çžè§£Firepowerå¨ï¿½è„…é˜²ç¦¦ï¼ˆFMCè¨—ç®¡ï¼‰

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æœ¬æª”æ¡ˆå°‡èªªæ˜Žçˆ¹Firepowerç®¡ç�†ä¸å¿ƒ(FMC)å’ŒFirepowerå¨ï¿½è„…é˜²ç¦¦(FTD)çš„FQDNåŠŸèƒ½ï¼ˆè‡

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- Firepowerç®¡ç�†ä¸å¿ƒ

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本文件中的資訊是根據以下軟體和硬體版本：

- æ€ï¿½ç§‘Firepowerå¨ï¿½è„…é˜²ç¦¦(FTD)è™›æ“¬ï¼Œéï¿½ç¨è»Ÿé«”ç‰ˆæœ¬6.3.0
- Firepowerç®¡ç�†ä¸å¿ƒè™›æ“¬(vFMC)ï¼Œéï¿½ç¨è»Ÿé«”ç‰ˆæœ¬6.3.0

本文件中的資訊是根據特定實驗室環境內的裝置所建立。本文件中使用的所有裝置皆已清除（預設）組態。如果您的網路正在運作，請確保您瞭解任何指令可能造成的影響。

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åœ¨é…ç½®FQDNå°ç±»ä¹‹å‰ï¼Œè«‹ç¢ºä¿æ»¿è¶³ä»¥ä¸‹è¦æ±‚ï¼š

- Firepowerç®¡ç†ä¸å¿åå…é ˆé‹è¡Œ6.3.0ç‰ˆæ––æ›´é«˜ç‰ˆæœ¬ã€‚å¯¯ä»¥æ˜¯ç‰©ç†çš„ï¼
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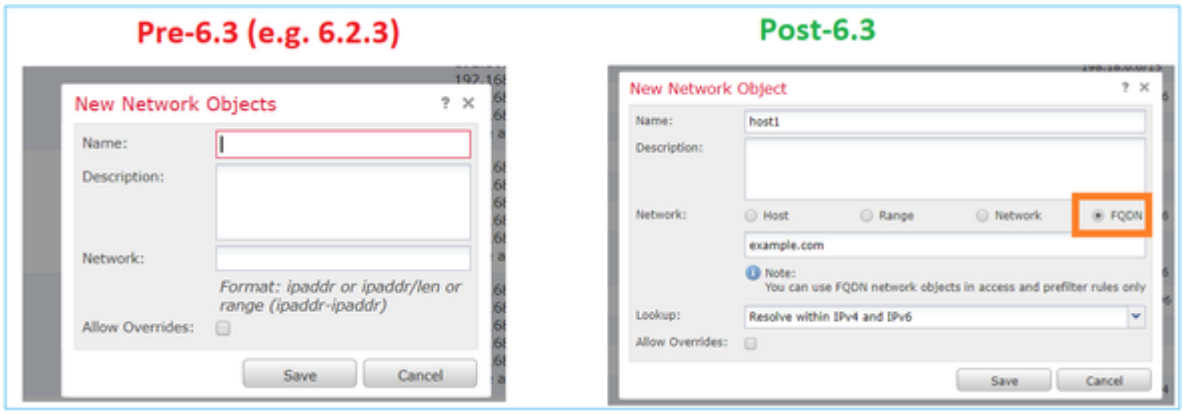
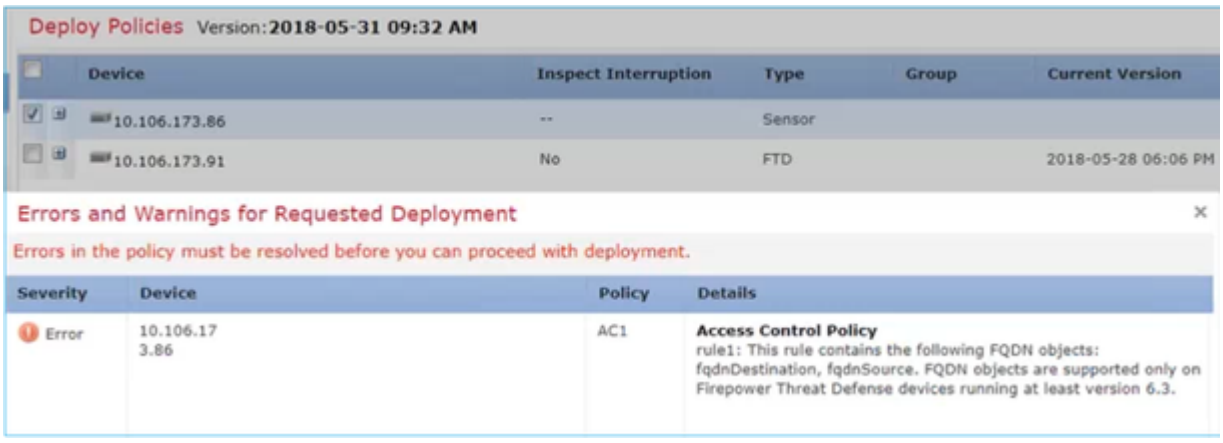
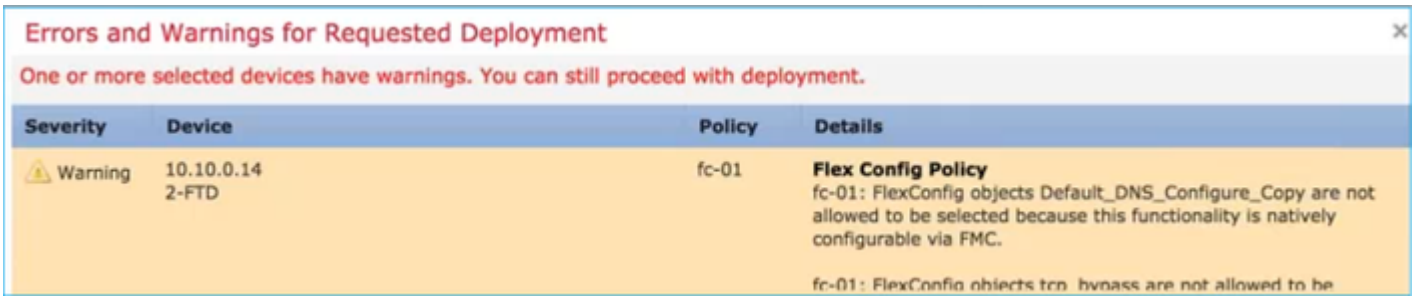


