Implement Permanent Licenses in Air-Gapped Networks on FDM

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Introduction

This document describes how to implement Permanent Licenses in Air-Gapped Networks on Firepower Device Manager (FDM).

Prerequisites

Requirements

It is recommended to have knowledge of this topic:

- Cisco Secure Firewall Threat Defense Initial Configuration

Components Used

The information in this document is based on the software version:

- Firepower Threat Defense Version 7.4.1.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

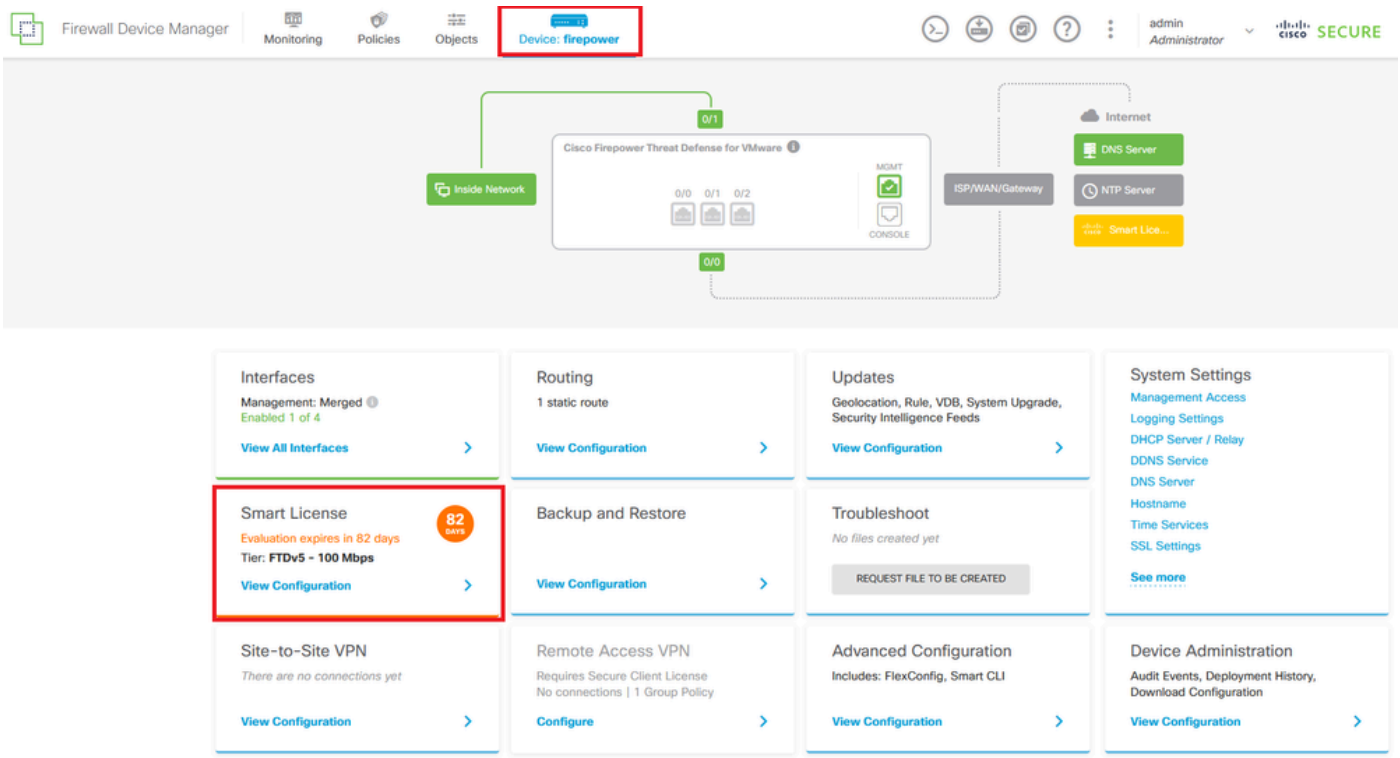
Configure

Enable PLR Mode

1. Enable PLR Mode on your device.

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2. Click **Device** and navigate to **Smart License**.

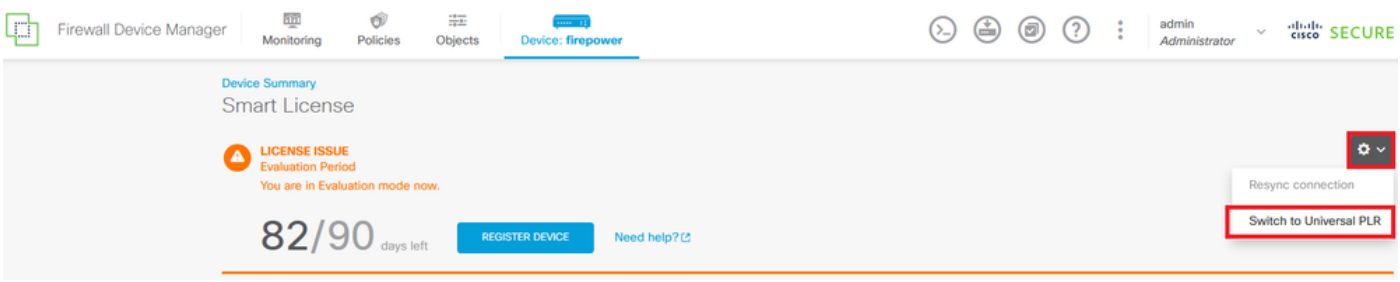


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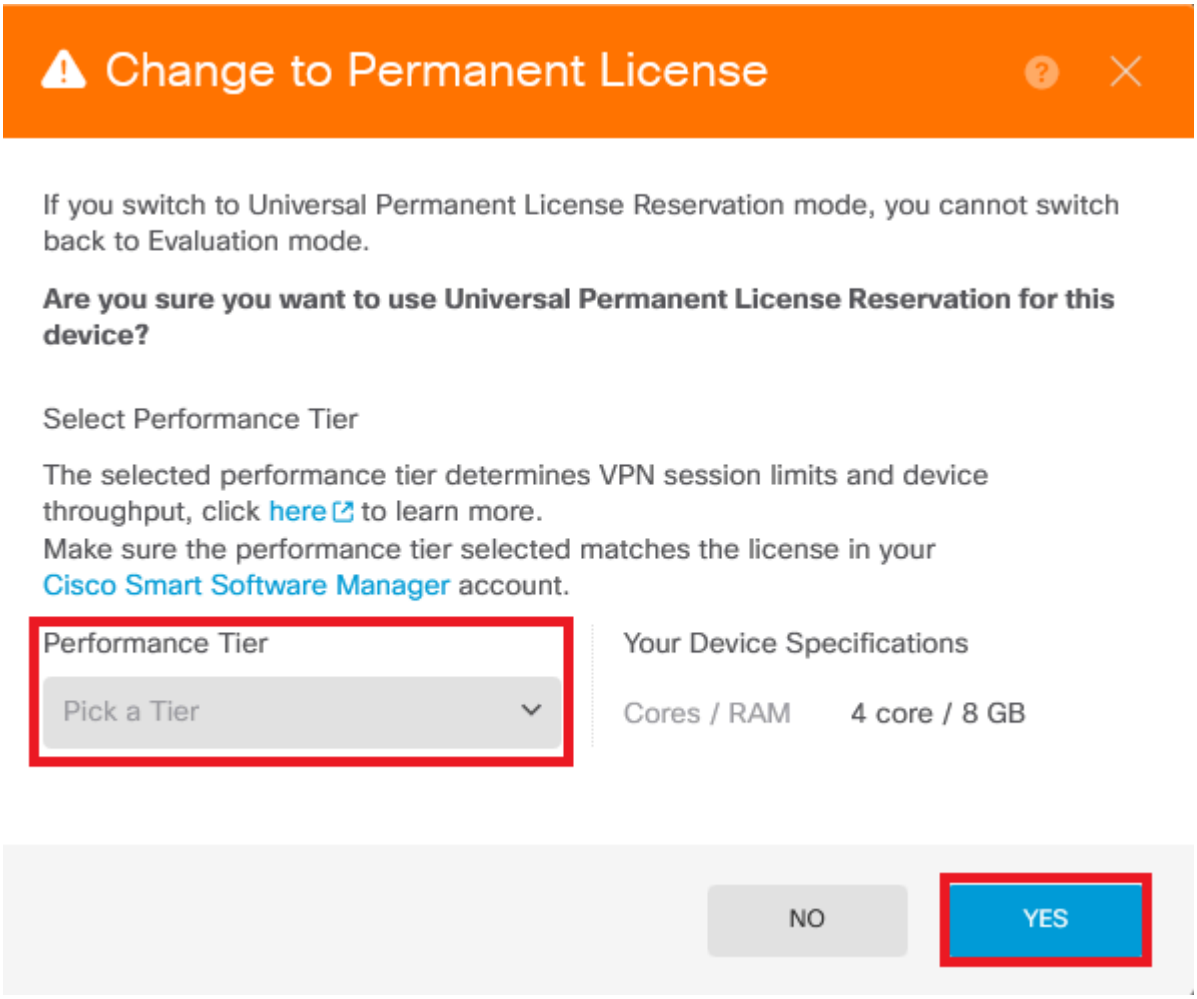
3. Click the gear and select **Switch to Universal PLR**.

Note: If your device is using smart licensing, you must unregister the device.

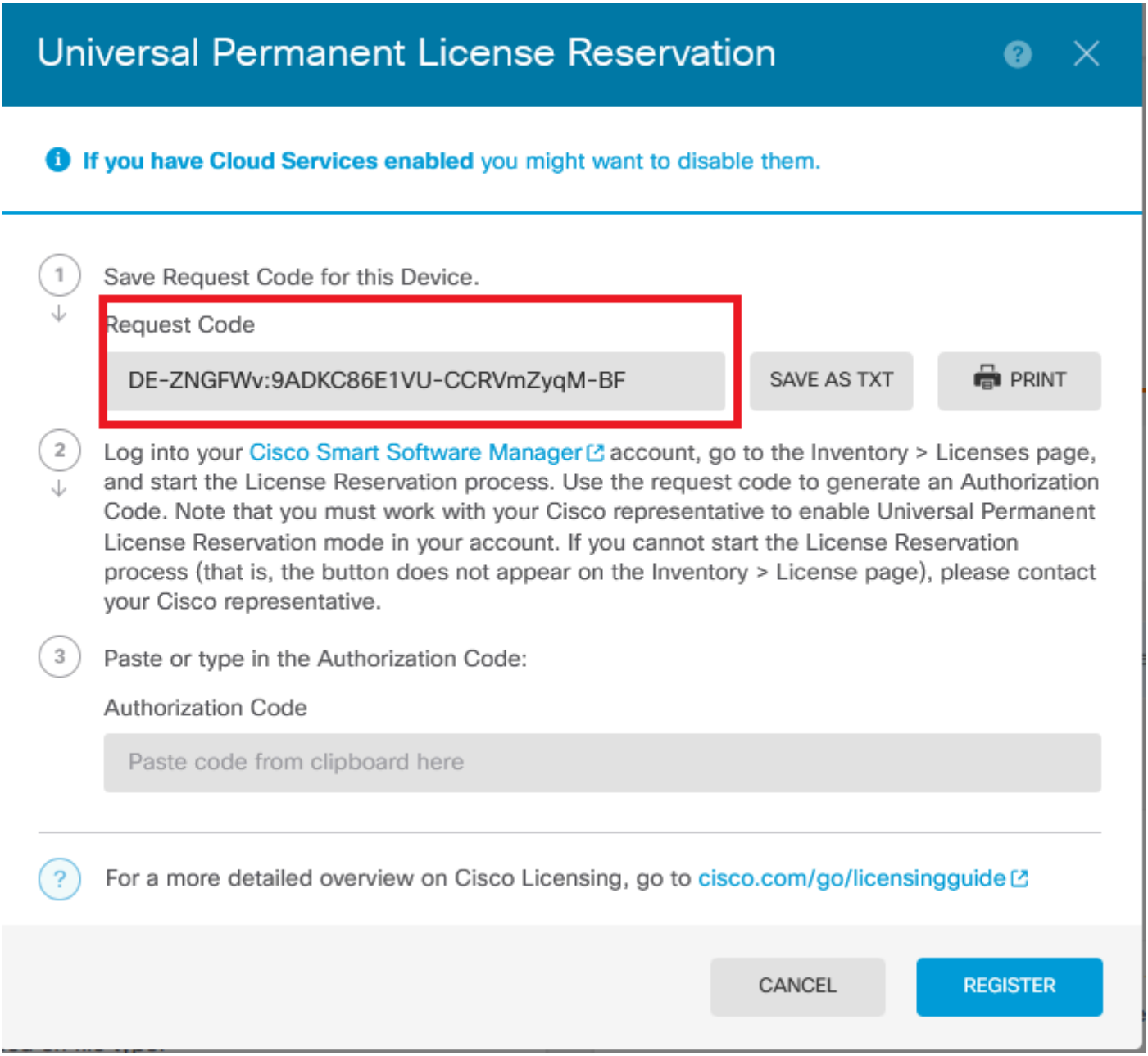
Caution: Once you switch to PLR mode, you cannot switch back to evaluation mode.



