

Beheer en provisioning niet-fabric Catalyst 9800 draadloze LAN-controllers van Cisco DNA Center

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Inleiding

Dit artikel biedt een voorbeeld van de voorbeeldconfiguratie van het toevoegen, beheren en leveren van niet-fabric Catalyst 9800 draadloze LAN-controllers via Cisco DNA-Center.

Voorwaarden

Basiskennis van Catalyst 9800 en configuratie van DNA-centrum

Vereisten

Raadpleeg [een](#) matrixprinter voor [softwarecompatibiliteit](#) voor vereisten voor compatibiliteit met Catalyst 9800 WLC en Cisco DNA-Center.

Gebruikte componenten

9800-CL op 16.12.4a release.

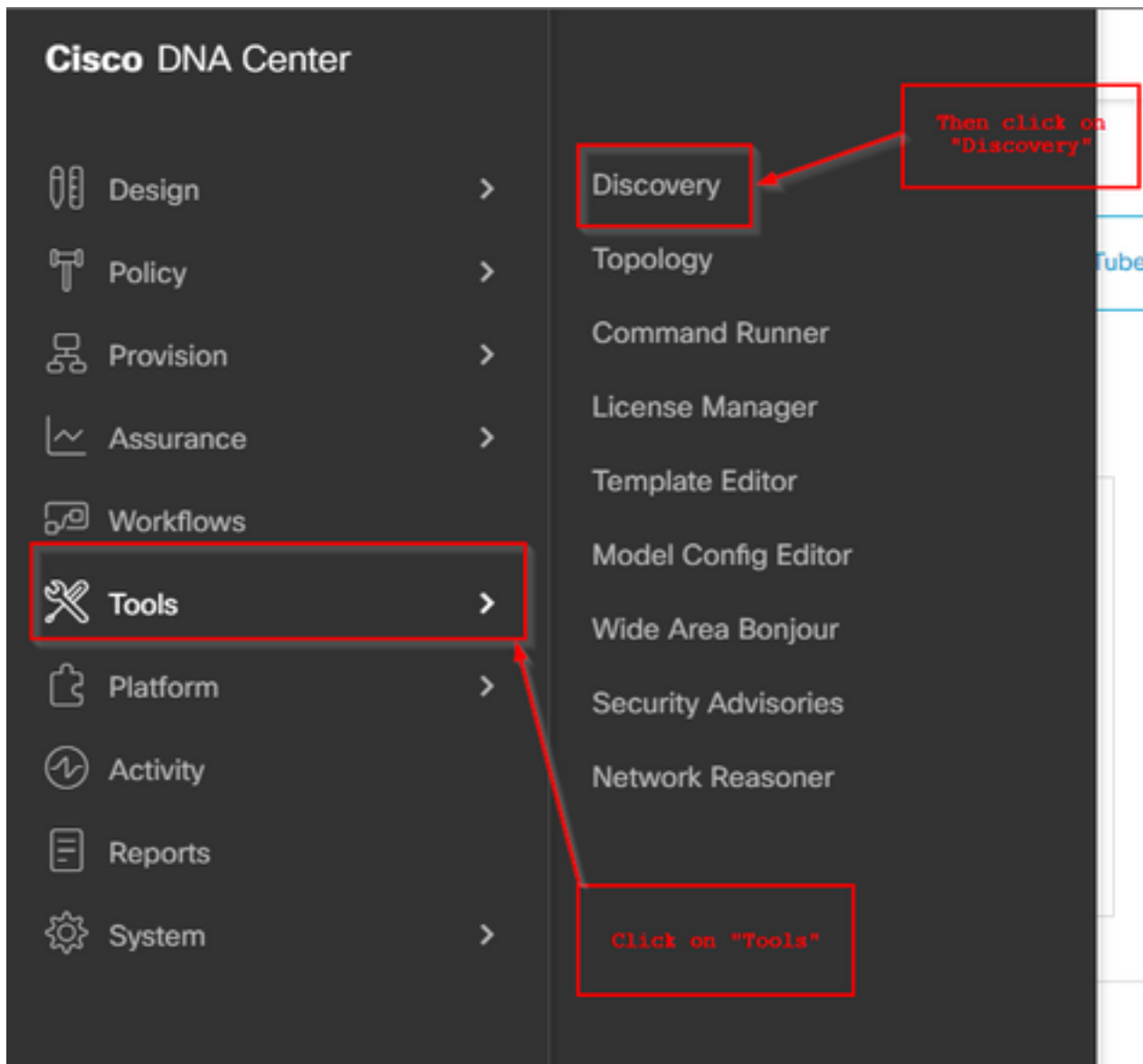
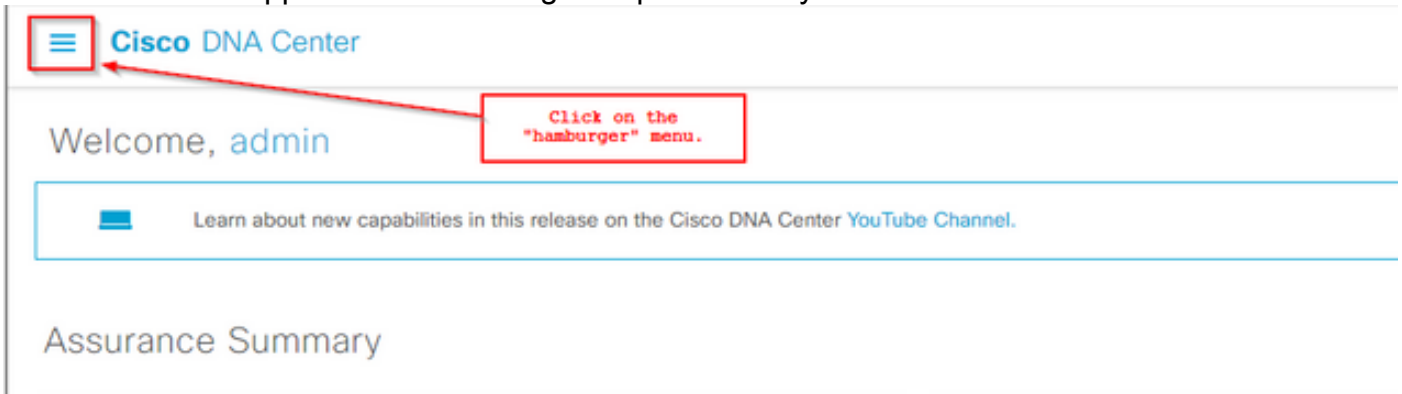
Cisco DNA-Center op 2.1.2.0 release.