- å¦‚æžœFMCé�‹è¡Œç‰ˆæœ¬6.3æ^–æ›´é«˜ç‰ˆæœ¬ï¼Œä½†FTDé�‹è¡Œç‰ˆæœ¬ä½Žæ–¼6.3ï¼Œ



- æ¤å¤–ï¼Œå¦‚æžœé€�é�ŽFlexConfigè¨ å®šDNSç‰©ä»¶ï¼Œå'Šï¼š



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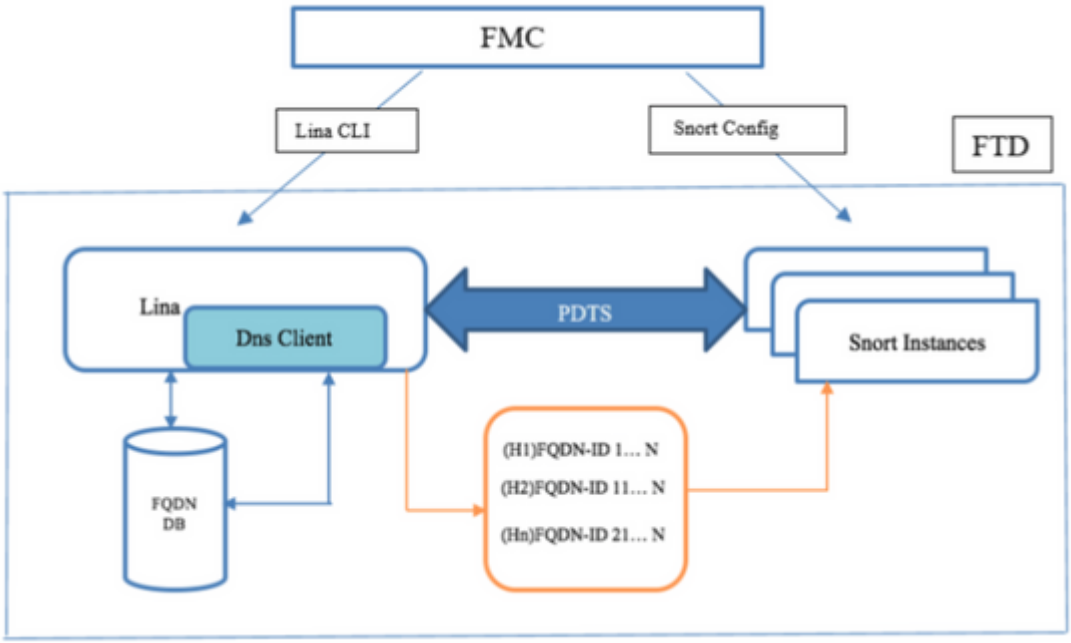

