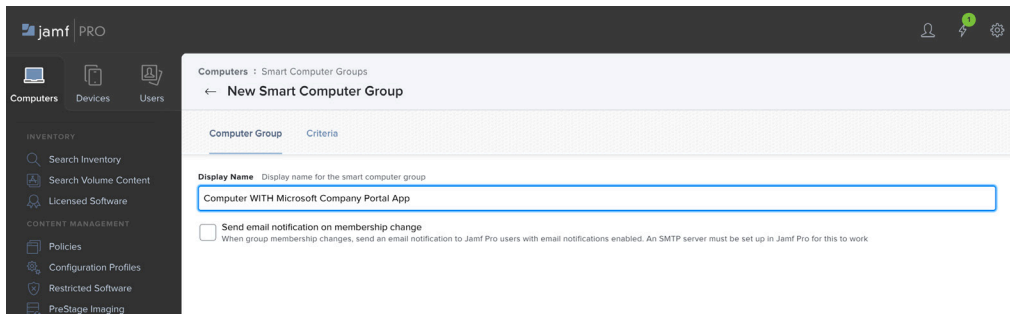


19. Confirm that the Target section displays the Smart Computer Group you created.

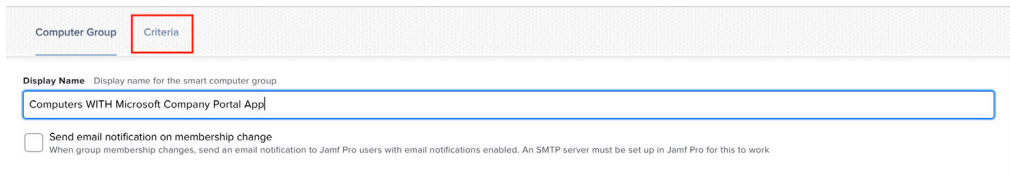


Create a Smart Computer Group for computers with Company

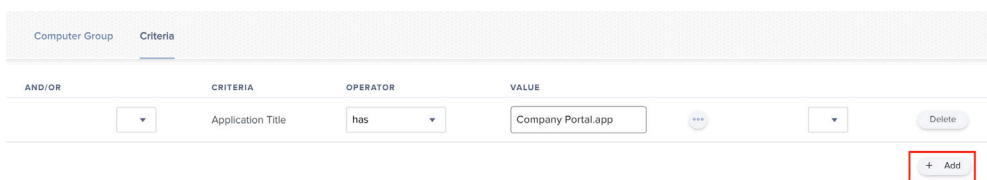
1. If necessary, in the upper-left corner, click Computers.
2. In the sidebar, click Smart Computer Groups.
3. In the upper-right corner, click New.
4. In the Display Name field, enter a name. This guide uses Computers WITH Microsoft Company Portal App as an example.



5. Click the Criteria tab.



6. Click Add.





7. Next to Application Title, click Choose.

8. Click the Operator menu and choose "Has."

9. In the Value field, enter **Company Portal.app**.

10. Click Save.



Create a policy for users to launch Company Portal from Jamf Self Service and register their device with Azure Active Directory.

A user must open the Company Portal app from Jamf Self Service to register their device with Azure Active Directory. Launching the Company Portal app manually (e.g., from the Applications or Downloads folder) will not register the device. If a user opens the Company Portal app manually, they will see an 'AccountNotOnboarded' warning message. Because of this, you'll create a policy for users to open Company Portal from Jamf Self Service.

1. If necessary, in the upper-left corner, click Computers.
2. In the sidebar, click Policies.
3. Click New.
4. In the General payload configure the following settings:
 - A. In the Display Name field, enter a name. This guide uses **Register Mac with Azure Active Directory via Company Portal.app Self Service** as an example.
 - B. Optional: Click the Category menu and choose an appropriate category.
 - C. In the Trigger section, leave all the checkboxes deselected (because this policy will be triggered only by Self Service).
 - D. Leave the Execution Frequency value at its default of "Once per computer."