Configureren

Cisco DNA-C GUI:

1. Inloggen op Cisco DNA-C GUI

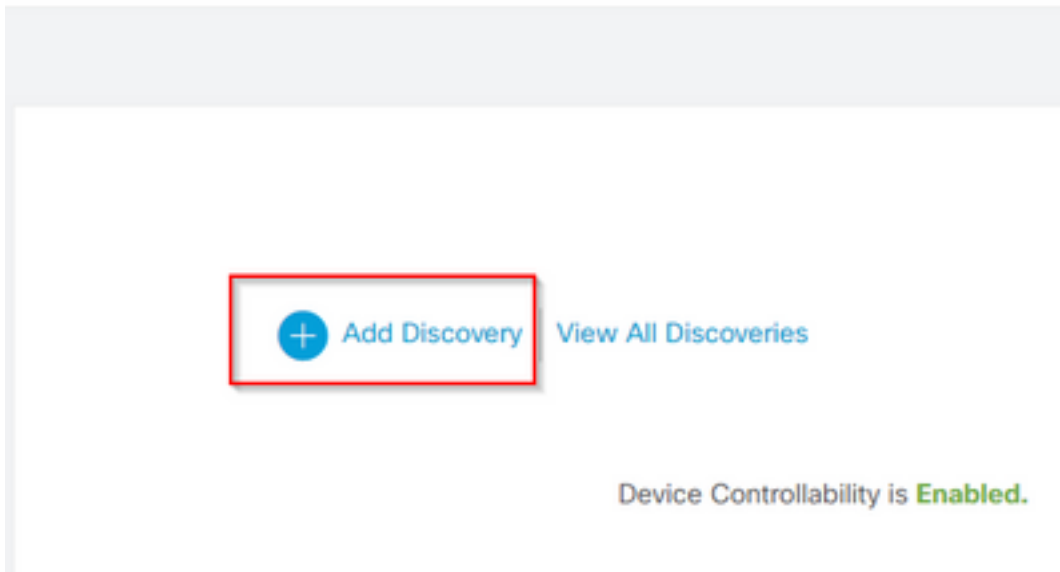
2. Klik in de linkerbovenhoek van de webpagina op het menu "hamburger", klik op "Gereedschappen" en klik vervolgens op "Discovery":