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- é ˆè¨çš„Retriesâ’ŒTimeoutå€¼æ˜¯é ¡å¡«å……çš„ã€‚

  - Retries â€”
    ç³»çµ±æœªæ”¶åˆ°éŸ¿æ‡‰æ™‚ï¼Œé‡�è©¦DNSä¼ æœ�å™¨æ¸…å–®çš„æ¬¡æ•¸ï¼ˆå¾ž0å^°10ï¼‰
  - Timeout â€”
    å¯¦ä¸€å€‹ä¼ æœ�å™¨å˜—è©¦é€£çºŒå^°ä¸‹ä¸€å€‹DNSä¼ æœ�å™¨ä¹‹å‰ï¼Œç‰¹æ•¸ï¼Œ

- è¼¸å…¥è¦åŠ å…¥æ¤çµ„çš„DNSä¼ æœ�å™¨ã€‚å®ƒå¯¯ä»¥æ˜¯é€—è™Ÿå†éš”å€¼çš„IPv4æ^–I
- DNSä¼ æœ�å™¨çµ„ç”¨æ–¼è§£æž�åœ¨ã€Œå¹²å¯°è¨å®šã€ä¸é…ç½®çš„ä¸€å€‹æ^–å¤šå€‹ä
- æ”¯æ´ç”¨æ–¼DNSä¼ æœ�å™¨çµ„å°�è±¡CRUDçš„REST API

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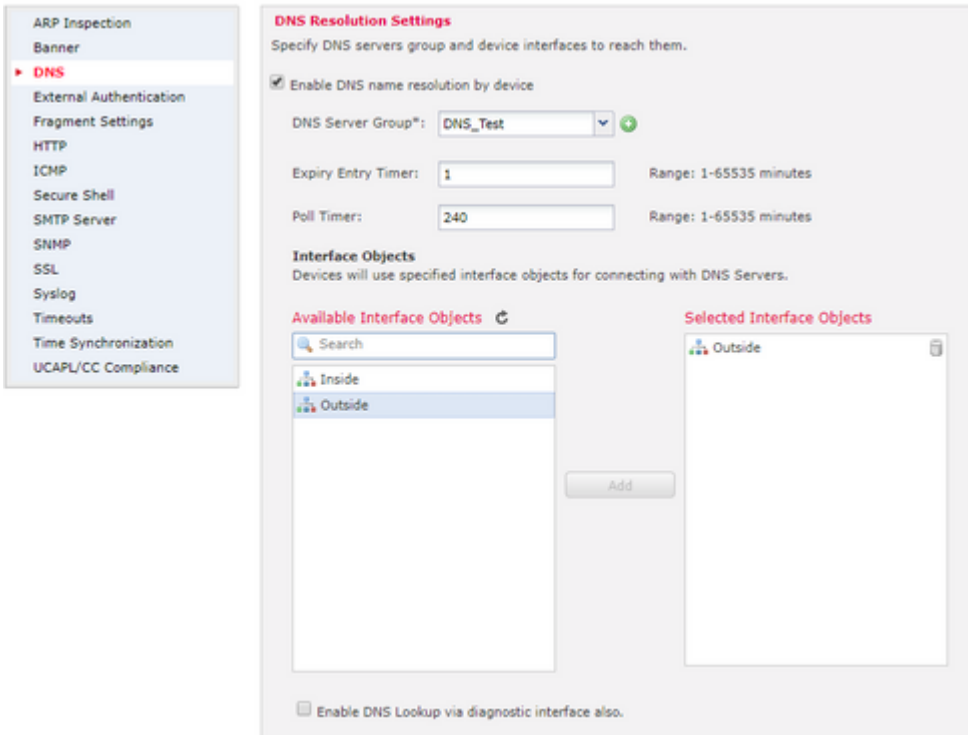

