

ةياهن طاقن ني ب ةينب ل لاصتا رابتخا VxLAN في رهظال قفنا

تايوتحمل

[ةمدقم](#)

[ةيساس الابل طتم](#)

[تابل طتم](#)

[ةمدختسم ال تانوك](#)

[نيوكت](#)

[ةكبش ل ل طي طختا مسر](#)

[تانوكت](#)

[N9K-1](#)

[N9K-2](#)

[ةحصل ل نم ققحتا](#)

[ةلص تاذا تاملعم](#)

ةمدقم

رهظال قفنا ةياهن يتطقن ني ب ةينب ل لاصتا رابتخا ةيفي ك دنتسم ل اذه فصي (VTEPs) (VxLAN) ةرهظال ةعسوم ل LAN ةكبش في.

ةيساس الابل طتم

تابل طتم

ةيلات ال عيضاوم لابل ةفرعم كي دل نوكت نأ Cisco ي صوت:

- Nexus نم NX-OS جم انرب
- (BGP) ةيدودحل ةبابل لوكوتورب
- VxLAN

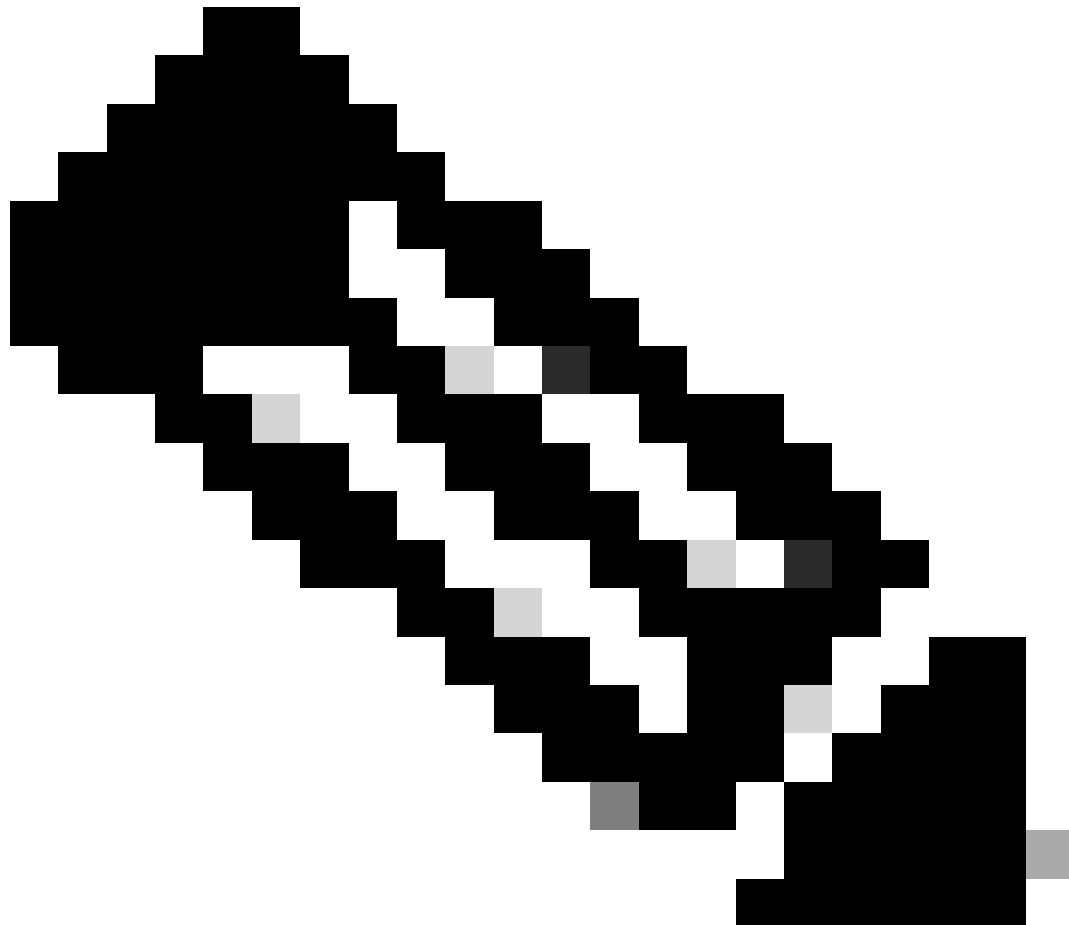
ةمدختسم ال تانوك

رادصل ال عم Cisco Nexus N9K-C93180YC-EX ل دنتسم ل اذه في ةدراول تاملعمل دنتست NXOS نم 10.3(3).