4. In the preview window, select the **Performance Tier** and click **Yes**.

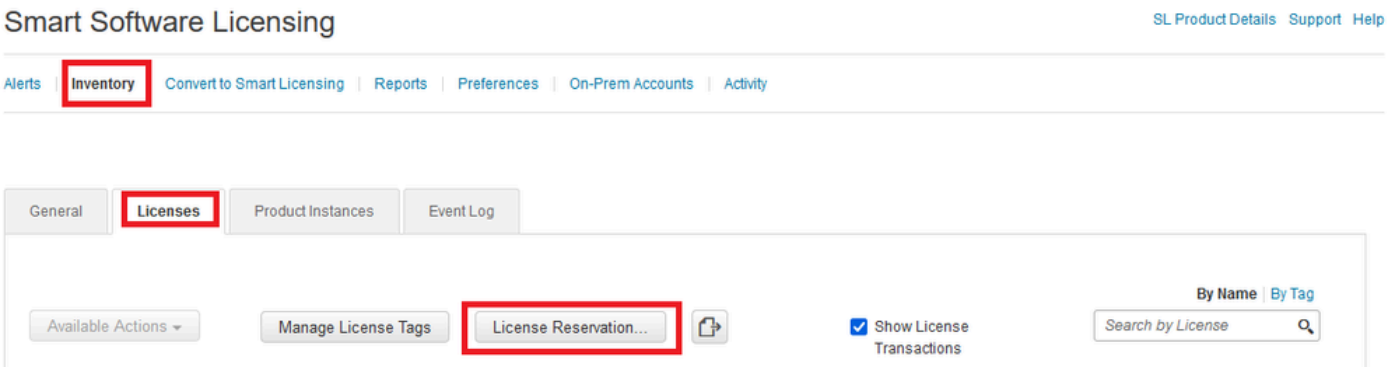


5. **Save** the **Request Code**.

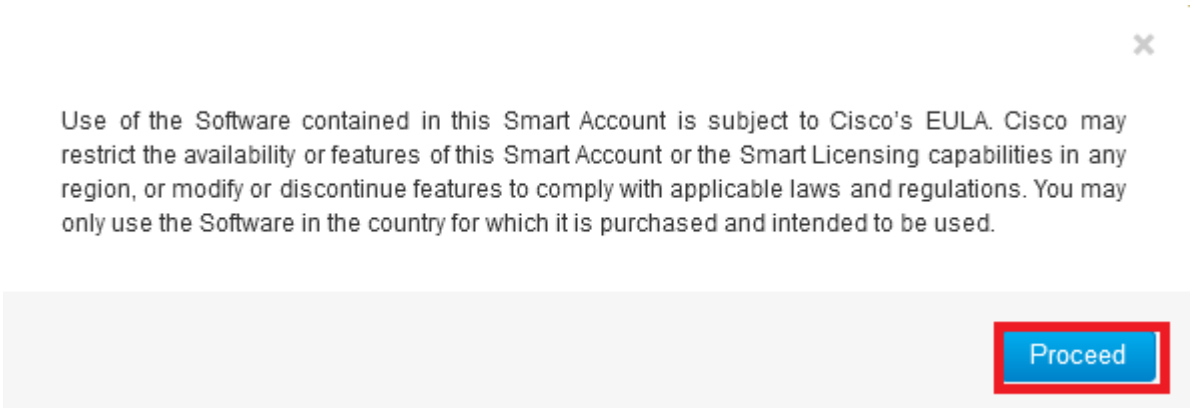


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6. Log in to your CSSM account and navigate to **Smart Software Licensing > Inventory > Licenses** and click **License Reservation.**

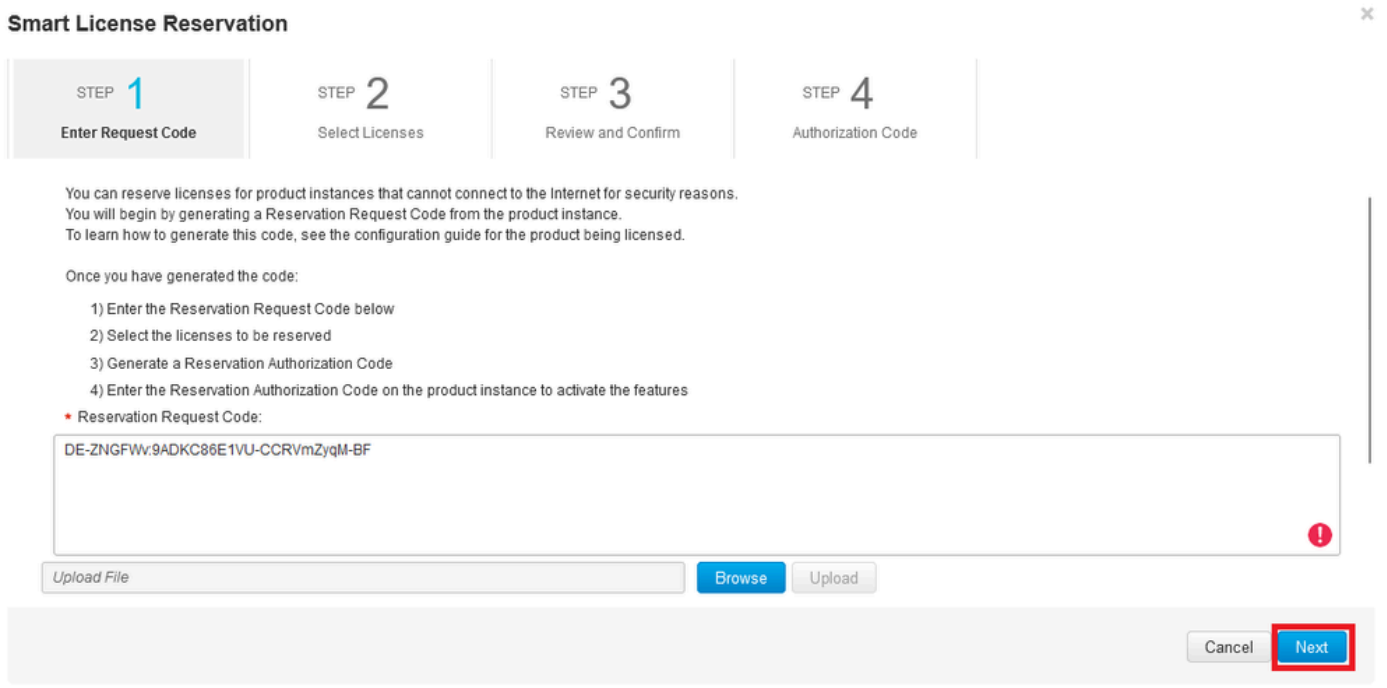


7. Click **Proceed**.



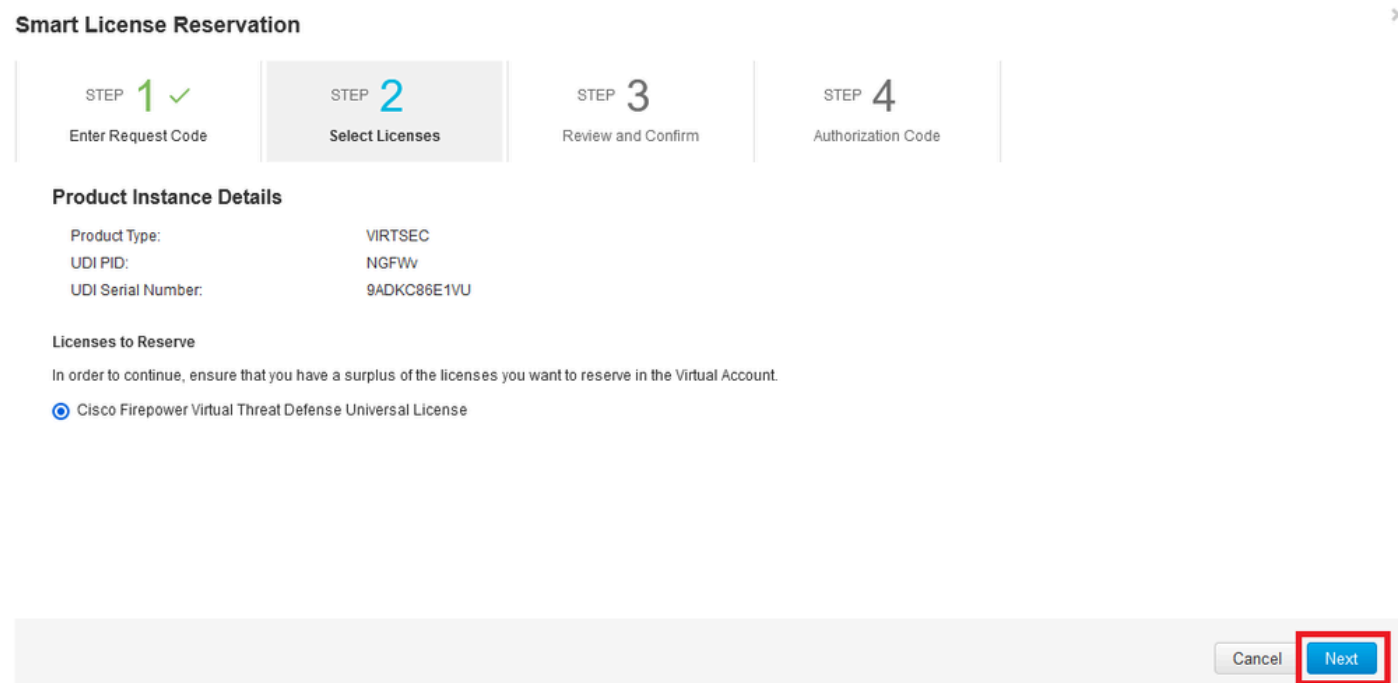
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8. Paste your Request Code and click **Next**.