- ï¼ˆå¯¯é¸‰ä¿®æ”¹å^°æœŸæ¢ç›®è¨ˆæ™‚å™¨å’Œè¼ªè©¢è¨ˆæ™‚å™¨å€¼ï¼ˆä»¥å^†é˜ç,°

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å°ææ–¼Firepowerå¨ è¨„é¸é¸ç¨¦ç¦¦6.3.0è£ç½®ï¼Œæžœæœªé¸æ“‡ä»»é¸ç›±ï¼Œä¸”ç¦ç”¨è¨ºæ–·ä»»å‹™ï¼Œæ‰€æœ‰DNSæŸ¥è©¢ï¼‰ lookup anyï¼‰ã€‚

å¦‚æœæ²’有指定任何介面，或者指定的介面沒有IPv4或IPv6地址，則將使用管理介面查詢DNSæŸ¥è©¢ï¼‰

- ï¼^å¯¯é¸ï¼‰é¸ä¸Enable DNS Lookup via the diagnostic interface alsoè¦^å¯¯æ–¹å¼

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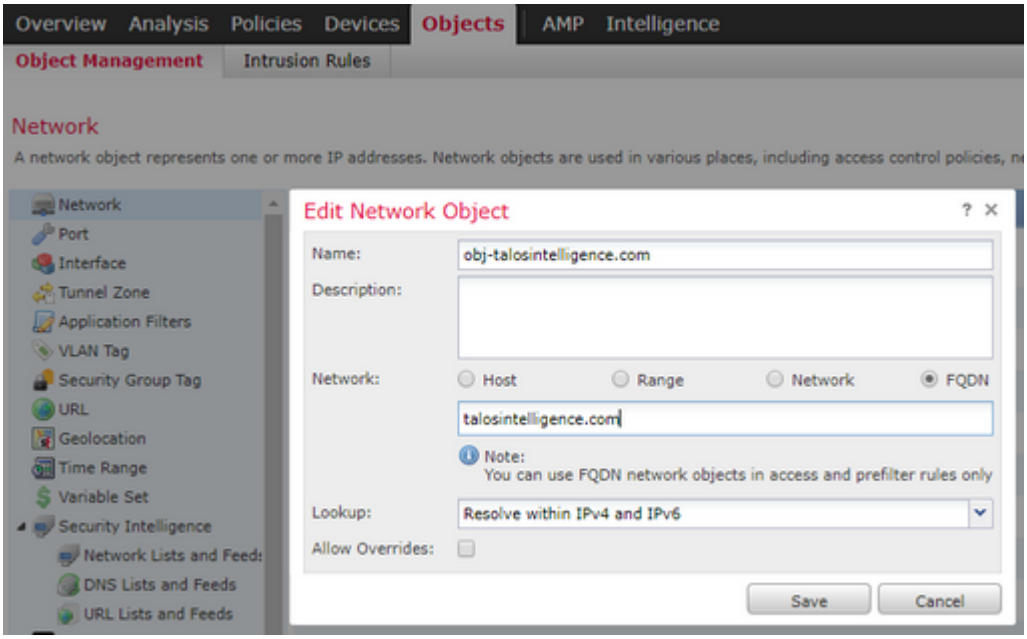
> Device Management > edit device >
Interfacesé ¢é¸ä¸Šç‚ºè¨ºæ–·ä»»é¸é…ç½®IPåœ°å€ã€‚

æ¥é©Ÿ3. é…ç½®å°è±¡ç¶²è·¯FQDN

å°Žèˆªå^°å°è±¡(Objects)>å°è±¡ç®¡ç†(Object Management)ï¼Œåœ¨ç¶²è·¯å°è±¡é¸§æŒ‡å®šé¸é …ã€‚



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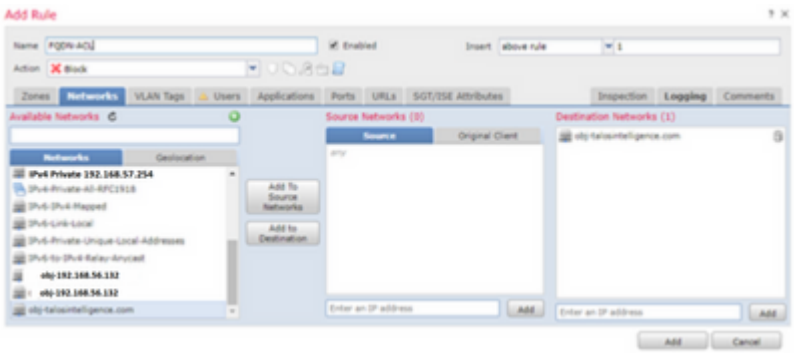