ةصاخ ةيلمعم ةئي ب في ةدوجوم ل ةزهال نم دنتسم ل اذه في ةدراول تاملعمل عاشن ا مت تناك اذا. (يضا رتفا) حوسمم نيوكتب دنتسم ل اذه في ةمدختسم ل ةزهال عي مج تأدب رما يال لم تحم ل ري ثا تلل كم هف نم دكأتف، لي غشتا دي ق ك تكبش

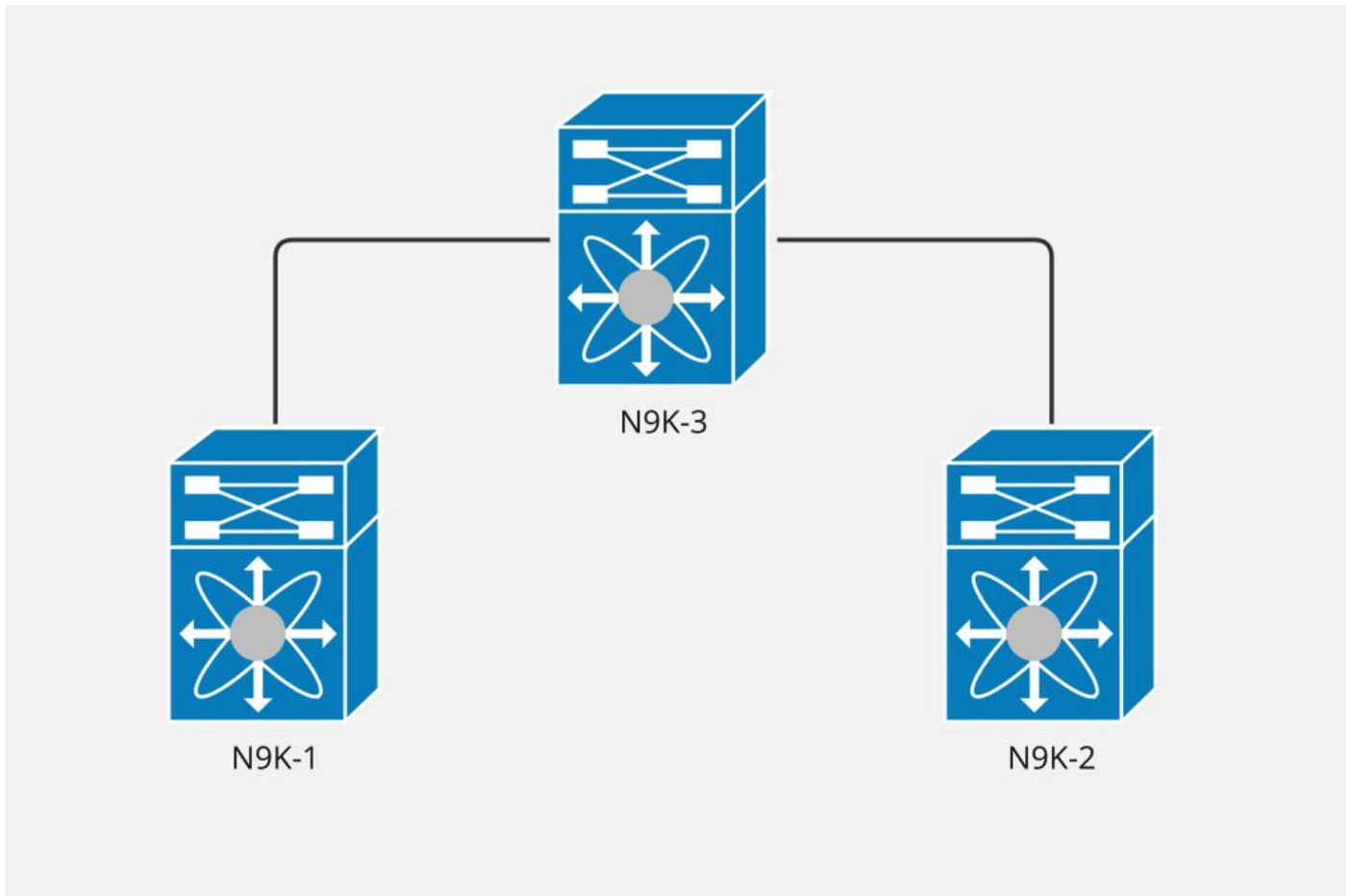
نيوكت

امنيې ب. عقوتم وه امك لمعي ناك اذا ام رابتخا يف ةداع نومدختسملا بغيري، VxLAN دادع| درجم ب نيفيضم نيزاهج نيب لاصتا رابتخا| عارجا يه كلذب مايقلل اهب ىصوملا ةقيرطلا ةينبلا لاصتا رابتخا| اضيأ نكمملا نم، ةفلتخم VTEP تالوكوتوربب نيلوصوم، نييئاهن VTEPs تالوكوتوربب ىلع عاجرتسال تاهجاو مادختساب