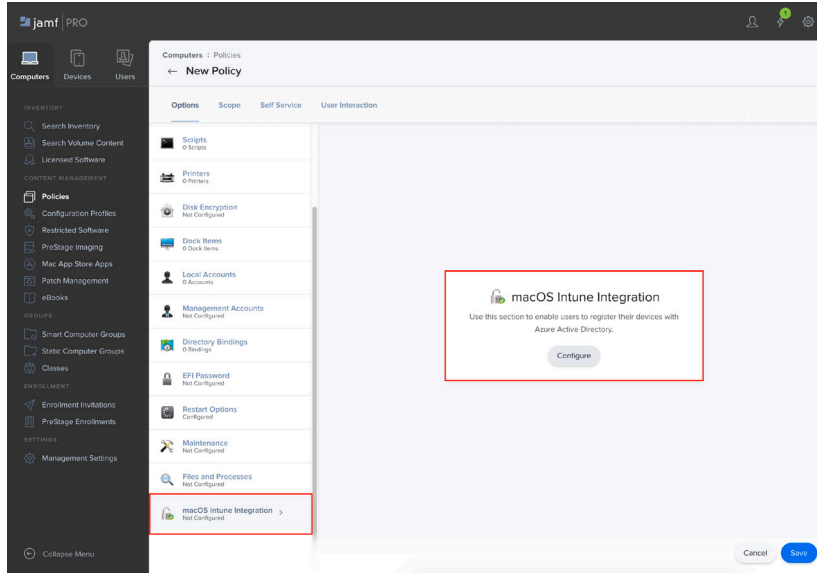
The screenshot shows the Jamf Pro interface for configuring a policy. The left sidebar contains navigation options like 'Computers', 'Devices', 'Users', and 'Policies'. The main content area is titled 'Register Mac with Azure Active Directory via CompanyPortal.app Self Service'. The 'General' tab is selected, showing the following settings:

- Display Name:** Register Mac with Azure Active Directory via CompanyPortal.app Self Service
- Enabled:**
- Category:** Intune
- Trigger:** All checkboxes (Startup, Login, Logout, Network State Change, Enrollment Complete, Recurring Check-in, Custom) are deselected.
- Execution Frequency:** Once per computer
- Target Drive:** /

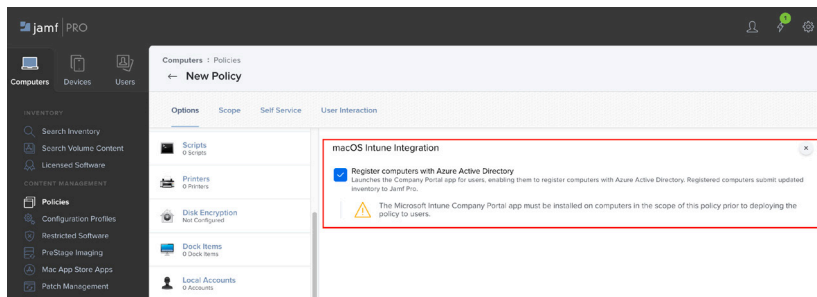


5. Select the macOS Intune Integration payload then:

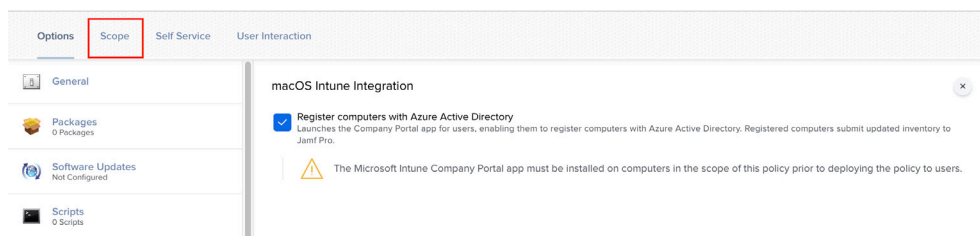
A. Click Configure.



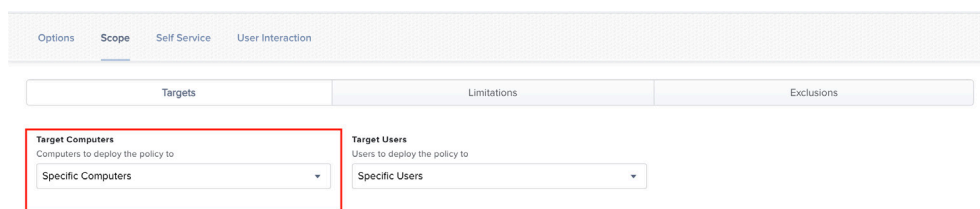
b. Select the checkbox for the “Register computers with Azure Active Directory” option.