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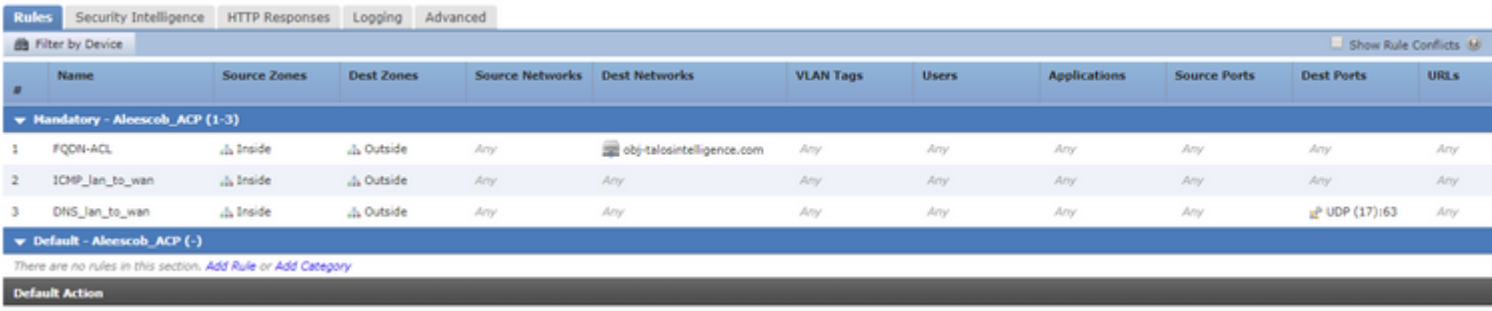

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ä½¿ç”¨æœ¬ç¯€å…§å®¹ä¾†é©—æ‰€éœ€çš„組態是否正常運作。

- é€™æ˜¯åœ¨éƒ¨ç½²FQDNä¹‹å‰çš„FTDåˆ°åŸ·è¡Œï¼š

```
aleescob# show run dns
DNS server-group DefaultDNS
```

- é€™æ˜¯FQDNéƒ¨ç½²å¾Œçš„é…ç½®ï¼š

```
aleescob# show run dns
dns domain-lookup wan_1557
DNS server-group DNS_Test
    retries 3
    timeout 5
    name-server 172.31.200.100
    domain-name aleescob.cisco.com
DNS server-group DefaultDNS
dns-group DNS_Test
```

- ä»¥ä¸‹æ˜¯FQDNå°

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```
object network obj-talosintelligence.com
 fqdn talosintelligence.com id 268434436
```

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```
access-list CSM_FW_ACL_ remark rule-id 268434437: ACCESS POLICY: Aleescob_ACP - Mandatory
access-list CSM_FW_ACL_ remark rule-id 268434437: L4 RULE: FQDN-ACL
access-list CSM_FW_ACL_ advanced deny ip ifc lan_v1556 any ifc wan_1557 object obj-talosintelligence.com
```

- ä»¥ä¸‹æ˜¯Snort(ngfw.rules)ä¸çš„å¤–è§€ï¼š

```
# Start of AC rule.
268434437 deny 1 any  any 2 any  any any any  (log dcforward flowstart) (dstfqdn 268434436)
# End rule 268434437
```

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- å¦‚果æªœæŸ¥show dnsåŒshow fqdnå‘½ä»¤ï¼Œåœ¨å¯¯ä»¥æ³¨æ„到分é–‹å§‹è§£æž tallosintelligenceçš„IP:

```
aleescob# show dns
Name: talosintelligence.com
  Address: 2001:DB8::6810:1b36                          TTL 00:05:43
  Address: 2001:DB8::6810:1c36                          TTL 00:05:43
  Address: 2001:DB8::6810:1d36                          TTL 00:05:43
  Address: 2001:DB8::6810:1a36                          TTL 00:05:43
  Address: 2001:DB8::6810:1936                          TTL 00:05:43
  Address: 192.168.27.54                                  TTL 00:05:43
  Address: 192.168.29.54                                  TTL 00:05:43
  Address: 192.168.28.54                                  TTL 00:05:43
  Address: 192.168.26.54                                  TTL 00:05:43
  Address: 192.168.25.54                                  TTL 00:05:43
```

```
aleescob# show fqdn
FQDN IP Table:
ip = 2001:DB8::6810:1b36, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 2001:DB8::6810:1c36, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 2001:DB8::6810:1d36, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436
```

```
ip = 2001:DB8::6810:1a36, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 2001:DB8::6810:1936, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 192.168.27.54, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 192.168.29.54, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 192.168.28.54, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 192.168.26.54, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

ip = 192.168.25.54, object = obj-talosintelligence.com, domain = talosintelligence.com
        FQDN-ID = 268434436

FQDN ID Detail:
FQDN-ID = 268434436, object = obj-talosintelligence.com, domain = talosintelligence.com
        ip = 2001:DB8::6810:1b36, 2001:DB8::6810:1c36, 2001:DB8::6810:1d36, 2001:DB8::6810:1a36, 2001:DB
```