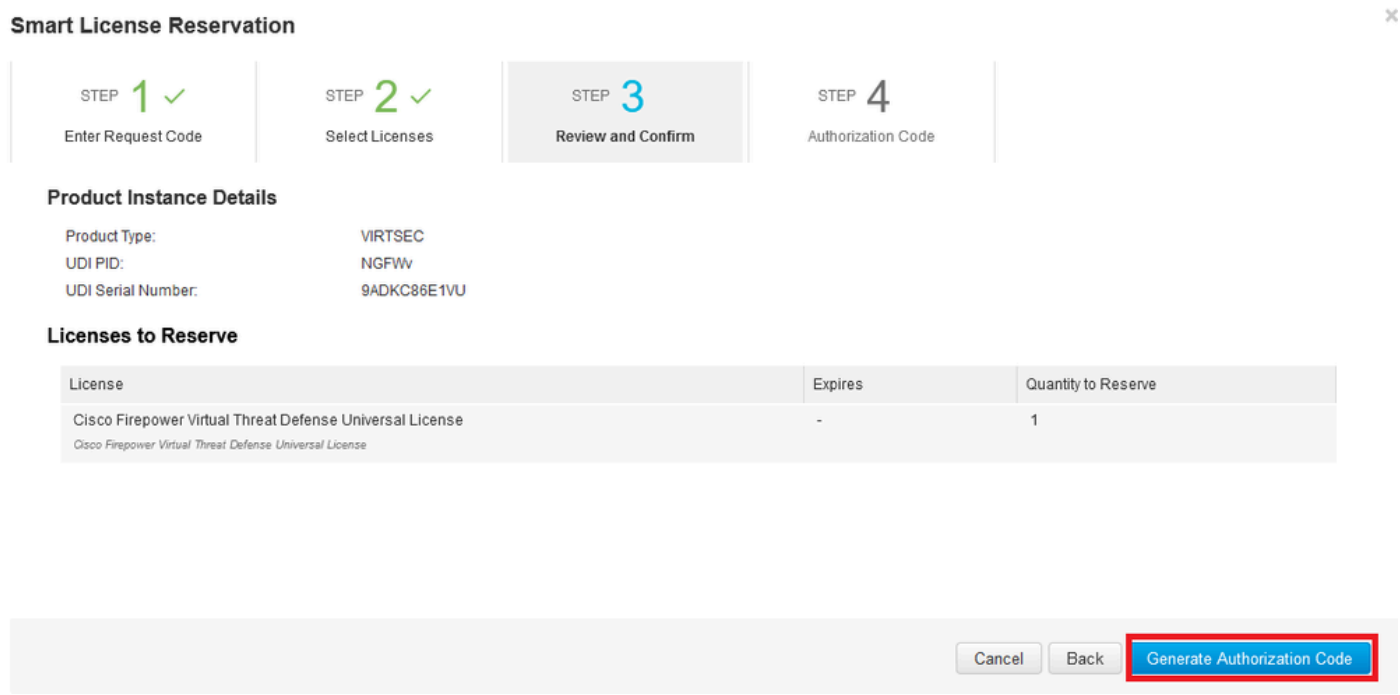


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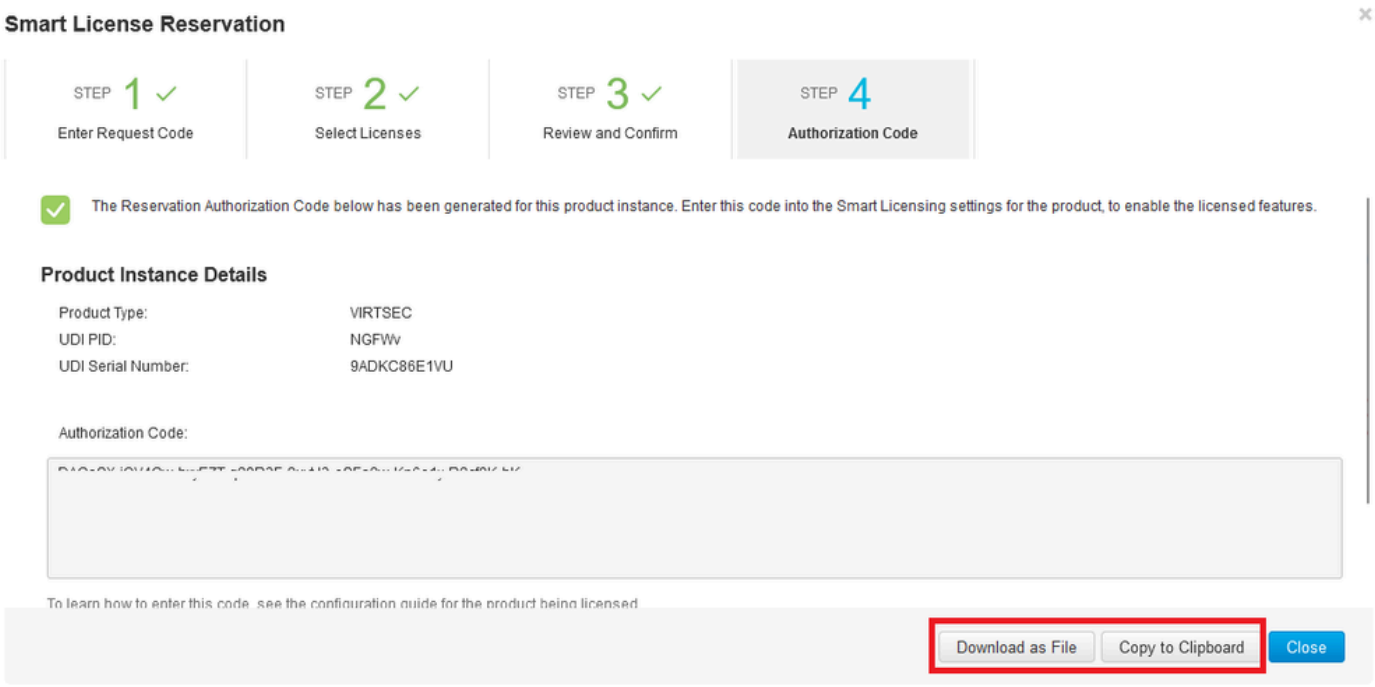
9. Select your license and click **Next**.



10. Click **Generate Authorization Code**.



11. To save the Authorization Code, click **Download as File** or **Copy to Clipboard**.



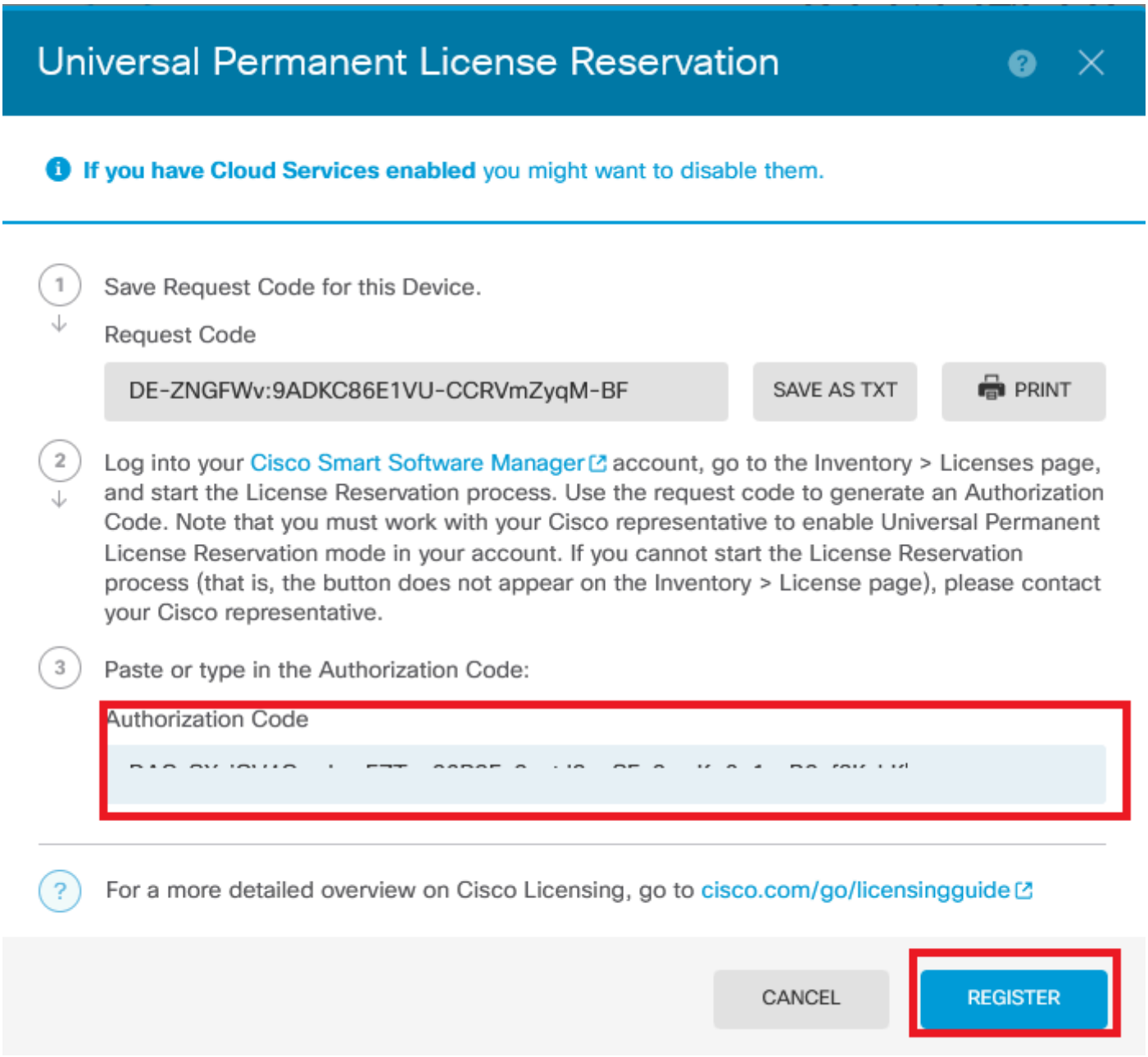
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12. Click **Close** to finish the process.

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13. Go back to FDM and paste the **Authorization Code** and click **Register**.

Note: Refresh the page to view the current status of the license.



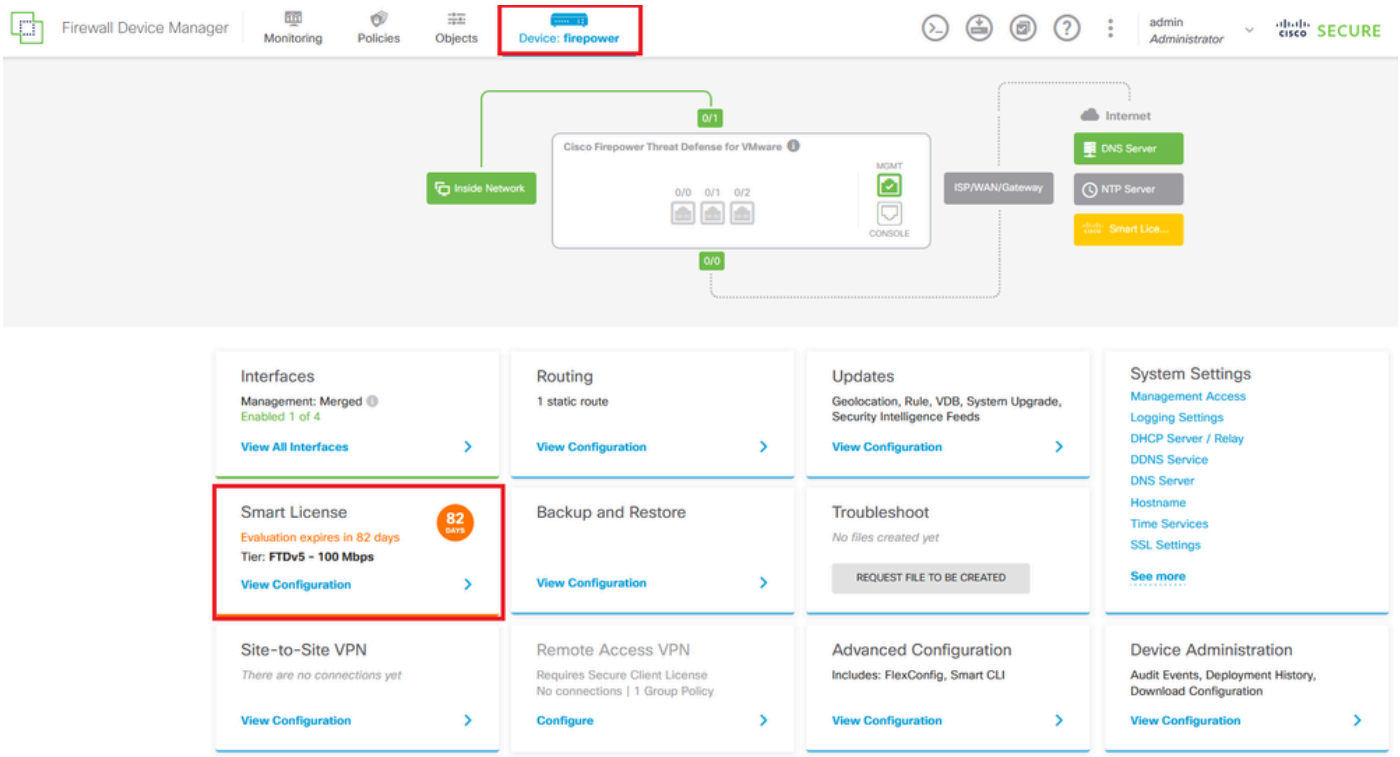
Cancel PLR Registration

I have a License in CSSM

Use this option, when you complete the License Registration wizard in CSSM and you have an authorization code. For example, you started the process in the wrong FDM, so you must release your license in your CSSM account.

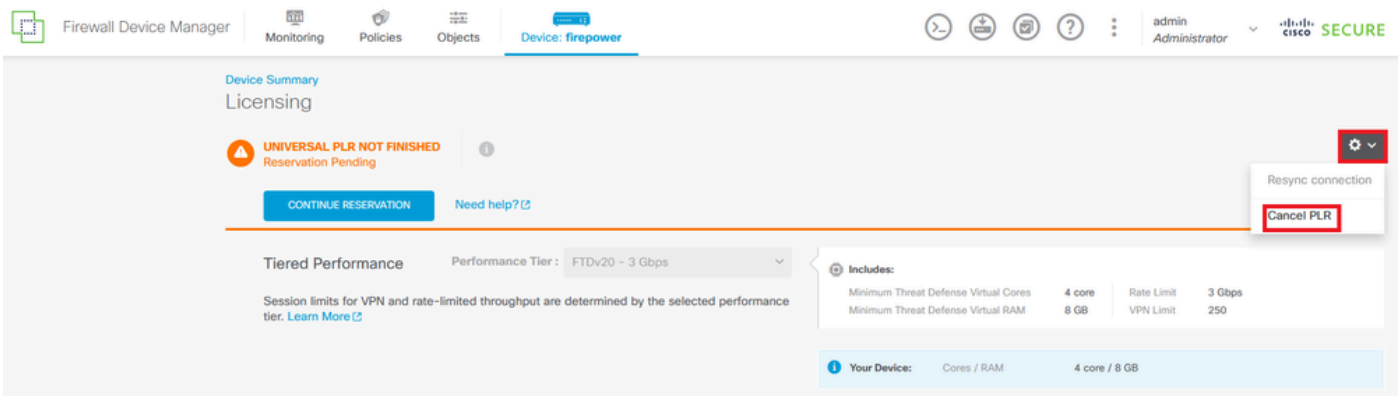
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1. Click **Device** and navigate to **Smart License**.