6. Click the Scope tab.



7. Leave the Target Computers menu at its default value of Specific Computers.





8. Click Add.

Options Scope Self Service User Interaction

Targets Limitations Exclusions

Target Computers
Computers to deploy the policy to
Specific Computers

Target Users
Users to deploy the policy to
Specific Users

Selected Deployment Targets + Add

TARGET	TYPE
--------	------

9. Click the Computer Groups tab.

Options Scope Self Service User Interaction

Targets Limitations Exclusions

Add Deployment Targets Done

Computers Computer Groups Users User Groups Buildings Departments

Filter Re 1 - 9 of 9

10. Next to the Smart Group you created, click Add.

Options Scope Self Service User Interaction

Targets Limitations Exclusions

Add Deployment Targets Done

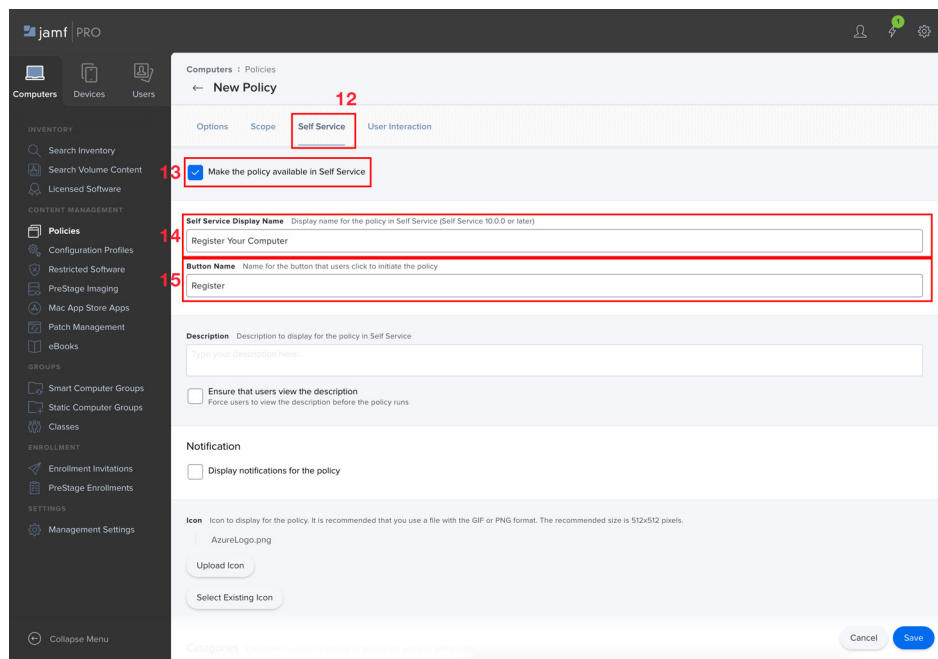
Computers Computer Groups Users User Groups Buildings Departments

Filter Re 1 - 9 of 9

GROUP NAME	
All Managed Clients	Add
Computer WITH Microsoft Company Portal App	Add
All Managed Servers	Add



11. Click the Self Service Tab.
12. Select the checkbox for the “Make the policy available in Self Service” option.
13. In the Self Service Display Name, enter **Register Your Computer**.
14. In the Button Name field, enter **Register**.



15. Optional: Assign a Category.
16. Configure the rest of the Self Service tab as you'd like.

Note: We recommend that you use an engaging icon for each Self Service policy. This is beyond the scope of this document, but we have provided resources below:

Resources:

<https://www.flaticon.com/free-icons/self-service>

<https://www.jamf.com/resources/videos/self-service-with-jamf-pro/>

https://docs.jamf.com/10.20.0/jamf-pro/administrator-guide/About_Jamf_Self_Service_for_macOS.html

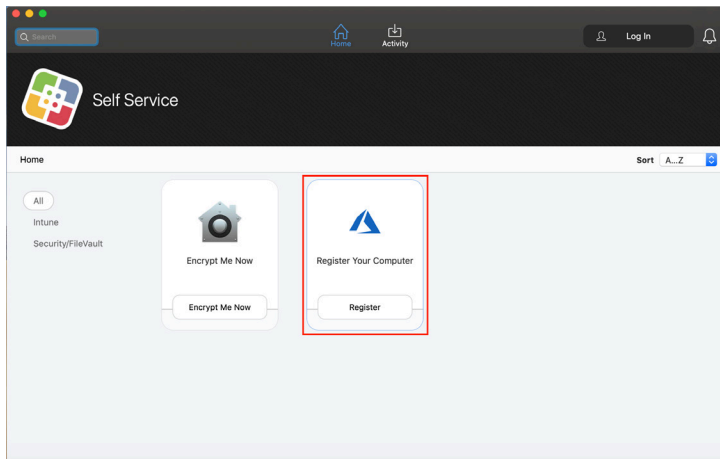
17. Click Save.