- å¦‚æžœæ‚¨åœ¨LINAä¸‹é¢‘show access-listï¼Œå°±æœƒæ³¨æ„åˆ°æ¯”å€‹è§£æžå°¦å’Œä¸æ¬¡æ•¸çš„å±•é–‹å°ˆæ¡ˆï¼š

```
firepower# show access-list
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 object obj-talosintell
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 fqdn talosintelligence
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1b
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1c
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1d
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1a
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:19
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.27.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.29.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.28.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.26.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.25.54 (ta
```

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```
access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 object obj-talosintellig
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 fqdn talosintelligence
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1b
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1c
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1d
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:1a
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 2001:DB8::6810:19
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.27.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.29.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.28.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.26.54 (ta
  access-list CSM_FW_ACL_ line 10 advanced deny ip ifc lan_v1556 any ifc wan_1557 host 192.168.25.54 (ta
```

- åœ¨è¼¸å…¥ä»¤é¢ä¸å––ICMPè¦�æ±,ä¸¦é¡¯ç¤ºç‹ºæ¯ æ£„ï¼š

aleescob# show cap in 13 packets captured 1: 18:03:41.558915 192.168.56.132 > 172.31.200.100 icmp: 192.168.56.132 udp port 59396 unreachable 2: 18:04:12.322126 192.168.56.132 > 172.31 icmp:echo request 3 8:04:12.479162 172.31.4.161 > 192.168.56.132 icmp:echo reply 4: 18:04:13.309966 192.168.56.132 > 172.31.4.161 icmp:echo request 5: 18:04:13.462149 172.31.4.161 > 192.168.5 6.132 icmpï¼šå›žæ‡‰åŽè¦†6: 18:04:14.308425 192.168.56.132 > 172.31.4.161 icmpï¼šå›žæ‡‰è«‹æ±,7: 18:04:14.475424 172.31.4.161> 192.168.56.132 icmpï¼šå›žæ‡‰åŽè¦†8: 18:04:15.306823 192.168.56 32 > 172.31.4.161 icmpï¼šå›žæ‡‰è«‹æ±,9: 18:04:15.463339 172.31.4.161 > 192.168.56.132 icmpï¼šå›žæ‡‰åŽè¦†10: 18:04:25.713662 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,1: 18:04:3 .704232 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,12: 18:04:35.711480 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,13: 18:04:40.707528 192.168.56.132 > 168 27.54 icmp:echo request aleescob# sho cap asp | in 192.168.27.54 162: 18:04:25.713799 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,165: 18:04:30.704355 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,168: 18 4:35.711556 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,176: 18:04:40.707589 192.168.56.132 > 192.168.27.54 icmpï¼šå›žæ‡‰è«‹æ±,

- ä»¥ä¸‹æ˜¯è¿½è¹¤è»Œè·¡å°‹æ‰¾å…¶ä¸€å€‹ICMPå°�åŒ…çš„æ–¯å¼�ï¼š

```
aleescob# sho cap in packet-number 10 trace

13 packets captured

  10: 18:04:25.713662       192.168.56.132 > 192.168.27.54 icmp: echo request
Phase: 1
Type: CAPTURE
Subtype:
Result: ALLOW
Config:
Additional Information:
MAC Access list

Phase: 2
Type: ACCESS-LIST
Subtype:
Result: ALLOW
Config:
Implicit Rule
```

```
Additional Information:
MAC Access list

Phase: 3
Type: ROUTE-LOOKUP
Subtype: Resolve Egress Interface
Result: ALLOW
Config:
Additional Information:
found next-hop 192.168.57.254 using egress ifc  wan_1557