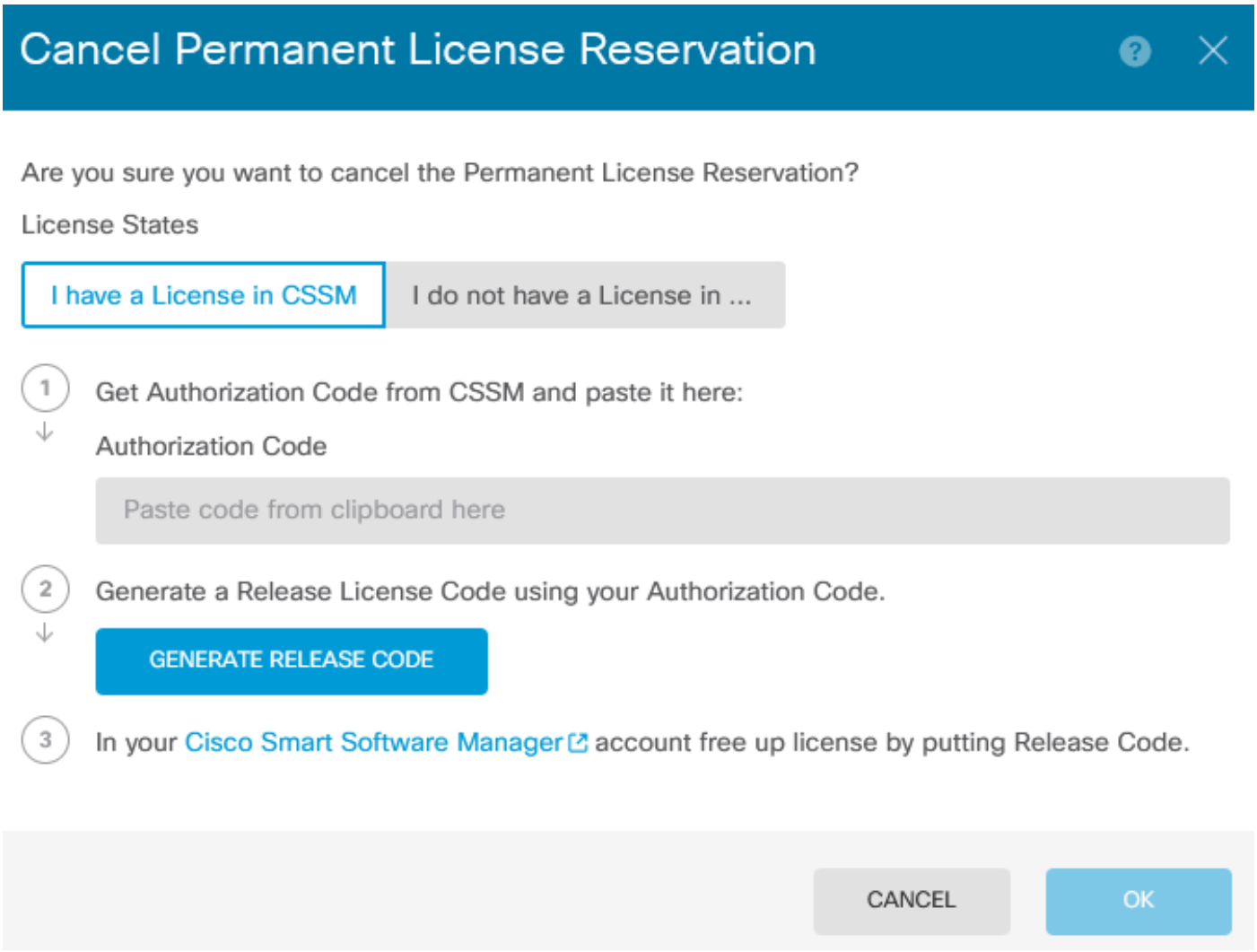
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2. Click the gear and select **Cancel PLR**.



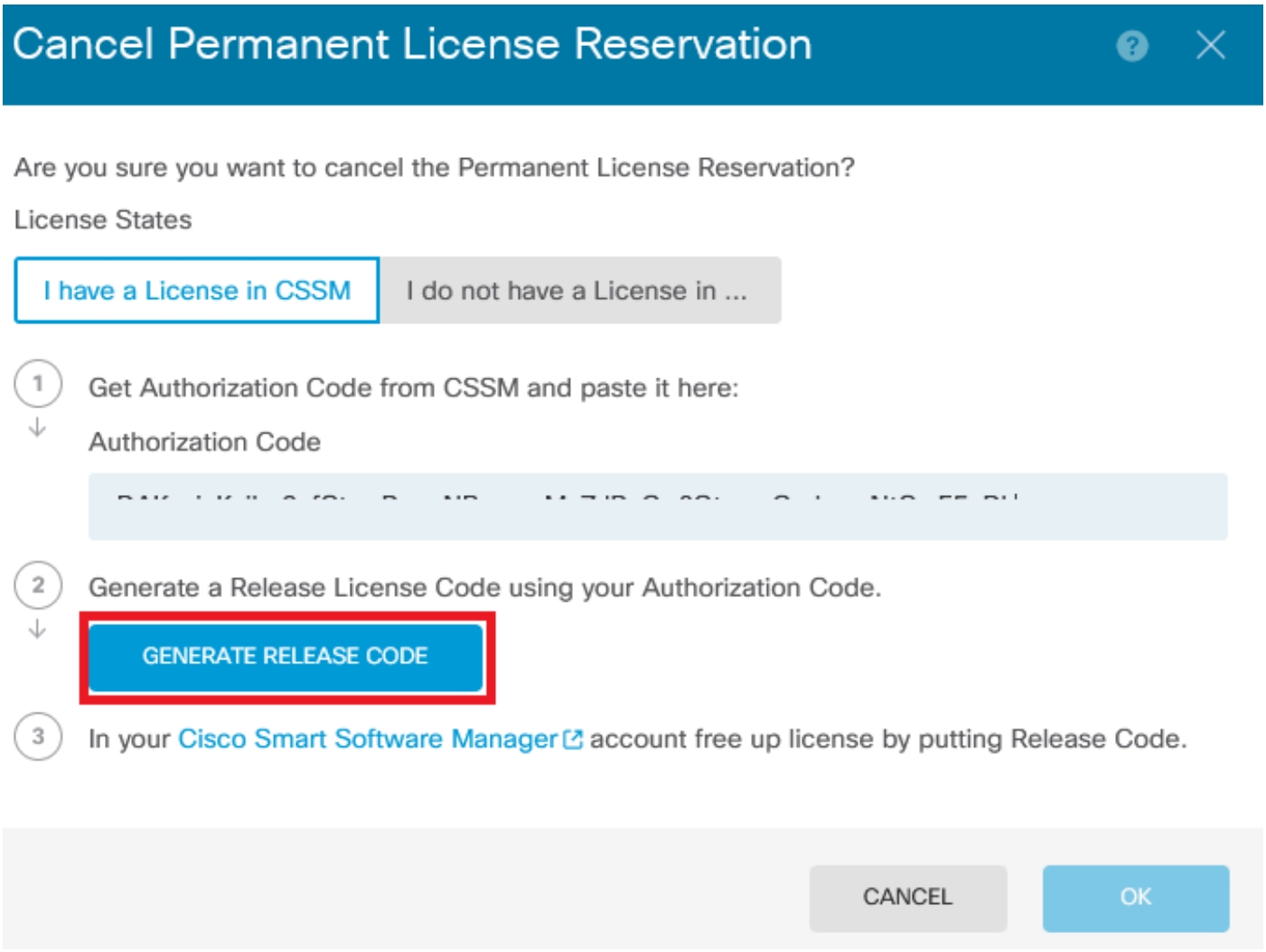
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3. Select **I have a license in CSSM**.



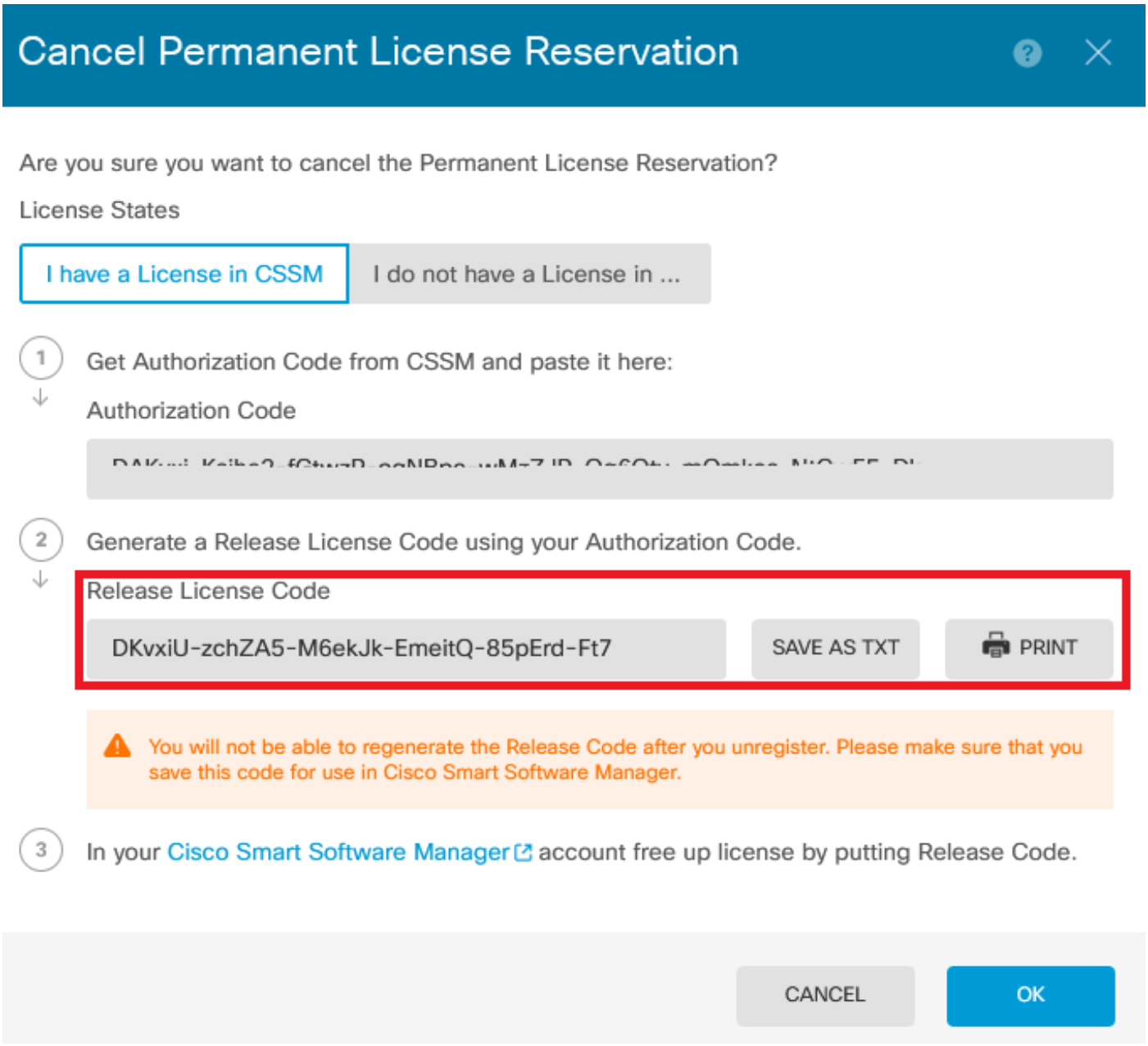
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4. Paste your **Authorization Code** and click **Generate Release Code**.