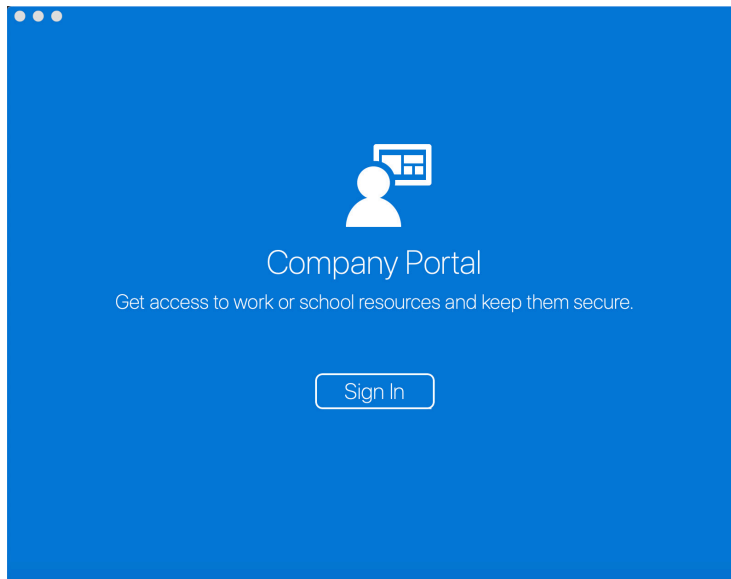
Section 4: Register a Mac computer with Azure Active Directory

In this section, you'll register a test Mac with Azure Active Directory by using an app called JamfAAD. JamfAAD sends the token with the Azure AD information to Jamf Pro. Jamf Pro sends computer inventory information to Microsoft Intune and the computer record is created in Intune after compliance is calculated for the first time. The Azure AD information is stored in the device_aad_information table in the Jamf Pro database.

1. On a Mac that's enrolled with Jamf Pro, log in with a local or mobile account.
2. Open Jamf Self Service.
3. For the "Register Your Computer" item, click Register.