Opmerking: U kunt uw C9800-apparaat ook ontdekken met behulp van het menu "Uitinventaris".

3. Klik op de pagina Discovery:

Discovery



4. Voer de C9800 WLC-gegevens in

New Discovery

Discovery Name*

9800-WLC-Switch

^ IP ADDRESS/RANGE *

Discovery Type ⓘ

☐ CDP ☒ IP Address/Range ☐ LLDP

From* ⓘ

1.1.1.1

To* ⓘ

1.1.1.1

-

+

Subnet Filters ⓘ

+

Preferred Management IP Address ⓘ

☒ None ☐ Use Loopback

Scrollt naar beneden om de CLI/SNMP/HTTP/HTTPS-referenties in te schakelen:

OPMERKING: De gebruikersnaam/wachtwoord/SSHv2 moet eerst op het apparaat worden ingesteld.

- At least one CLI credential and one SNMP credential are required.
- Netconf is mandatory for enabling Wireless Services on Wireless capable devices such as C9800-Switches/Controllers.
- GLOBAL Task-specific

CLI	SNMPv2c Read
☐	☐
☐	
☐	
SNMPv2c Write	SNMPv3
☐	☐
HTTP(S) Read	HTTP(S) Write

U kunt NETCONF als volgt inschakelen op de zoekpagina:

^ CREDENTIALS *

- At least one CLI credential and one SNMP credential are required.
- Netconf is mandatory for enabling Wireless Services on Wireless capable devices such as C9800-Switches/Controllers.
- GLOBAL Task-specific

[Add Credentials](#)