رابتخا| ةهجو وأ ردصمك (SVI) لوحملل ةيرهاظلا ةهجاوالا مادختسا| دعي ال: ةظحالم
ءانب ىلع IP هسفن لا انيدل نأ وه ببسلا. ةينبلا لاصتال احيحص اربابخا| لاصتالا
ةمس ةرابع AnyCast ببسب SVIs.

ةكبشلل يطيختال مسرلا



تانيوكتال

هنا ىلع N9K-1 و N9K-2 نم لك نيوكت متي امنيب، SPINE هنا ىلع N9K-2 نيوكت متي اذه VxLAN رشن في VTEPs.

الك ىلع 3 قبطلل (VNI) رهاظلا كبشلا هجاو انيدل كلذل، 3 قبطلا ديمت متي (VRF). رهاظ هيجوت ادعاو هيجوت لكل VTEP لوكوتورب.

VRF evpn_a ل لكشي VNI 3 قبطلا.

N9K-1

هرابتخا ديرن يذلا VRF نم عزجك عاجرتسا نيوكتب موقن 1. قوطخلا

```

N9K-1(config)# interface loopback50
N9K-1(config-if)# vrf member evpn_a
Message reported by command :: vrf member evpn_a
Warning: Deleted all L3 config on interface loopback50
N9K-1(config-if)# ip address 10.255.255.1/32
  
```

ههجولا ىل ICMP بلط لصو اذا ىتح، الو. جيسنلا في عاجرتسالا هذه نع نلعن 2. قوطخلا، ىرخا قرم ICMP در لاسرا ىلع قرداق ريغ اهسفن ههجولا ناف.

```
N9K-1(config)# router bgp 65522
N9K-1(config-router)# vrf evpn_a
N9K-1(config-router-vrf)# address-family ipv4 unicast
N9K-1(config-router-vrf-af)# network 10.255.255.1/32
```

N9K-2

هرا بتخا دي رن يذلا VRF نم عزك عا جرتسا نيوك تب موقن 1. ةوطخلا

```
N9K-2(config)# interface loopback50
N9K-2(config-if)# vrf member evpn_a
Message reported by command :: vrf member evpn_a
Warning: Deleted all L3 config on interface loopback50
N9K-2(config-if)# ip address 10.255.255.2/32
```

ةهچولا ىل ICMP ب ل ط ل ص و اذا ى تح ،ال او .ج ي س ن ل ا ي ف عا جرتسا ل ا هذ ه ن ع ن ل ع ن 2. ةوطخلا ، ى ر خ أ ق ر م ICMP در ل اس را ى ل ع ق ر د ا ق ر ي غ ا ه س ف ن ةهچولا ن ا ف .

```
N9K-2(config)# router bgp 65522
N9K-2(config-router)# vrf evpn_a
N9K-2(config-router-vrf)# address-family ipv4 unicast
N9K-2(config-router-vrf-af)# network 10.255.255.2/32
```

ةحصلا نم ققحتلا

IPv4. نيوانعلا ةلئاعل ي د ا ح أ ل ا ث ب ل ل ي ل ح م ل BGP ل و د ج ي ف عا جرتسا ل ا د و ج و ن م د ك أ ت 1. ةوطخلا

```
N9K-1# show ip bgp 10.255.255.1/32 vrf evpn_a
BGP routing table information for VRF evpn_a, address family IPv4 Unicast
BGP routing table entry for 10.255.255.1/32, version 732
Paths: (1 available, best #1)
Flags: (0x80c0002) (high32 0x000020) on xmit-list, is not in urib, exported
vpn: version 1053, (0x00000000100002) on xmit-list
Multipath: eBGP iBGP
```

```
Advertised path-id 1, VPN AF advertised path-id 1
Path type: local, path is valid, is best path, no labeled nexthop, is extd
AS-Path: NONE, path locally originated
0.0.0.0 (metric 0) from 0.0.0.0 (10.2.254.100)
Origin IGP, MED not set, localpref 100, weight 32768
Extcommunity: RT:65522:50100
```

```
VRF advertise information:
Path-id 1 not advertised to any peer
```