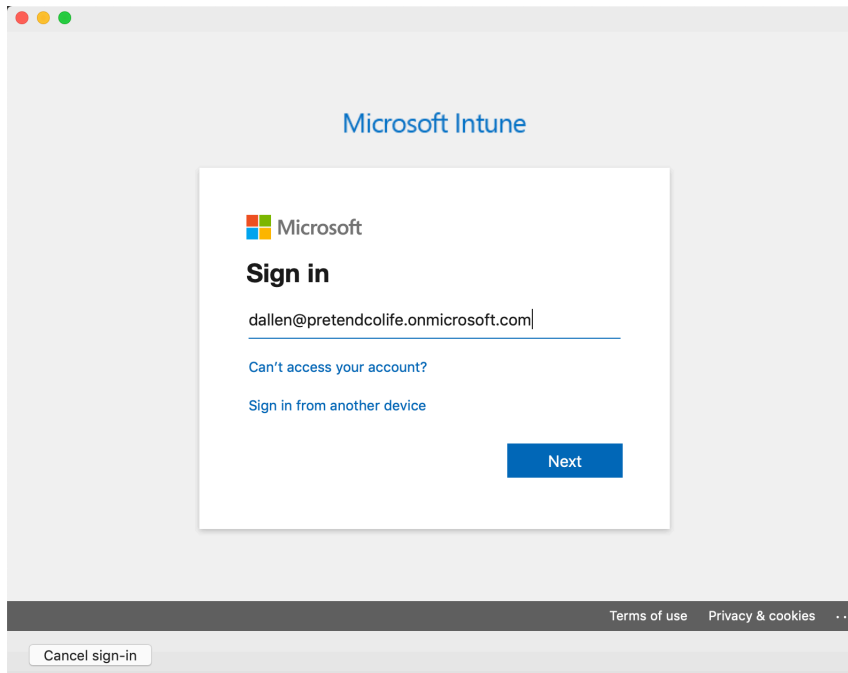


4. Confirm that the Company Portal app opens and prompts the user to sign in.
5. Click Sign In.

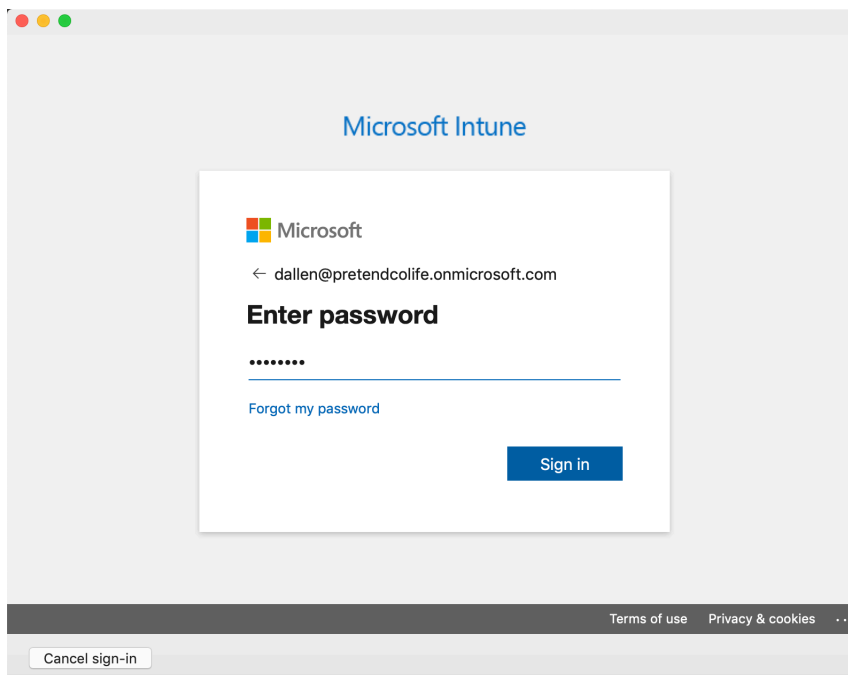




6. Enter a valid Azure Active Directory username and click Next.



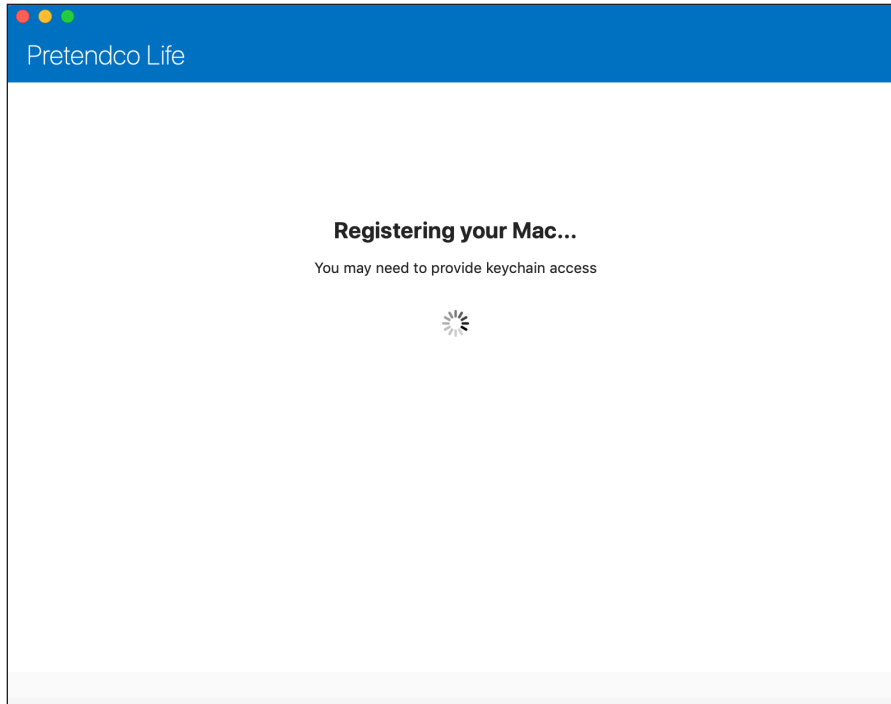
7. Enter your password and click "Sign in."



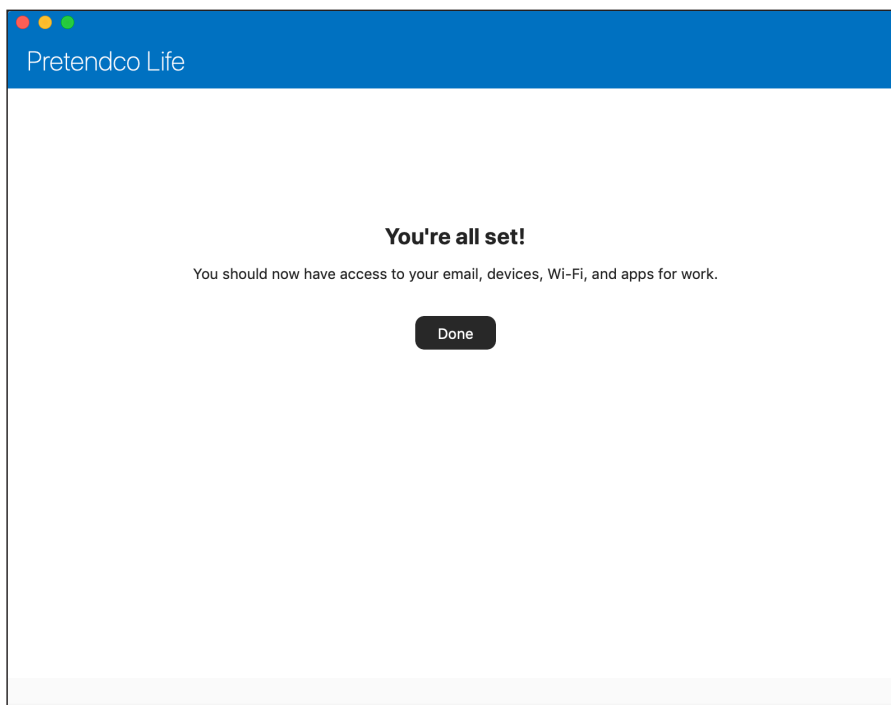


8. Confirm that the Company Portal app displays a window with a progress bar and a message that the company is being contacted:

A. Once the company is contacted, it displays “Registering your Mac...”

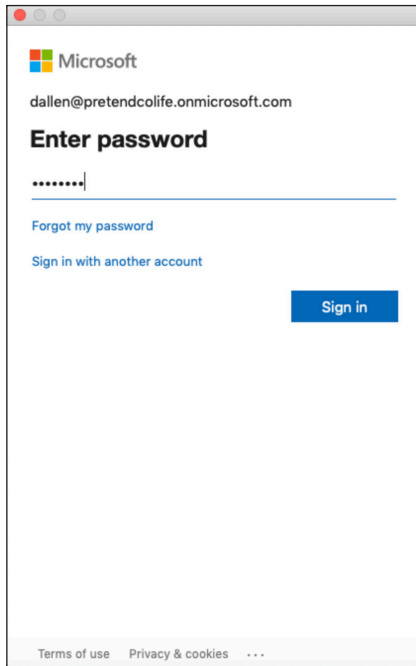


B. Once finished, it displays “You’re all set!” Click Done.

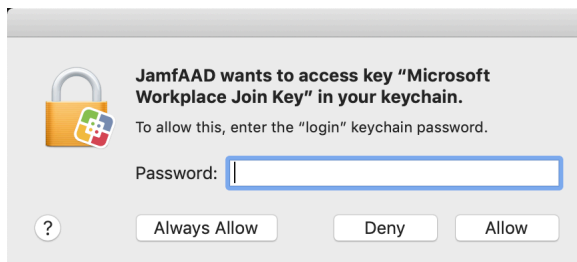




11. Follow the prompts for the JamfAAD app. Depending on your environment, the user is asked to do one of the following:
 - A. If your environment has Azure AD federation configured, the user is prompted to enter their authentication credentials for a second time and accept a multi-factor authentication prompt if configured.
 - B. If your environment only uses Azure AD accounts, the user is prompted to enter their password again and accept a multi-factor authentication prompt if configured.



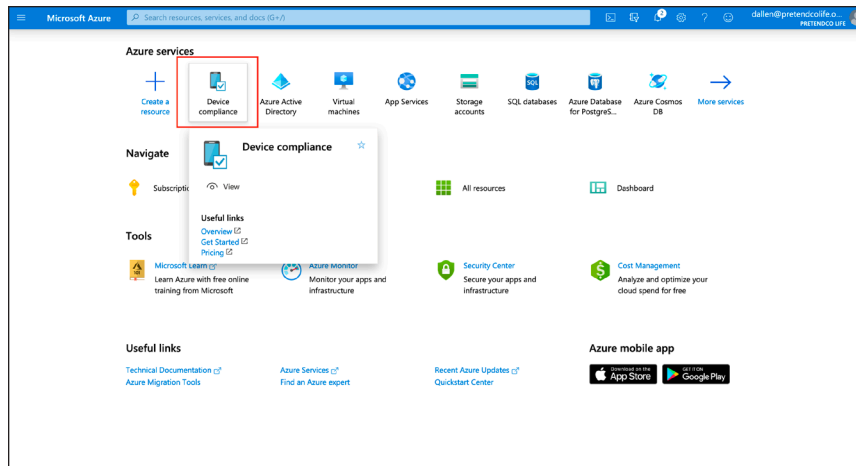
15. When you are prompted to unlock the login keychain in Keychain Access to grant permissions, enter your login password, then click Allow.



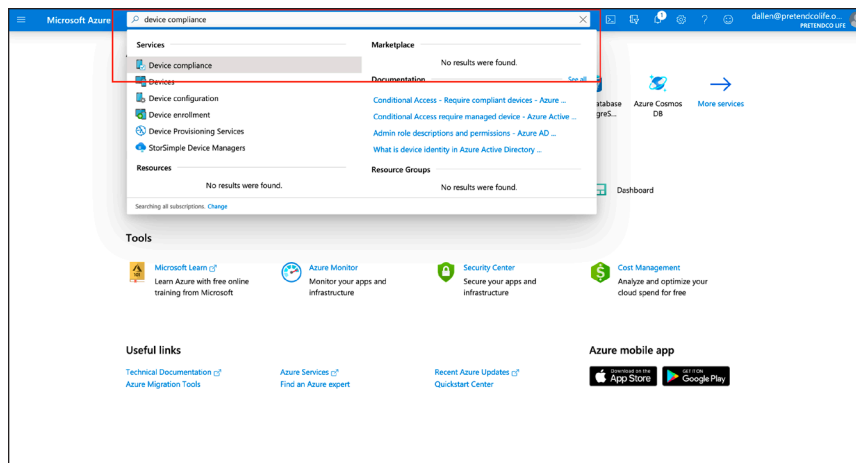


Section 5: Check macOS Device Compliance in Microsoft Intune

1. Open a new browser window or tab and navigate to <https://portal.azure.com>.
2. Log in to Microsoft Azure with a global administrator or an Intune service administrator account
3. If Azure displays Device Compliance, click Device Compliance.