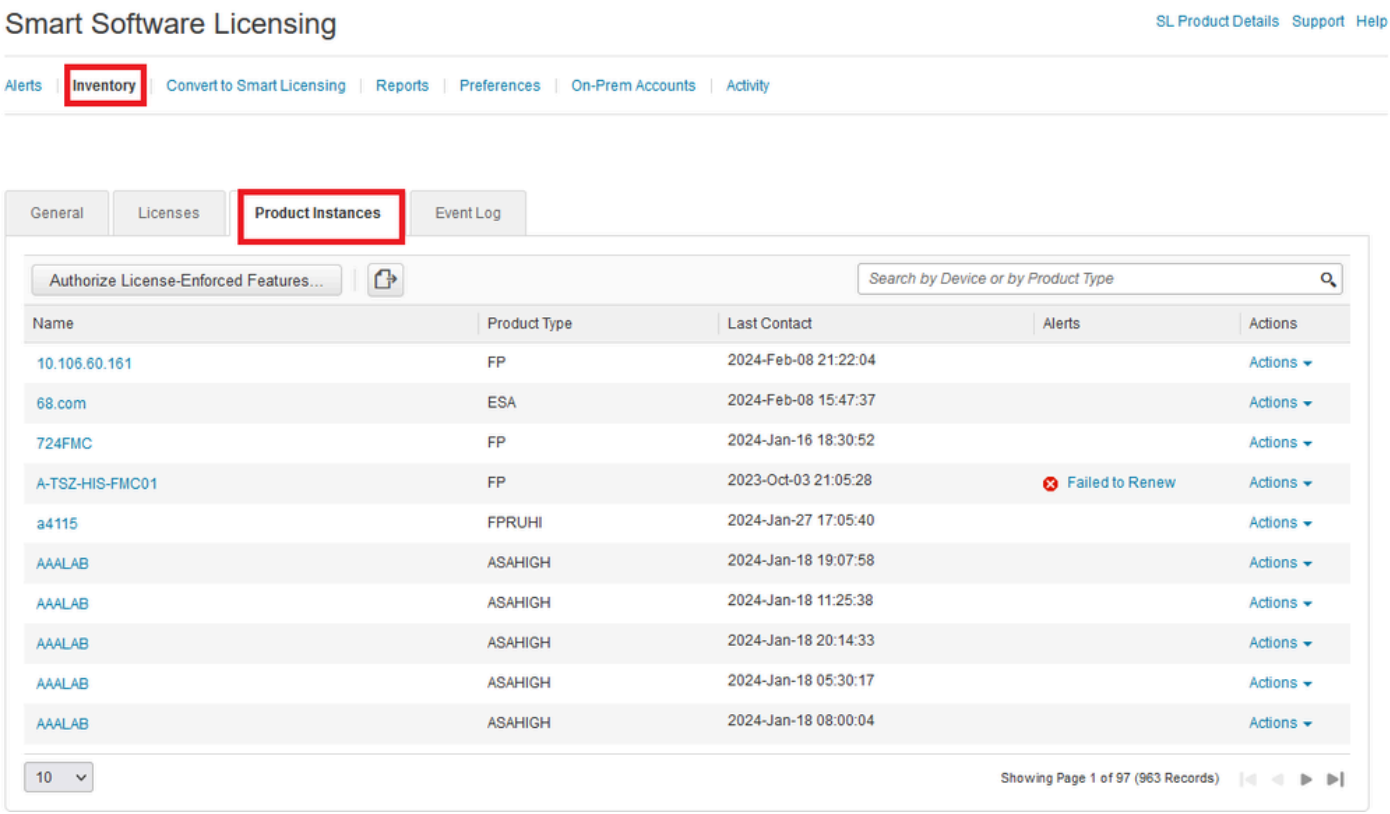
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5. **Save** your **Release License Code**.



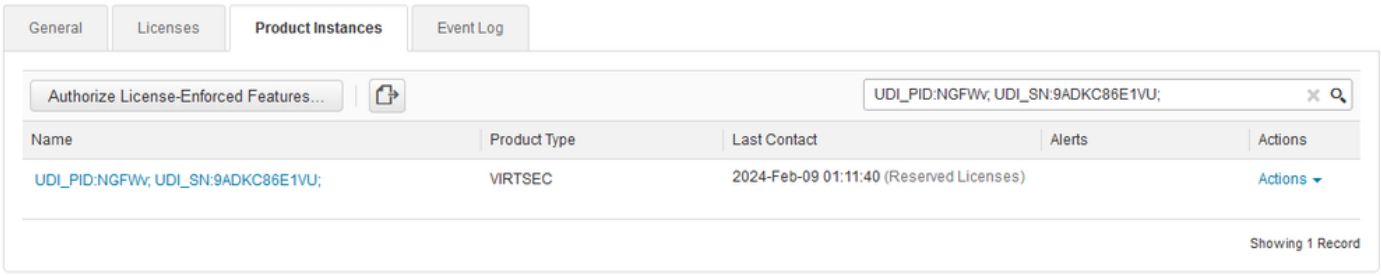
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6. Log in to your CSSM account and navigate to **Smart Software Licensing > Inventory > Product Instances.**

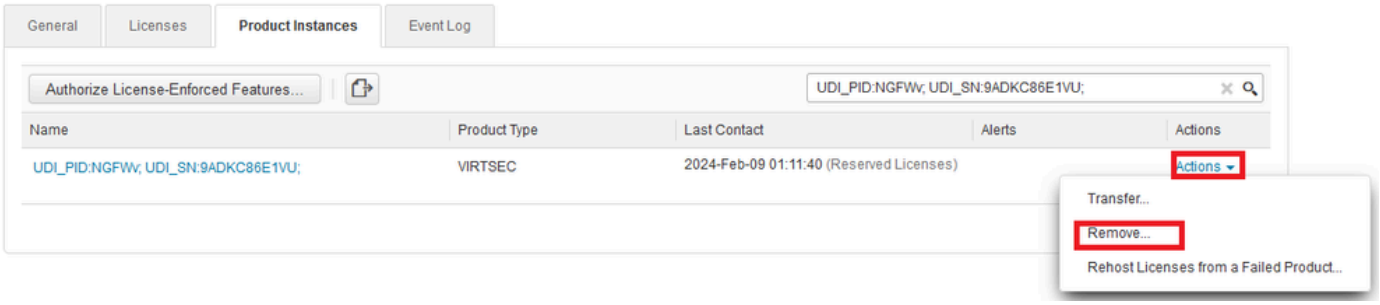


7. Search your device by name.

Note: The Name is the device serial number.

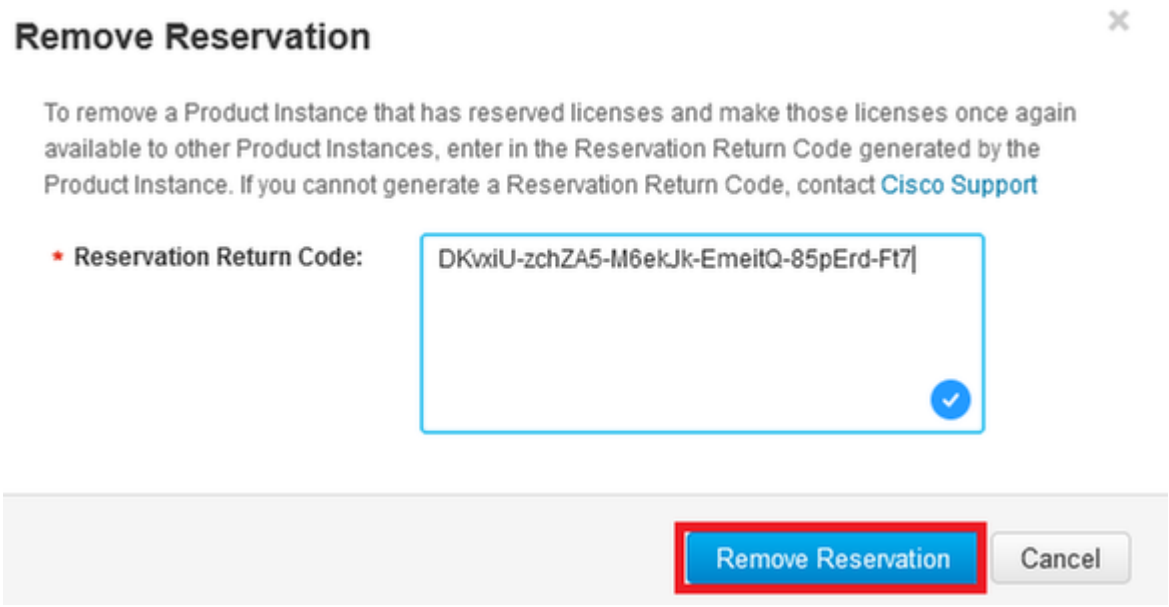


8. Click **Actions** and select **Remove** in the drop-down list.



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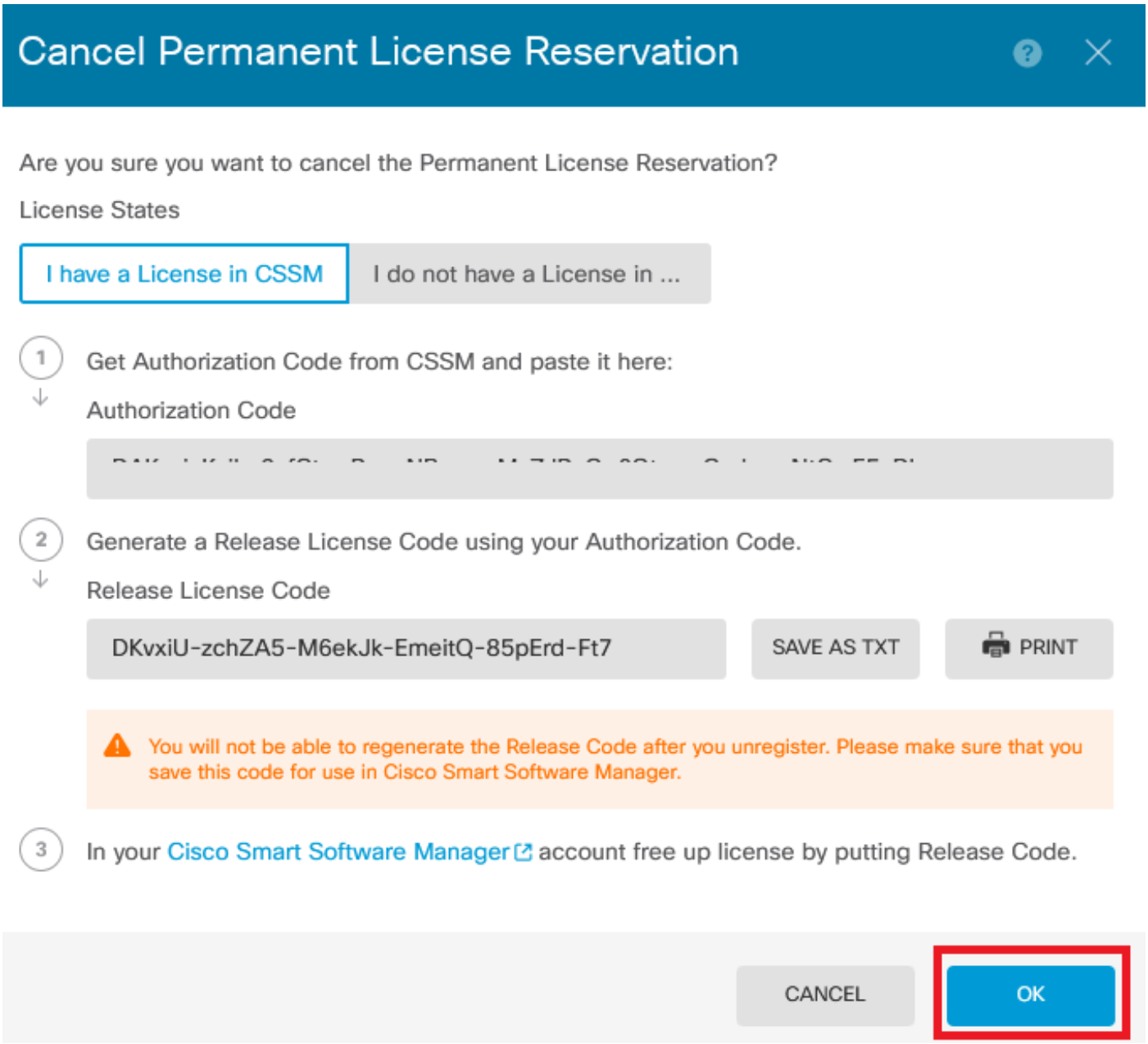
9. Paste your **Release License Code** and click **Remove Reservation**.



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10. Go back to your device and click **Ok**.

Note: Refresh the page to view the current status of the license.