VPN AF advertise information:
Path-id 1 not advertised to any peer

N9K-2# show ip bgp 10.255.255.2/32 vrf evpn_a
BGP routing table information for VRF evpn_a, address family IPv4 Unicast
BGP routing table entry for 10.255.255.2/32, version 241
Paths: (1 available, best #1)
Flags: (0x80c0002) (high32 0x000020) on xmit-list, is not in urib, exported
vpn: version 417, (0x00000000100002) on xmit-list
Multipath: eBGP iBGP

Advertised path-id 1, VPN AF advertised path-id 1
Path type: local, path is valid, is best path, no labeled nexthop, is extd
AS-Path: NONE, path locally originated
0.0.0.0 (metric 0) from 0.0.0.0 (10.2.254.100)
Origin IGP, MED not set, localpref 100, weight 32768
Extcommunity: RT:65522:50100

VRF advertise information:
Path-id 1 not advertised to any peer

VPN AF advertise information:
Path-id 1 not advertised to any peer

L2VPN EVPN نى وانعلا ةلئاعل يلحمل BGP لودج يف دوجوم عاجرتسال نأ نم دكأت 2. ةوطخل
ةعقوتمال (NVE) ةيرهاظلا ةكبشلا ةهجاو عارظنل هنع نالعال متيو

N9K-1# show bgp l2vpn evpn 10.255.255.1 vrf evpn_a
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 10.2.0.49:4 (L3VNI 50100)
BGP routing table entry for [5]:[0]:[0]:[32]:[10.255.255.1]/224, version 36993
Paths: (1 available, best #1)
Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn

Advertised path-id 1
Path type: local, path is valid, is best path, no labeled nexthop
Gateway IP: 0.0.0.0
AS-Path: NONE, path locally originated
10.2.1.49 (metric 0) from 0.0.0.0 (10.2.0.49)
Origin IGP, MED not set, localpref 100, weight 32768
Received label 50100
Extcommunity: RT:65522:50100 ENCAP:8 Router MAC:a0e0.af67.511d

Path-id 1 advertised to peers:
10.2.0.33 10.2.0.34

N9K-2#
LEAF48# show bgp l2vpn evpn 10.255.255.2 vrf evpn_a
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 10.2.0.48:4 (L3VNI 50100)
BGP routing table entry for [5]:[0]:[0]:[32]:[10.255.255.2]/224, version 13373
Paths: (1 available, best #1)
Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn

Advertised path-id 1
Path type: local, path is valid, is best path, no labeled nexthop
Gateway IP: 0.0.0.0

```
AS-Path: NONE, path locally originated
10.2.1.48 (metric 0) from 0.0.0.0 (10.2.0.48)
Origin IGP, MED not set, localpref 100, weight 32768
Received label 50100
Extcommunity: RT:65522:50100 ENCAP:8 Router MAC:6cb2.aeee.5a97

Path-id 1 advertised to peers:
10.2.0.33          10.2.0.34
```

ديعبل NVE ريظن نم شي دحتل يقلت نم دكأت 3. ةوطخل

```
N9K-1# show bgp l2vpn evpn 10.255.255.2 vrf evpn_a
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 10.2.0.49:4 (L3VNI 50100)
BGP routing table entry for [5]:[0]:[0]:[32]:[10.255.255.2]/224, version 36995
Paths: (1 available, best #1)
Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn, is not in HW
```

```
Advertised path-id 1
Path type: internal, path is valid, is best path, no labeled nexthop
Imported from 10.2.0.48:4:[5]:[0]:[0]:[32]:[10.255.255.2]/224
Gateway IP: 0.0.0.0
AS-Path: NONE, path sourced internal to AS
10.2.1.48 (metric 6) from 10.2.0.33 (10.2.0.33)
Origin IGP, MED not set, localpref 100, weight 0
Received label 50100
Extcommunity: RT:65522:50100 Route-Import:10.2.1.147:3100 Source AS:65522:0
ENCAP:8 Router MAC:6cb2.aeee.5a97
Originator: 10.2.0.48 Cluster list: 0.0.255.242
```

Path-id 1 not advertised to any peer

```
N9K-2# show bgp l2vpn evpn 10.255.255.1 vrf evpn_a
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 10.2.0.48:4 (L3VNI 50100)
BGP routing table entry for [5]:[0]:[0]:[32]:[10.255.255.1]/224, version 13372
Paths: (1 available, best #1)
Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn, is not in HW
```

```
Advertised path-id 1
Path type: internal, path is valid, is best path, no labeled nexthop
Imported from 10.2.0.49:4:[5]:[0]:[0]:[32]:[10.255.255.1]/224
Gateway IP: 0.0.0.0
AS-Path: NONE, path sourced internal to AS
10.2.1.49 (metric 6) from 10.2.0.33 (10.2.0.33)
Origin IGP, MED not set, localpref 100, weight 0
Received label 50100
Extcommunity: RT:65522:50100 Route-Import:10.2.1.49:3100 Source AS:65522:0
ENCAP:8 Router MAC:a0e0.af67.511d
Originator: 10.2.0.49 Cluster list: 0.0.255.242
```