Add Credentials

CLI SNMPv2c SNMPv3 SNMP PROPERTIES HTTP(S) **NETCONF**

Port 1
830

2. Type "830"

1. Click "NETCONF"

☐ Save as global settings

Settings will be used for this specific Discovery only

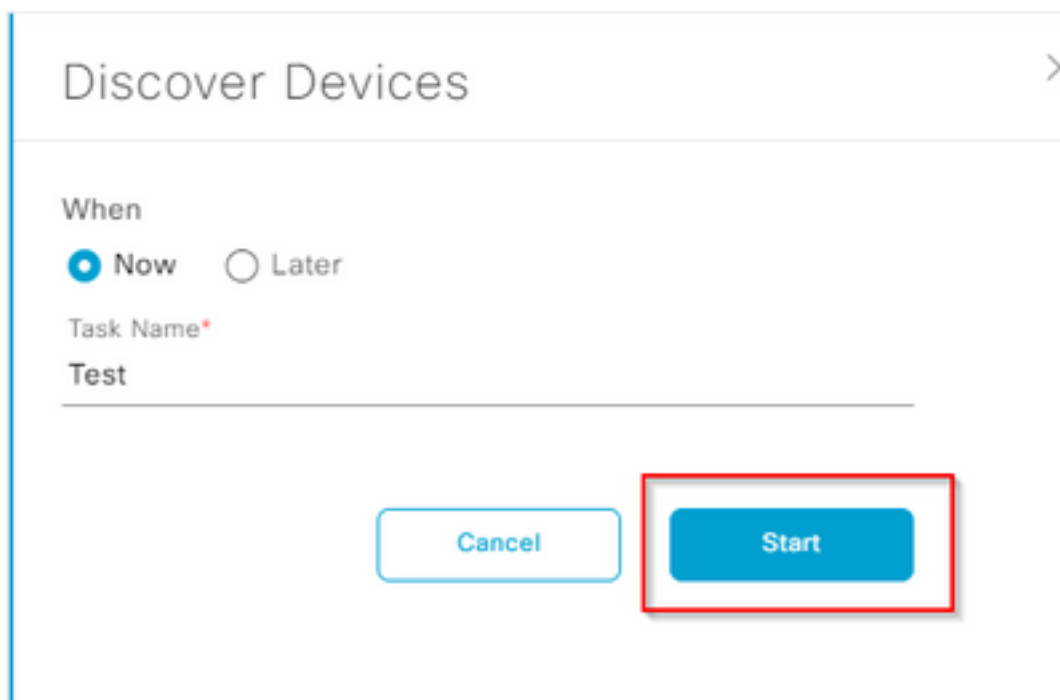
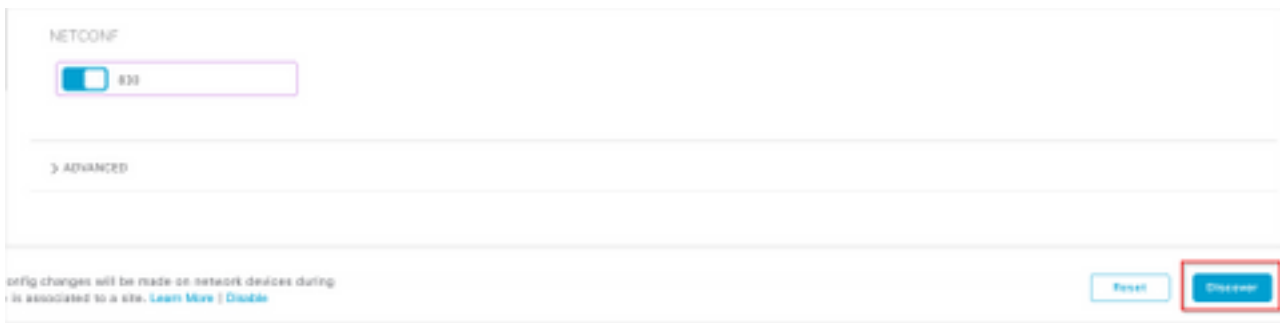
NETCONF with user privilege 15 is mandatory for enabling Wireless Services on Wireless capable devices such as C9800 Switches/Controllers. The NETCONF credentials are required to connect to eWLC devices. Majority of data collection is done using NETCONF for eWLC.

[Reset](#) [Save](#)

3. Press the "Save" button

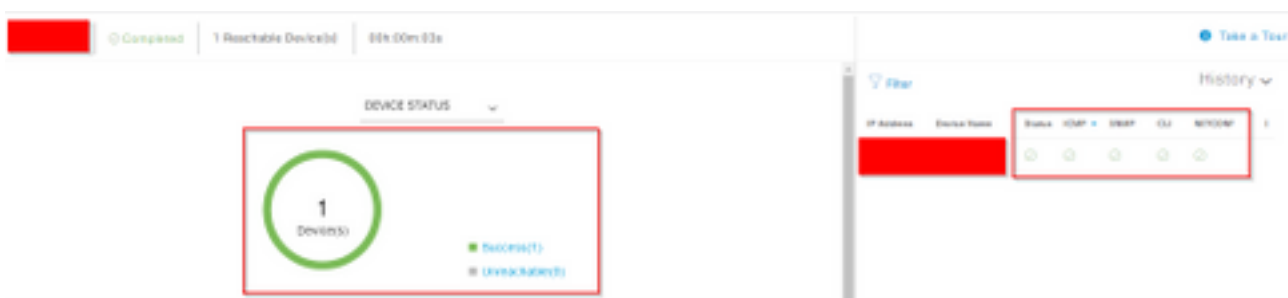
OPMERKING: De standaardpoort van NETCONF op C9800 is poort 830.

Druk vervolgens op de knop "Opzoeken" en druk op de knop "Start":



OPMERKING: U kunt het detectieproces voor een andere tijd en datum plannen.

Als alles correct is geconfigureerd op Cisco DNA Center en op de 9800 WLC, dan zou de detectie er precies zo uit moeten zien:



Zorg ervoor dat u bevestigt dat het apparaat in een "Beheerde" toestand staat in de "Voorinventaris" pagina:



C9800 wordt nu toegevoegd aan Cisco DNA-C.