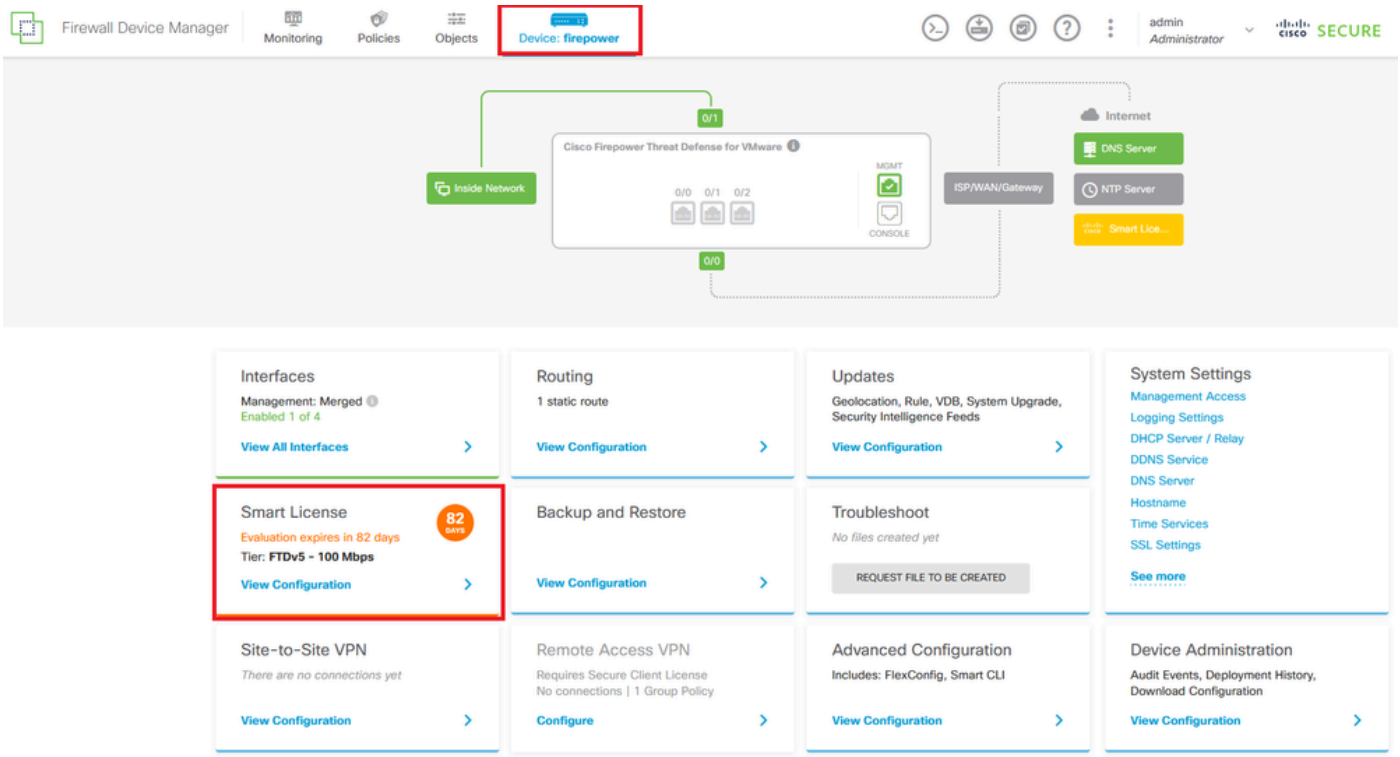


I do not have a License in CSSM

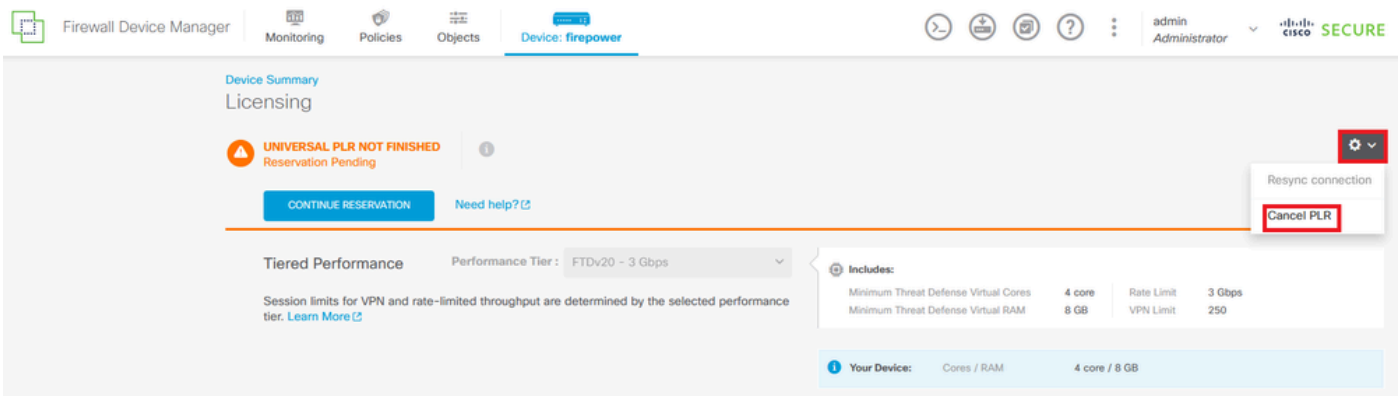
Use this option when you do not complete the License Registration wizard in CSSM. For example, you started the PLR process in your FDM, but you do not have the correct licenses in your CSSM.

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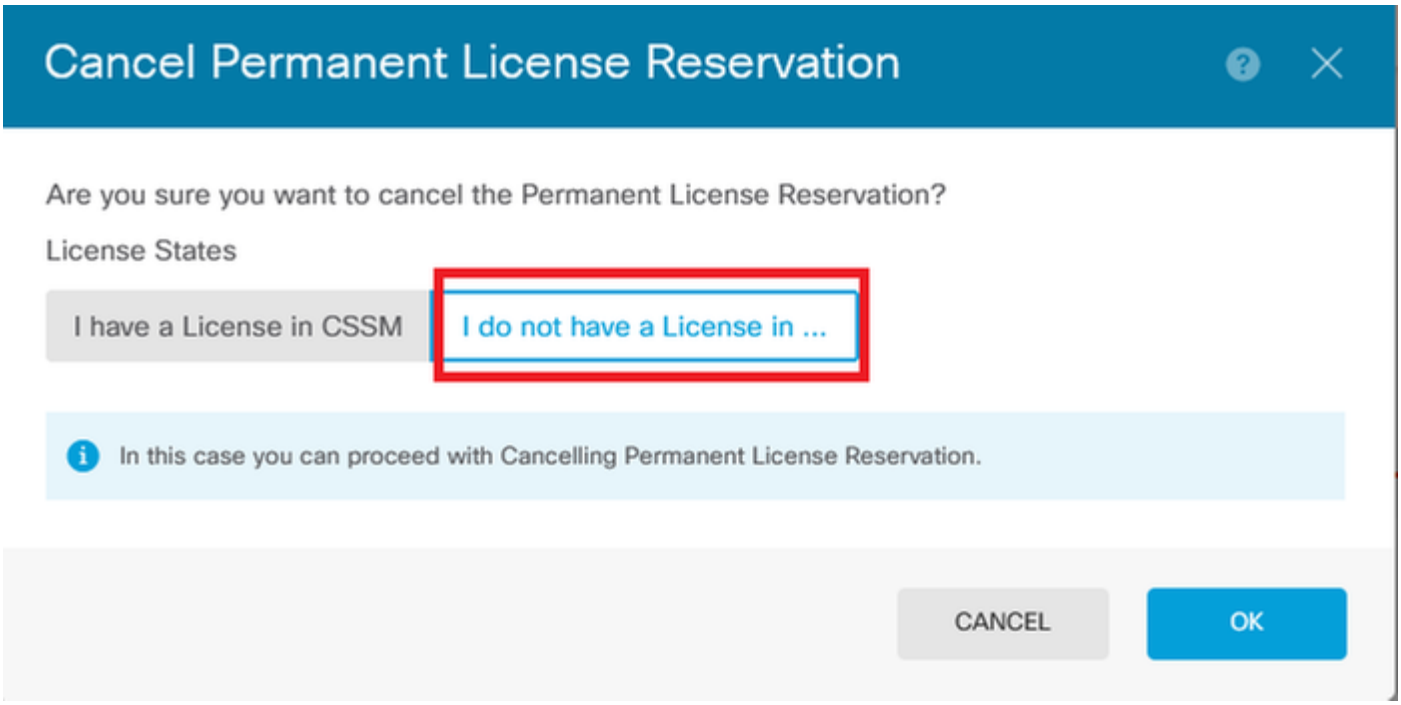
1. Click **Device** and navigate to **Smart License**.



2.Click the gear and select **Cancel PLR**.



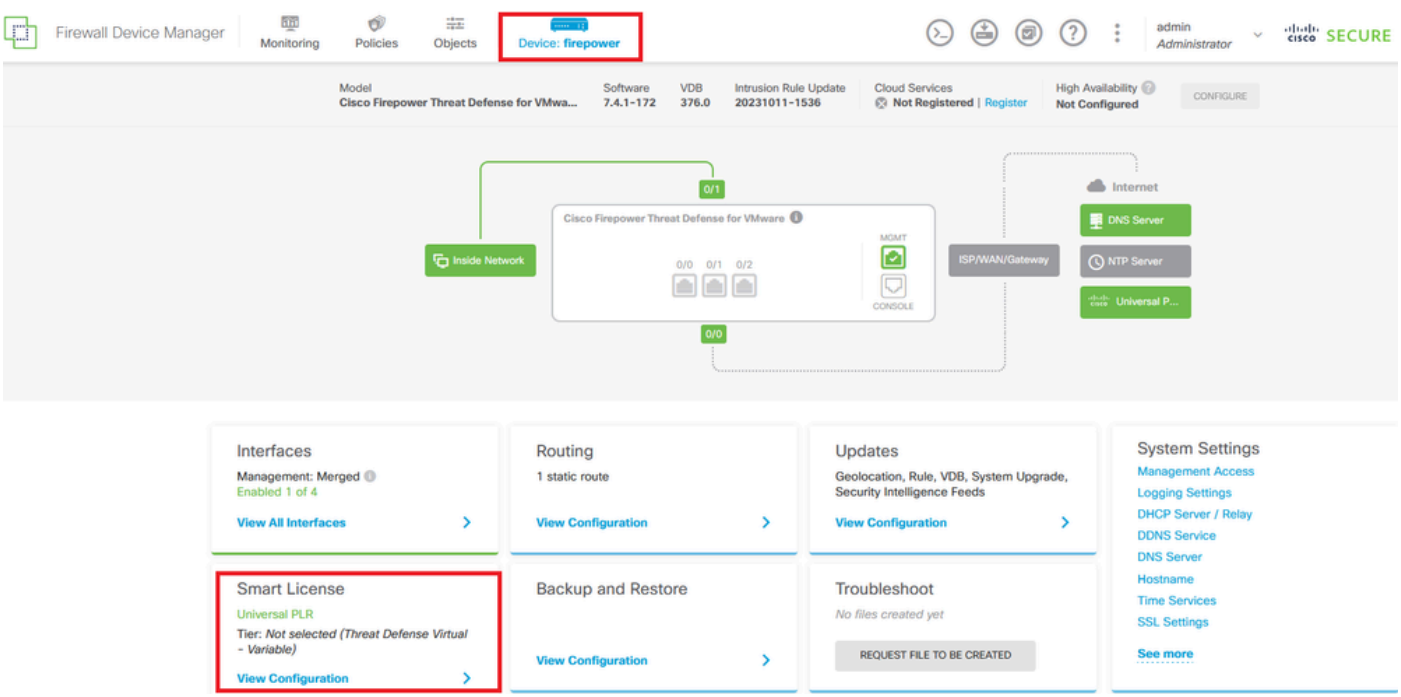
3. Select **I do not have a license in CSSM**.



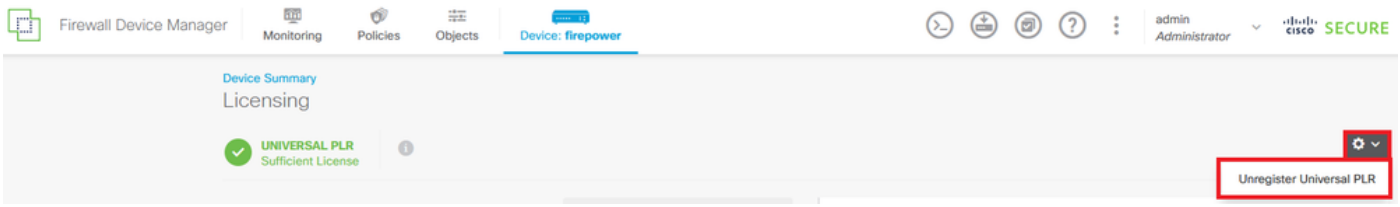
4. Click **Ok** to complete.