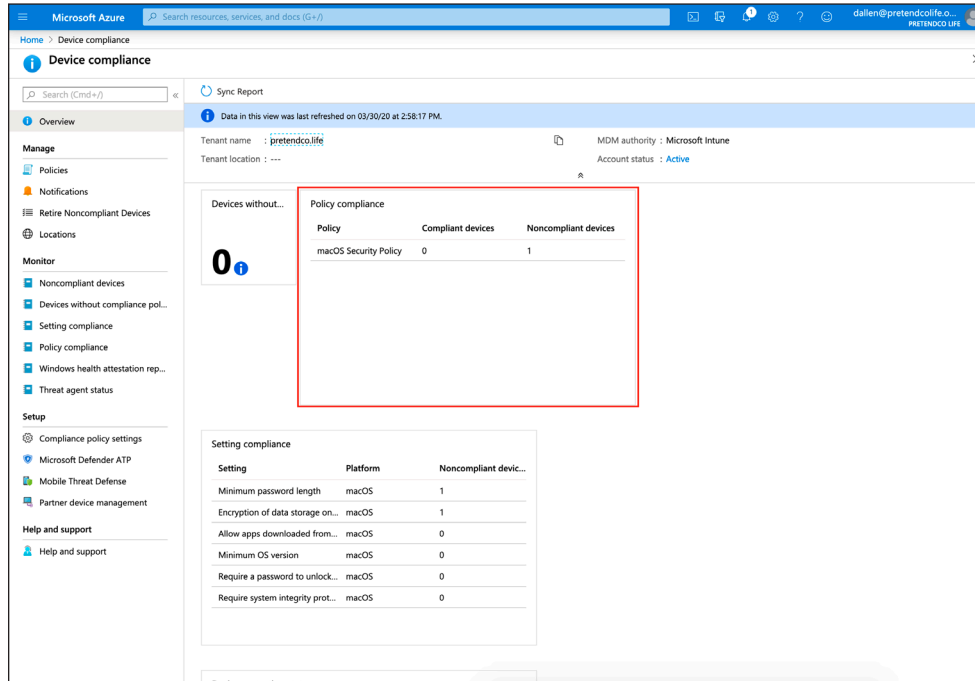


4. If Azure does not display Device Compliance, then in the search bar at the top of the Azure portal page, enter device compliance then choose "Device compliance."

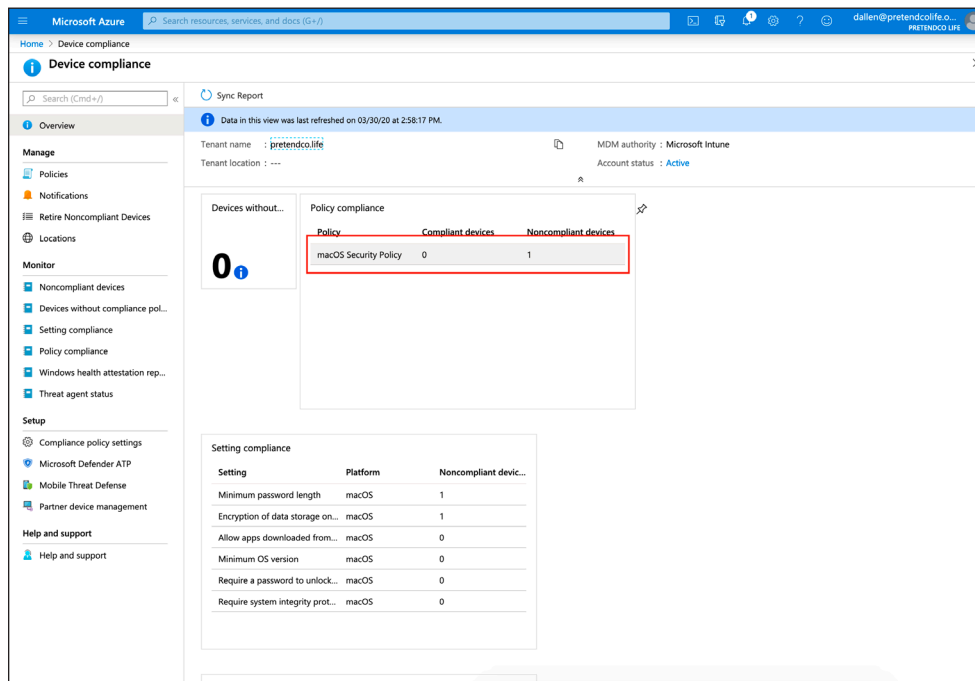




- 5. Confirm that the Overview blade displays a summary of Compliant devices and Noncompliant devices.
Note: To refresh the data, click Sync Report at the top-left corner of the Device Compliance blade.