Provisioning C9800 via Cisco DNA-C

Stap 1: Ontwerpen

1. Klik vanuit de startpagina van Cisco DNA-C op het tabblad Design

The screenshot shows the Cisco DNA Center interface with the **DESIGN** tab selected. The **Network Hierarchy** sub-tab is active, displaying a tree structure on the left under **Global** > **Richardson TX** > **RCDN Bld 5**. The hierarchy lists POD01 through POD08. To the right, a site map for **Richardson TX / RCDN Bld 5 / POD16** is shown, featuring a color-coded signal strength legend ranging from -35 dBm (red) to -90 dBm (blue). The map displays various rooms and their signal coverage. At the top, the frequency is set to **5 GHz**, and there are links for **Edit**, **Data**, and **View Options**.

Een site-kaart en plattegrond zijn al toegevoegd aan het tabblad Network Hierarchy.

2. Als u Wireless SSID wilt toevoegen, klikt u op het tabblad "Netwerkinstellingen" en navigeert u naar "Draadloos" en vervolgens klikt u op "Toevoegen"

The screenshot shows the Cisco DNA Center interface with the **DESIGN** tab selected. The **Network Settings** sub-tab is active. The **Wireless** section is highlighted in the top navigation bar. The main content area is titled **Enterprise Wireless** and includes a **+ Add** button, which is highlighted with a red box. Below this, there are links for **Filter**, **Edit**, and **Delete**. A table header is visible with columns for **Network Name (SSID)**, **Security**, and **Wireless Profiles**. The table currently displays **No data to display**.

Create an Enterprise Wireless Network

1

Enterprise Wireless Network

2

Wireless Profiles

Wireless Network Name(SSID) *

POD09-DNA-C-PSK

TYPE OF ENTERPRISE NETWORK *

☒ Voice and Data

☐ Data only

☐ Fast Lane

Scrollt naar de beveiligingsinstellingen en stel het PSK-wachtwoord in.

LEVEL OF SECURITY *

☐ WPA2 Enterprise ☒ WPA2 Personal ☐ Open

More secure

A password (Pre-Shared Key PSK with WPA2 encryption) is needed to access the wireless network

Pass Phrase *

Cisco123



ADVANCED SECURITY OPTIONS

☐ Mac Filtering

Fast Transition (802.11r)

☒ Adaptive ☐ Enable ☐ Disable

Previous

Cancel

Next

Wanneer u op het tabblad "Volgende" klikt, gaat u naar het tabblad "Draadloze profielen" waar u uw draadloos profiel zult configureren dat aan de specifieke site wordt toegewezen.

1

Enterprise Wireless Network

2

Wireless Profiles

Wireless Profile Name *

POD09-Wireless-Profile

Select Interface

management



☐ Flex Connect Local Switching

 Sites 0 Site

Wireless Profile Name *

POD09-Wireless-Profile

Select Interface

management



☐ Flex Connect Local Switching

 Sites 0 Site

Attach Template(s)

Device Type

Tag Name

Sites

Global (1)

Richardson TX (1)

RCDN Bld 5 (16)

POD01

POD02

POD03

POD04

POD05

POD06

POD07

POD08

☒ POD09

POD10

POD11

POD12

Back

OK

Network Hierarchy **Network Settings** Image Repository Network Profiles Auth Template

Find Hierarchy

Global

Richardson TX

POD09-Wireless-Profile

Select Interface
management

☐ Flex Connect Local Switching

Sites 1 Site

Attach Template(s)

Device Type	Tag Name	Template
No data to display		

Previous Cancel **Finish**

Wanneer u op de knop "Voltooien" klikt, moet u zowel de WLAN-profielen als de draadloze beleidsprofielen toevoegen die u zojuist hebt gemaakt.