Unregister the Device in PLR Mode

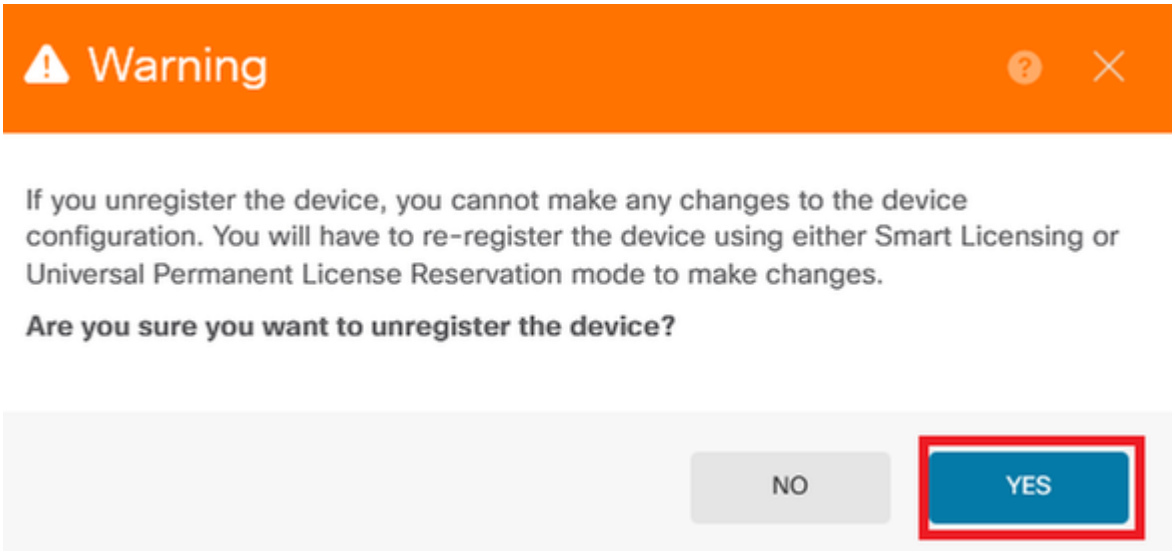
1. Click **Device** and navigate to **Smart License**.



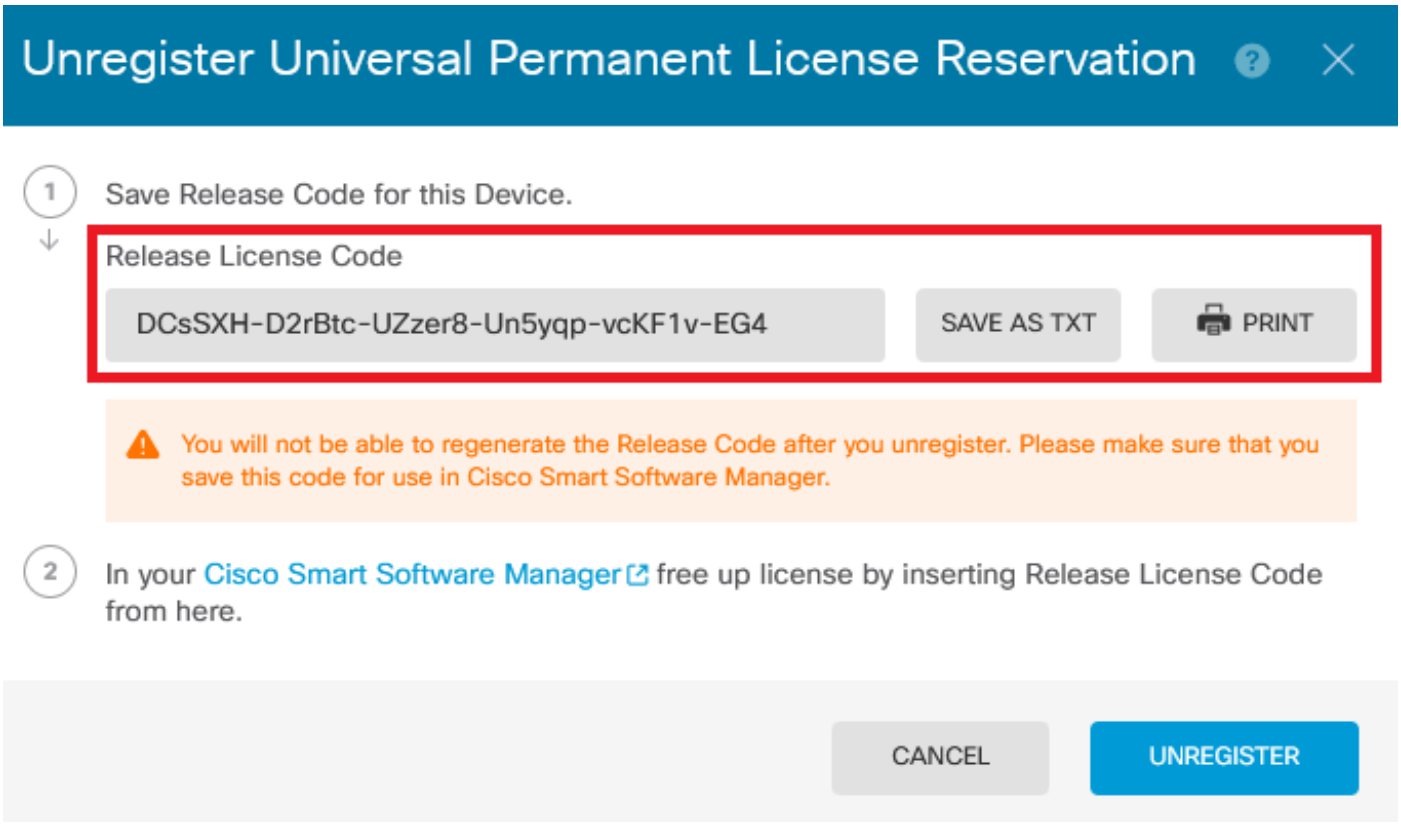
2. Click the gear and select **Unregister Universal PLR**.



3. Click **Yes** to continue the process.

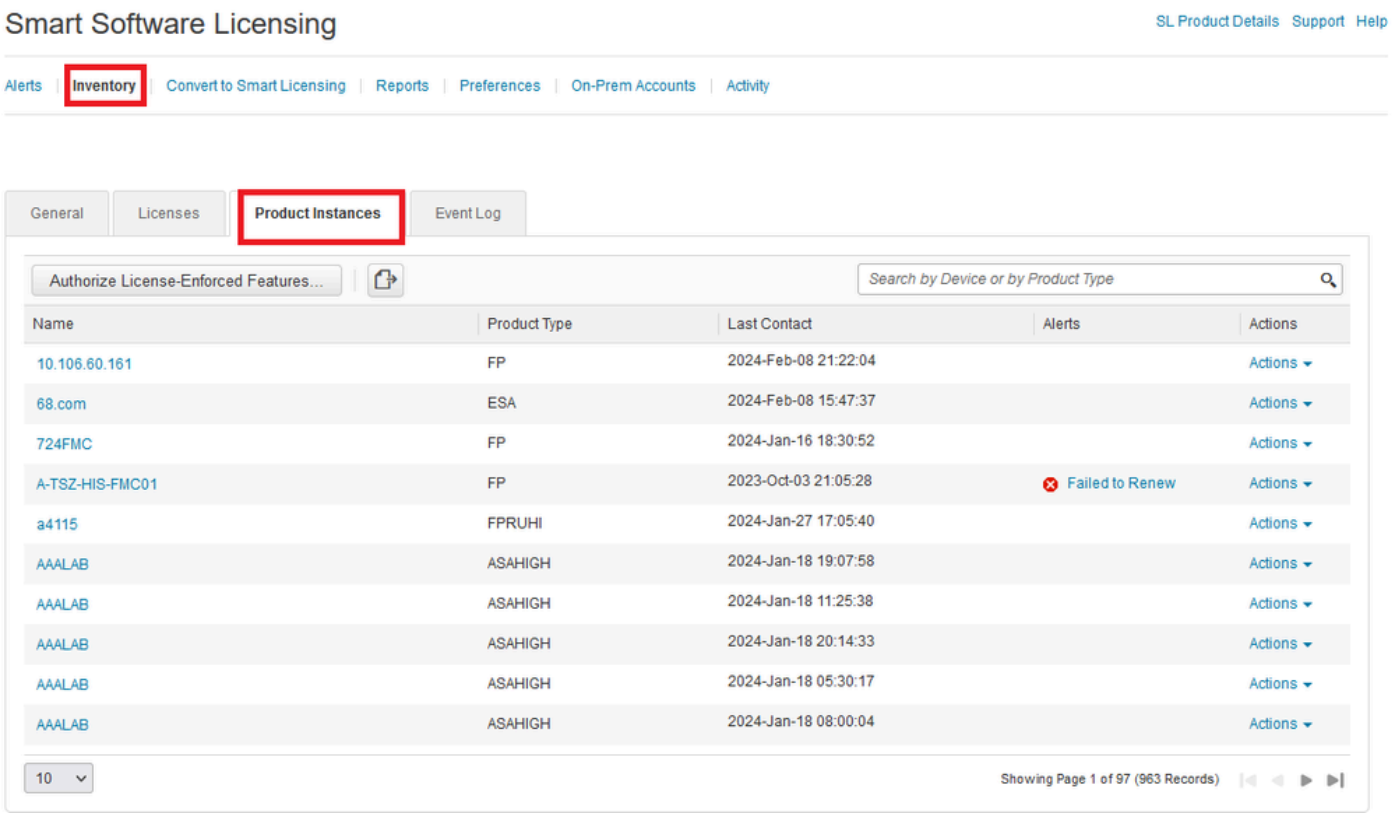


4. **Save** the **Release License Code**.



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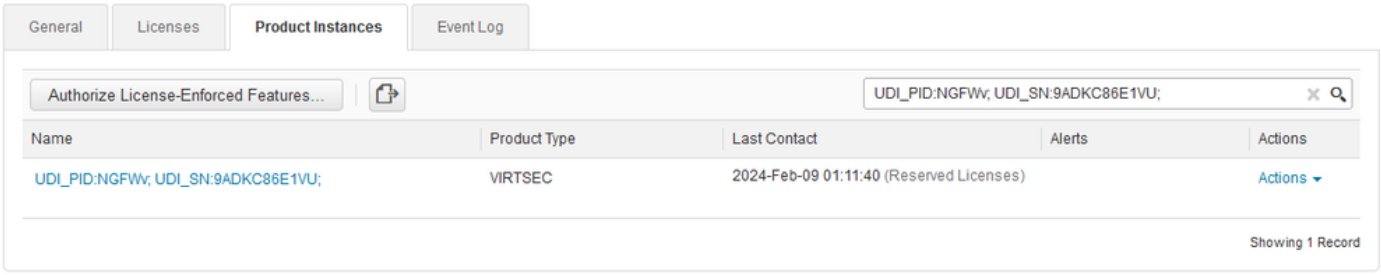
5. Log in to your CSSM account and navigate to **Smart Software Licensing > Inventory > Product Instances**.



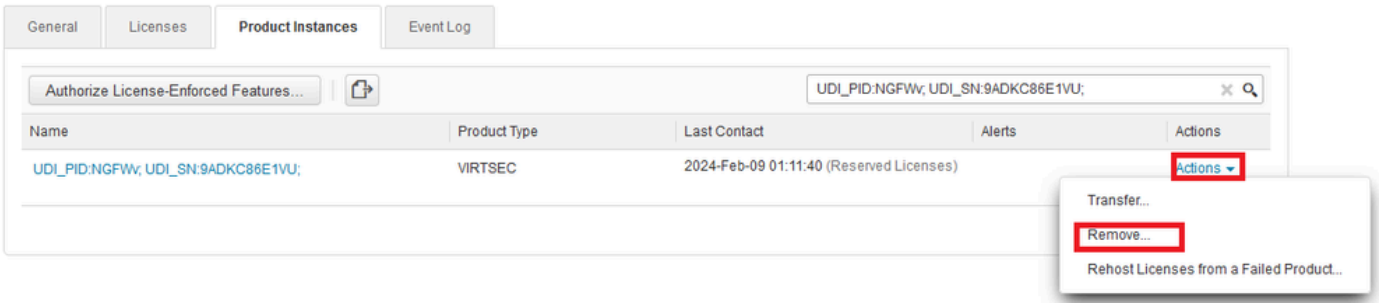
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6. Search for your device by name.