- 6. From the Policy compliance tile, click the policy you created in section 1 of this guide (this guide uses “macOS Security Policy” as an example).





7. Confirm that the Device Compliance blade displays all devices with that policy assigned and if they are compliant or not compliant.

Device	User Principal Name	Compliance status	Last status update
13" MacBook Pro	dallen@pretendcolife.onmicrosoft.com	Not Compliant	3/30/20, 2:45 PM

8. To view the details for your test Mac, click its entry.

13" MacBook Pro

Search (Cmd+V) Delete

- Overview
- Manage
- Properties
- Monitor
- Hardware
- Discovered apps
- Device compliance
- Device configuration
- App configuration
- Endpoint security configuration
- Recovery keys
- Managed Apps

Device name : 13" MacBook Pro
 Management name :
 Ownership : Corporate
 Serial number : C02MW08BH05
 Phone number : ---
 Primary user (preview) : None
 Enrolled by :
 Compliance : Not Compliant
 Operating system : Mac OS X
 Device model : 13-inch Retina MacBook Pro (Late 2013)

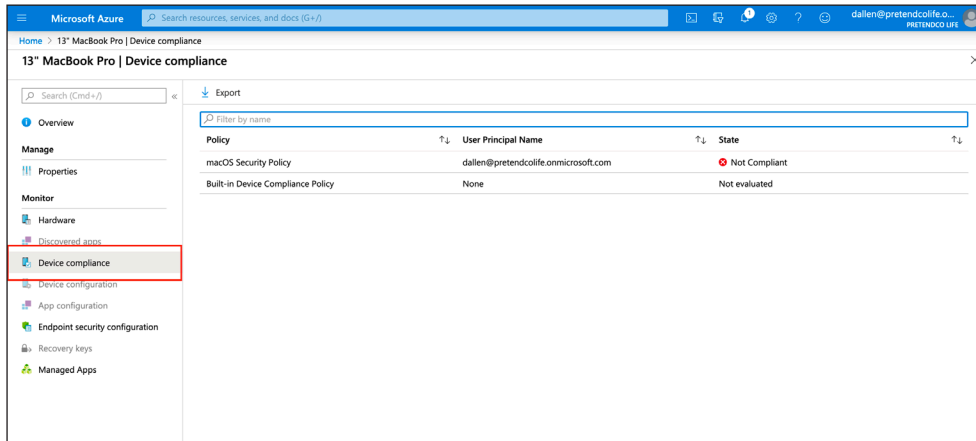
See more

Device actions status

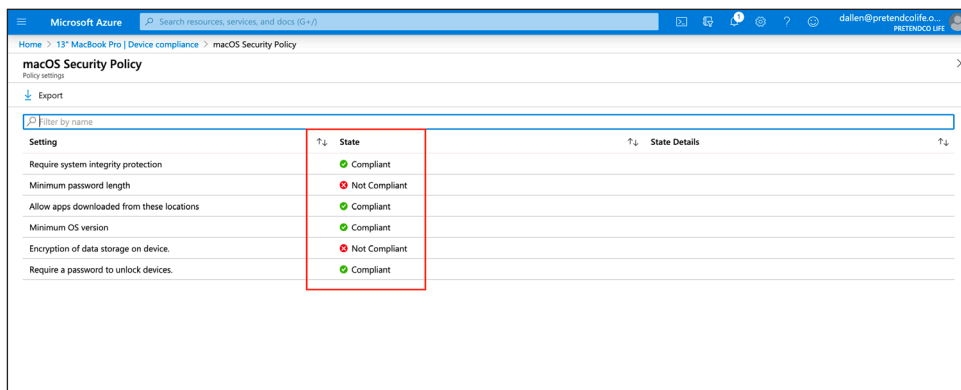
Action	Status	Date/Time	Error
No data			



9. In the left blade, click “Device compliance.”



10. Confirm that the Device compliance blade displays the list of policies that apply to your test Mac, along with the state of compliance for each policy.



11. Click the policy with a non-compliant state.

12. Confirm that the “macOS Security Policy” section displays a list of each setting and its state of compliance.

If you'd like help implementing the solution in this white paper, we are ready to help; contact us at info@hconline.com or (866) 518-9672.

If you have corrections please send them to info@hconline.com.

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