Path-id 1 not advertised to any peer

يه ةيلاتل ةوطخل ناؤهيجوتل لودج ي ديعبل عاجرتس الل راسم دوجو نم دكأت 4. ةوطخل

عقوت م ال NVE ريظن

```
N9K-1# show ip route 10.255.255.2 vrf evpn_a
IP Route Table for VRF "evpn_a"
'*' denotes best ucast next-hop
 '**' denotes best mcast next-hop
 '[x/y]' denotes [preference/metric]
 '%'
```

' in via output denotes VRF

```
10.255.255.2/32, ubest/mbest: 1/0
  *via 10.2.1.48%default, [200/0], 00:12:39, bgp-65522, internal, tag 65522, segid: 50100 tunnelid: 0
```

```
N9K-2# show ip route 10.255.255.1 vrf evpn_a
IP Route Table for VRF "evpn_a"
'*' denotes best ucast next-hop
 '**' denotes best mcast next-hop
 '[x/y]' denotes [preference/metric]
 '%'
```

' in via output denotes VRF

```
10.255.255.1/32, ubest/mbest: 1/0
  *via 10.2.1.49%default, [200/0], 00:15:36, bgp-65522, internal, tag 65522, segid: 50100 tunnelid: 0
```

ردصمك ي ل حمل اعاجرت س ال ا مادخت ساب ،ديع بل اعاجرت س ال ا ل ICMP بل ط ل اس را 5. ةوطخل

```
N9K-1# ping 10.255.255.2 source-interface loopback 50
PING 10.255.255.2 (10.255.255.2): 56 data bytes
64 bytes from 10.255.255.2: icmp_seq=0 ttl=254 time=2.009 ms
64 bytes from 10.255.255.2: icmp_seq=1 ttl=254 time=1.26 ms
64 bytes from 10.255.255.2: icmp_seq=2 ttl=254 time=1.231 ms
64 bytes from 10.255.255.2: icmp_seq=3 ttl=254 time=1.142 ms
64 bytes from 10.255.255.2: icmp_seq=4 ttl=254 time=1.127 ms
```

```
--- 10.255.255.2 ping statistics ---  
5 packets transmitted, 5 packets received, 0.00% packet loss  
round-trip min/avg/max = 1.127/1.353/2.009 ms
```

```
N9K-2# ping 10.255.255.1 source-interface loopback 50  
PING 10.255.255.1 (10.255.255.1): 56 data bytes  
64 bytes from 10.255.255.1: icmp_seq=0 ttl=254 time=1.47 ms  
64 bytes from 10.255.255.1: icmp_seq=1 ttl=254 time=1.396 ms  
64 bytes from 10.255.255.1: icmp_seq=2 ttl=254 time=1.327 ms  
64 bytes from 10.255.255.1: icmp_seq=3 ttl=254 time=1.451 ms  
64 bytes from 10.255.255.1: icmp_seq=4 ttl=254 time=1.366 ms
```

```
--- 10.255.255.1 ping statistics ---  
5 packets transmitted, 5 packets received, 0.00% packet loss  
round-trip min/avg/max = 1.327/1.402/1.47 ms
```

ةلص تاذا تامولعم

[VXLAN BGP EVPN نيوكت](#)

ةمچرتل هذه ل و ح

ةيلآل ا تاي ن ق ت ل ا ن م ة و م ج م ا د خ ت س ا ب د ن ت س م ل ا ا ذ ه Cisco ت م چ ر ت م ل ا ع ل ا ا ح ن ا ع م ج ي ف ن ي م د خ ت س م ل ل م ع د ي و ت ح م م ي د ق ت ل ة ي ر ش ب ل ا و ا م ك ة ق ي ق د ن و ك ت ن ل ة ي ل آ ة م چ ر ت ل ض ف ا ن ا ة ط ح ا ل م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب Cisco ي ل خ ت . ف ر ت ح م م چ ر ت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ا ل ا ة م چ ر ت ل ا ع م ل ا ح ل ا و ه ي ل ا ا م ا د ع و ج ر ل ا ب ي ص و ت و ت ا م چ ر ت ل ا ه ذ ه ة ق د ن ع ا ه ت ي ل و ئ س م Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا د ن ت س م ل ا