DNA CENTER
DESIGN POLICY PROVISION ASSURANCE

Network Hierarchy Network Settings Image Repository **Network Profiles** Auth Template

Add Profile

Profile Name	Type	Sites	
POD09-Wireless-Profile	Wireless	1 Site	Edit Delete

Showing 1 of 1

Stap 2: Provisioning

Nu de WLAN's en profielen zijn ontworpen, kunnen we deze aan de respectievelijke WLC's aanbieden. Klik hiervoor op het tabblad "Voorziening" boven op Cisco DNA-C

1. In het Voorzieningsmenu kunt u voor de naam van uw apparaat filteren onder de optie "Filter".

Cisco DNA Center: DESIGN, POLICY, **PROVISION**, ASSURANCE

Devices

Inventory Plug and Play

Device Inventory

Select device(s) to assign to a Site and Provision network settings from the Network Hierarchy.

Last updated: 3:43 pm Refresh Network Telemetry Upgrade Readiness Update Status

Filter Actions 1 Tag Device 1 Selected LAN Automation

Device Name is POD10

Tags	Device Name	Device Family	IP Address	Site	Serial Number	Uptime	OS Version	OS Image	Last Sync Status	Credential Status	Last Provisioned Time	Provision Status
☒	POD10	Wireless Controller	10.0.109.4		9JVRXT09T9Z	4 days, 2:27:48.44	16.10.1	C9800-CL[...] Tag Golden	Managed	Not Provisioned	-	Not Provisioned

2. Selecteer uw WLC en zweeg over het veld "Handelingen" en navigeer naar "Voorziening"

Device Inventory

Select device(s) to assign to a Site and Provision network settings from the Network Hierarchy.

Last updated: 3:47 pm Refresh Network Telemetry Upgrade Readiness Update Status

Filter Actions 1 Tag Device 1 Selected LAN Automation

Device Name is POD10

Assign Device to Site

Provision

Resync

Delete Device

Learn Device Config

Tags	Device Name	Device Family	IP Address	Site	Serial Number	Uptime	OS Version	OS Image	Last Sync Status	Credential Status	Last Provisioned Time	Provision Status
☒	POD10	Wireless Controller	10.0.109.4		9JVRXT09T9Z	4 days, 2:27:48.44	16.10.1	C9800-CL[...] Tag Golden	Managed	Not Provisioned	-	Not Provisioned

1 to 1 of 18 Show More

3. Voeg apparaat aan uw site toe

Devices

Inventory Plug and Play

Provision Devices

1 Assign Site 2 Configuration 3 Advanced Configuration 4 Summary

Serial Number: 9JVRXT09T9Z Device Name: POD10

Choose a site

Find Hierarchy

- Global (1)
 - Richardson TX (1)
 - RCDN Bid 5 (16)
 - POD01
 - POD02
 - POD03
 - POD04
 - POD05
 - POD06
 - POD07
 - POD08
 - POD09
 - POD10**
 - POD11

Cancel Save

Devices

Inventory Plug and Play

Provision Devices

1 Assign Site

2 Configuration

3 Advanced Configuration

4 Summary

Serial Number
9JVRXT09T9Z

Device Name
POD10

Global/Richardson TX/RCDN Bld 5/POD10 ×

Cancel

Next

4. In dit voorbeeld zijn AP en WLC in de zelfde plaats, kunt u voorbij de configuratie en geavanceerde configuratiestap hier en van de samenvattende pagina opstellen.

Devices

Inventory Plug and Play

Provision Devices

1 Assign Site

2 Configuration

3 Advanced Configuration

4 Summary

POD10

Serial Number
9JVRXT09T9Z

Devices
POD10

WLC Role

☒ Active Main WLC ⓘ
 ☐ Guest Anchor WLC

Managing 1 location(s)

Cancel

Next

Devices

Inventory Plug and Play

Provision Devices

1 Assign Site

2 Configuration

3 Advanced Configuration

4 Summary

Template is not available for the site of the selected device.