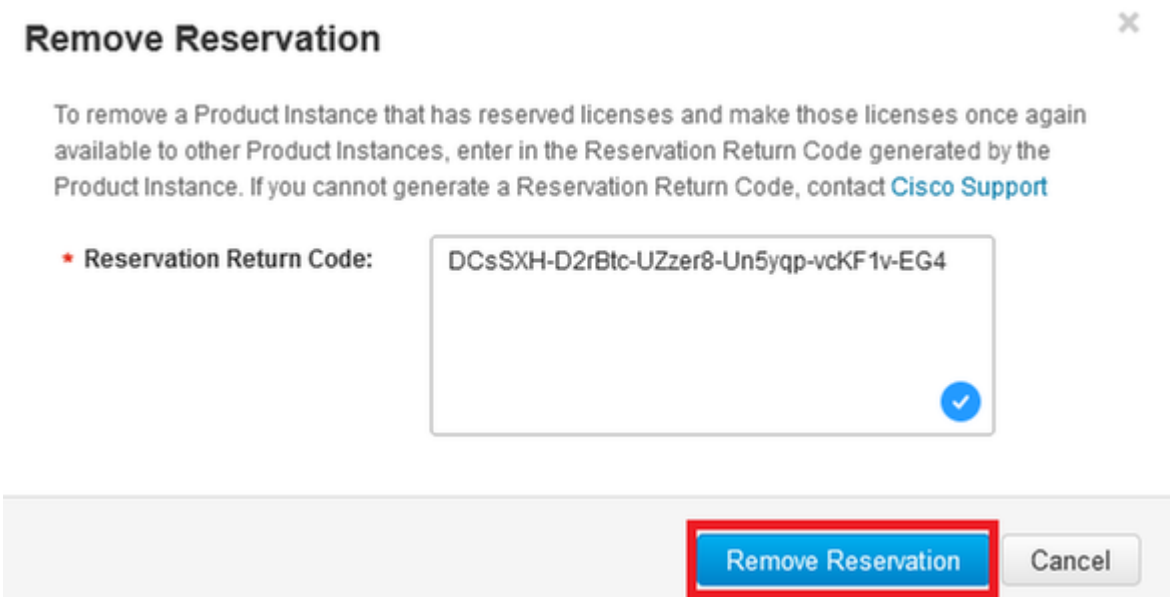
Note: The name of your device is serial number.



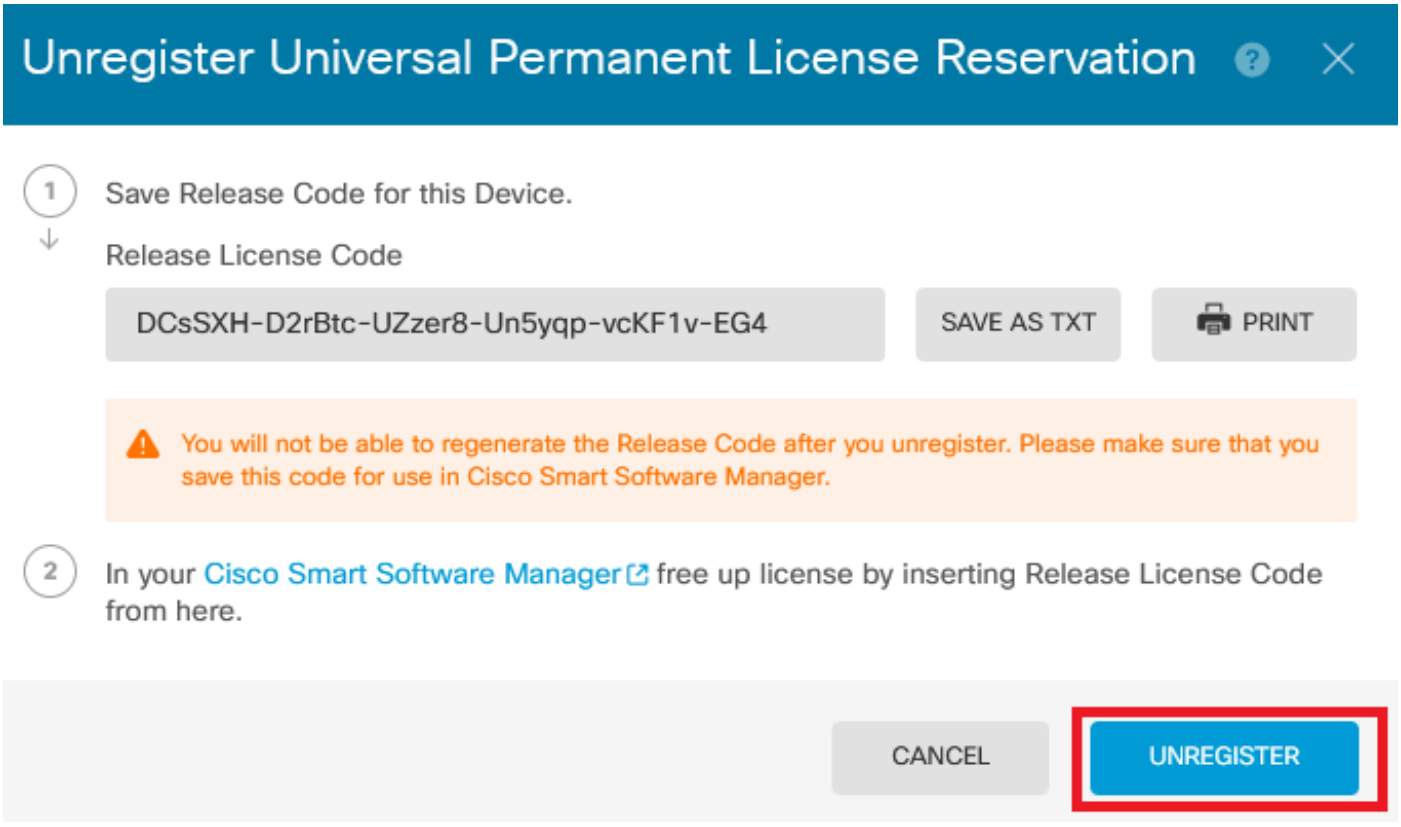
7. Click **Actions** and select **Remove** in the drop-down list.



8. Paste your **Release License Code** and click **Remove Reservation**.

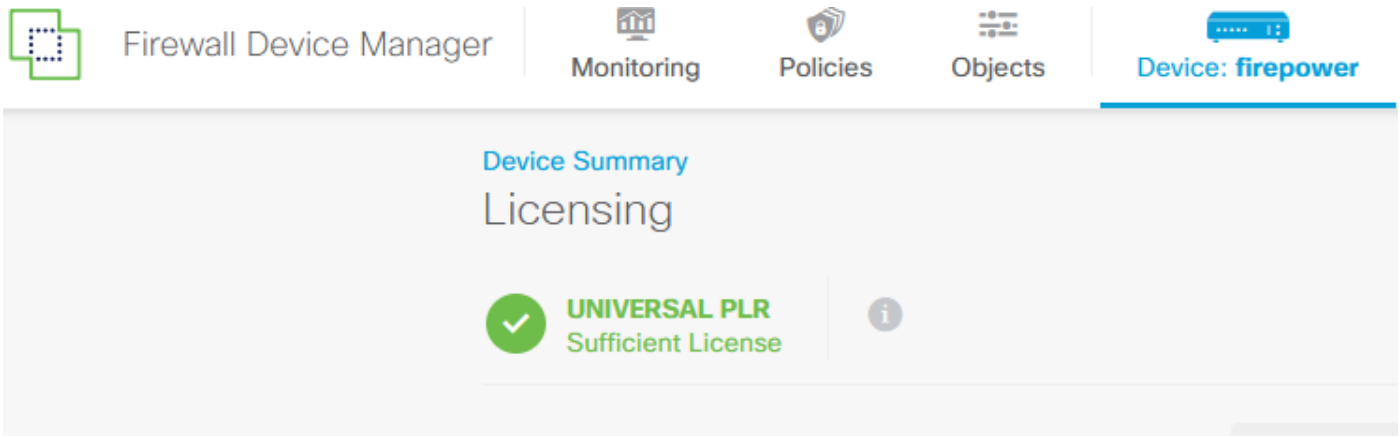


9. Go back to your device and click **Unregister**.



Verify

1. Navigate to **Device > Smart License** and the license displays as Universal PLR.



Troubleshoot

1. Look for errors in /ngfw/var/log/cisco/smart_agent.log.

For example, in these logs, you can see the registration process was successful.

```
<#root>
> expert
admin@firepower:~$ sudo su
Password:
root@firepower:/home/admin# cd /ngfw/var/log/cisco/
root@firepower:/ngfw/var/log/cisco# tail smart_agent.log
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO LicenseSoftwareIds:82 - Selected software ID: regid.2019-
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO DefaultSmartAgentFactoryProvider:398 - New platform tag i
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl

2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO SmartAgentConfFileSync:178 - RegistrationStatus : REGISTER


2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO SmartAgentConfFileSync:192 - updated the smart Agent File
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO DefaultSmartAgentManager:159 - Received notification from
```

2. Take a pigtail to request TAC assistance and attach it to the case notes. You can request support assistance in Cisco Technical Support & Downloads.

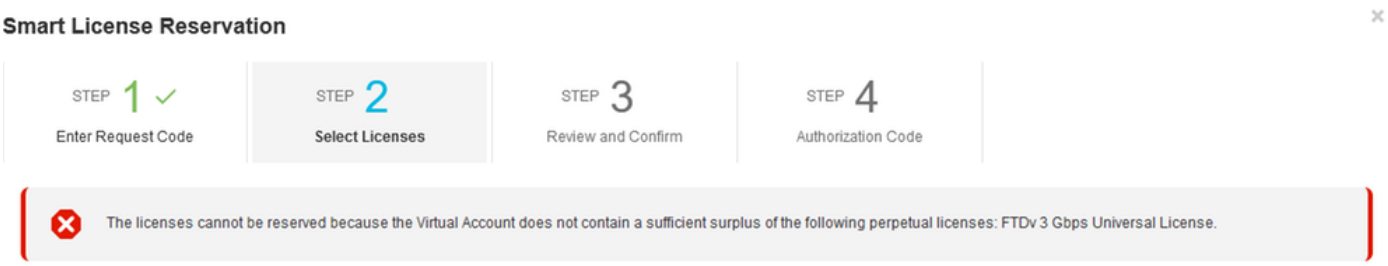
```
> expert
admin@firepower:~$ sudo su
root@firepower:/home/admin# pigtail all -outfile LogsRegistration.txt
```

3. The license status is also reported in the /etc/sf/smart_agent.conf file. If the device is in Universal Permanent Licensing Reservation mode, the smart_agent.conf shows as REGISTERED and AUTHORIZED.

```
> expert
admin@firepower:~$ sudo su
root@firepower:/home/admin# tail /etc/sf/smart_agent.conf
#Fri Feb 09 03:21:21 UTC 2024
virtual_acct=
registration=REGISTERED,null
authorization=AUTHORIZED,1707448881842
```

Common Issues

Not enough licenses. In the **License Reservation** process, you receive this error:

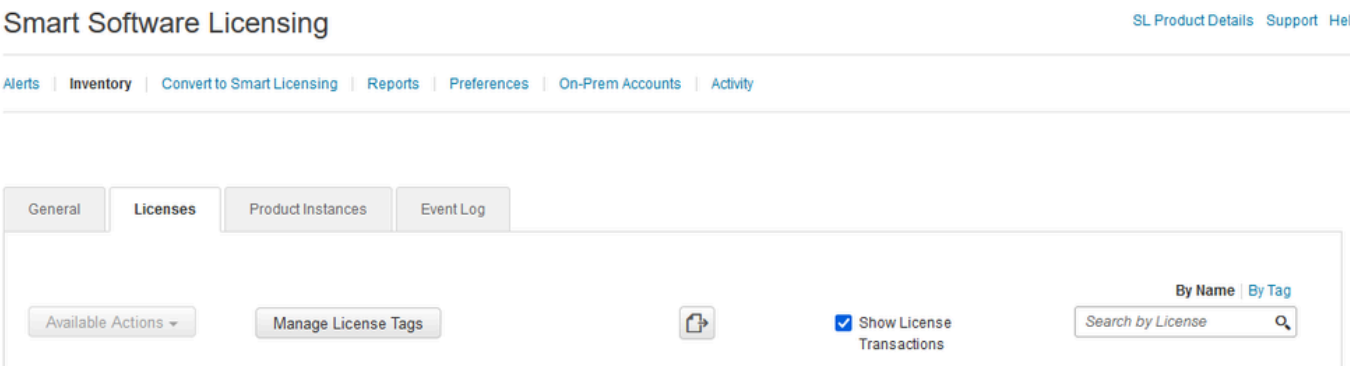


Recommended Action:

1. Verify you have enough licenses in your CSSM account. If you have enough licenses, request TAC assistance.

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2. You cannot see the License Reservation button.



Recommended Action:

3. You must contact your Cisco representative to enable PLR mode in your account.

Related Information

- Cisco Secure Firewall Device Manager Configuration Guide, Version 7.4