Cancel

Next

Provision Devices

1 Assign Site 2 Configuration 3 Advanced Configuration 4 Summary

POD10

Device Details

Device Name: POD10
Platform Id: C9800-CL-K9
Device IP: 10.0.109.4
Device Location:
Device Role: Active Main WLC

Network Setting

DHCP Server: 10.0.111.1,
SYSLOG Server:
SNMP Trap Server:
DNS Domain Name:
DNS Primary Server:

SSID (POD09-Wireless-Profile)

Name: POD09-DNA-C-PSK
Type: Enterprise
Security: wpa2_personal

Cancel

Deploy

Provision Device



When



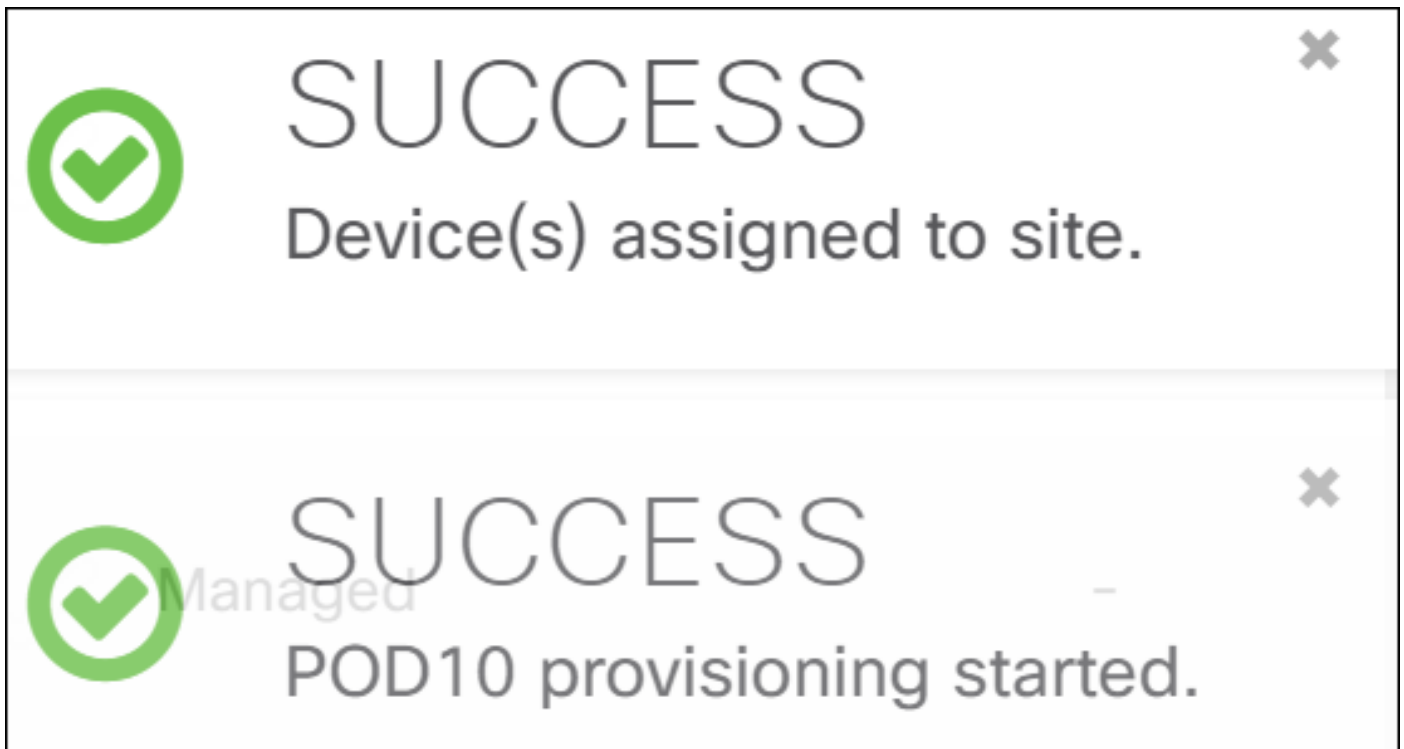
Now



Later

Cancel

Apply



Bevestig als de voorziening succesvol was:

Filter

Actions

Tag Device

LAN Automation

Device Name is pod10

☐	Tags	Device Name	Device Family	IP Address	Site	Serial Number	Uptime	OS Version	OS Image	Last Sync Status	Credential Status	Last Provisioned Time	Provision Status	
☐		POD10	Wireless Controller	10.0.109.4	...N Bld 5/POD10	9JVRXT09T9Z	4 days, 3:00:47.71	16.10.1	C9800-CL[... Tag Golden	Managed	Not Provisioned	Mar 22 2019 08:55:52	Success See Details	

5. De volgende stap is om uw access point te voorzien via dezelfde methode als hierboven.

Filter	Actions	Tag Device	1 Selected	LAN Automation										
Device Name is s	Assign Device to Site													
☒	Provision	name	family		IP Address	Site	Serial Number	Uptime	OS Version	OS Image	Last Sync Status	Credential Status	Last Provisioned Time	Provision Status
☒		Shankar-3702l-2	Unified AP	10.0.111.90	...N Bid 5/POD10	FTX1818S0BL	-04:-33:-01.-140	16.10.1.0	Managed	Not Provisioned	-	Not Provisioned		

Provision Devices

1 Assign Site

2 Configuration

3 Summary

Serial Number

Device Name

FTX1818S0BL

Shankar-3702l-2

Global/Richardson TX/RCDN Bid 5/POD10

Cancel

Next

Devices

Inventory

Plug and Play

Provision Devices

1 Assign Site

2 Configuration

3 Summary

Serial Number

Device Name

RF Profile

FTX1818S0BL

Shankar-3702I-2

TYPICAL

Cancel

Next

Inventory

Plug and Play

Provision Devices

1 Assign Site

2 Configuration

3 Summary

Shankar-3702I-2

Device Details

Device Name:

Shankar-3702I-2

Serial Number:

FTX1818S0BL

Mac Address:

88:f0:31:ac:06:20

Device Location:

Global/Richardson TX/RCDN Bld 5/POD10

RF Profile:

TYPICAL

Default Profile:

No

Radio Type:

2.4GHz/5GHz

Channel Width:

20 MHz

2.4GHz/5GHz Data Rates:

9,12,18,24,36,48,54/6,9,12,18,24,36,48,54

Cancel

Deploy

Filter

Actions

Tag Device

LAN Automation

Device Name is Shankar-3702I-2

	Tags	Device Name	Device Family	IP Address	Site	Serial Number	Uptime	OS Version	OS Image	Last Sync Status	Credential Status	Last Provisioned Time	Provision Status
☐		Shankar-3702I-2	Unified AP	10.0.111.90	...N Bld 5/POD10	FTX1818S0BL	-04:-33:-01.-140	16.10.1.0		Managed	Not Provisioned	Mar 22 2019 09:05:56	Success See Details

6. U kunt de provisioningstatus nu valideren vanuit C9800 GUI>>Configuraties>WLAN

Dashboard

Monitoring >

Configuration >

Administration >

Troubleshooting

Interface

Logical

Ethernet

Wireless

Layer2

VLAN

VTP

Radio Configurations

CleanAir

High Throughput

Media Parameters

Network

Parameters

RRM

Routing Protocols

OSPF

Security

AAA

ACL

Advanced EAP

PKI Management

Local EAP

Services

AireOS Config Translator

Application Visibility

Cloud Services

Custom Application

IOx

Multicast

NetFlow

Python Sandbox

QoS

RA Throttle Policy

Tags & Profiles

AP Join

Flex

Policy

RF

Tags

WLANs

Wireless

Access Points

Advanced

Air Time Fairness

Fabric

Media Streams

WIRELESS NETWORKS

+ Add

* Delete

Enable WLAN

Disable WLAN

Number of WLANs selected : 0

☐	Name	ID	SSID	Status	Security
☐	POD09-PSK	1	POD09-PSK	Enable	[WPA2][Auth(PSK)]
☐	POD09-Dot1x	2	POD09-Dot1x	Enable	[WPA2][Auth(802.1x)]
☐	POD09-DNA-Global_NF_ba7ffbcc	17	POD09-DNA-C-PSK	Enable	[WPA2][Auth(PSK)]

1

10 items per page

1 - 3 of 3 items

U hebt nu met succes voorzieningen getroffen voor WLC/AP via Cisco DNA-C

Problemen oplossen

Van Cisco DNA-C "*sudo rca*" van de CLI van "elk" Cisco *DNA* in de cluster;

Van C9800 CLI:

Debugs:

```
debug snmp requests
debug snmp packets
debug netconf-yang level debug
```

```
show platform software yang-management process
```

Controleer of alle processen in werking zijn.

Als netconf-yang actief is, moeten alle processen behalve gnmib de UP-status hebben