Phase: 4
Type: ACCESS-LIST
Subtype: log
Result: DROP
Config:
access-group CSM_FW_ACL_ global
access-list CSM_FW_ACL_ advanced deny ip ifc lan_v1556 any ifc wan_1557 object obj-talosintelligence.com
access-list CSM_FW_ACL_ remark rule-id 268434437: ACCESS POLICY: Aleescob_ACP - Mandatory
access-list CSM_FW_ACL_ remark rule-id 268434437: L4 RULE: FQDN-ACL
Additional Information:

Result:
input-interface: lan_v1556
input-status: up
input-line-status: up
output-interface: wan_1557
output-status: up
output-line-status: up
Action: drop
Drop-reason: (acl-drop) Flow is denied by configured rule
```

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```
> system support firewall-engine-debug

Please specify an IP protocol: icmp
Please specify a client IP address: 192.168.56.132
Please specify a server IP address:
Monitoring firewall engine debug messages

192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 new firewall session
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 DAQ returned DST FQDN ID: 268434436
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 Starting with minimum 2, 'FQDN-ACL', and SrcZone first wit
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 Match found for FQDN id: 268434436
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 match rule order 2, 'FQDN-ACL', action Allow
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 MidRecovery data sent for rule id: 268434437,rule_action:2
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 allow action
192.168.56.132-8 > 192.168.29.54-0 1 AS 1 I 0 deleting firewall session
```

- å°‡FQDNéƒ¨ç½²ç‚ºé »é©Žæ¿¾å™¨(Fastpath)çš„ä¸€éƒ¨å^†æ™‚ï¼Œé€™æ˜¯ngfwä¸çš„å¤–è§€ã€ru

```
iab_mode Off
# Start of tunnel and priority rules.
# These rules are evaluated by LINA. Only tunnel tags are used from the matched rule id.
268434439 fastpath any any  any any any  any any any  (log dcforward both) (tunnel -1)
268434438 allow any any  1025-65535 any any  3544 any 17  (tunnel -1)
268434438 allow any any  3544 any any  1025-65535 any 17  (tunnel -1)
268434438 allow any any  any any any  any any 47  (tunnel -1)
268434438 allow any any  any any any  any any 41  (tunnel -1)
268434438 allow any any  any any any  any any 4  (tunnel -1)
# End of tunnel and priority rules.
```

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```
Phase: 4
Type: ACCESS-LIST
Subtype: log
Result: ALLOW
Config:
access-group CSM_FW_ACL_ global
access-list CSM_FW_ACL_ advanced trust ip any object obj-talosintelligence.com rule-id 268434439 event-l
access-list CSM_FW_ACL_ remark rule-id 268434439: PREFILTER POLICY: Prefilter-1
access-list CSM_FW_ACL_ remark rule-id 268434439: RULE: FQDN_Prefilter
Additional Information:
```

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- é�‹è¡Œç³»çµ±æ”¯æ�´firewall-engine-debugä¸¦æªæ¢æŸ¥Snortå^¤å®šçµ�果

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/var/opt/CSCOpx/MDC/log/operation/usmsharedsvcs.log	æ‰€æœ‰APIå‘¼å�«
/opt/CSCOpx/MDC/log/operation/vmsbesvcs.log	CLIç”Ÿæˆ�æ—¥èªŒ
/opt/CSCOpx/MDC/tomcat/logs/stdout.log	Tomcatæ—¥èªŒ
/var/log/mojo.log	Mojoæ—¥èªŒ
/var/log/CSMAgent.log	CSMå’ŒDCä¹‹é–“çš„RESTå‘¼å�«
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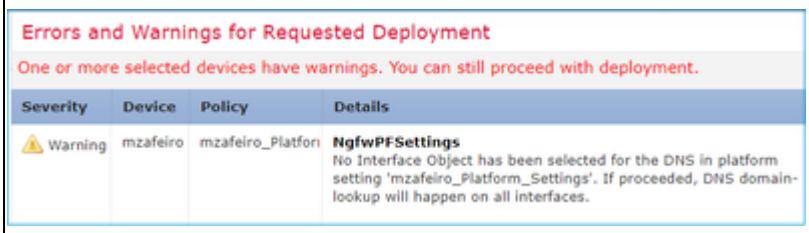

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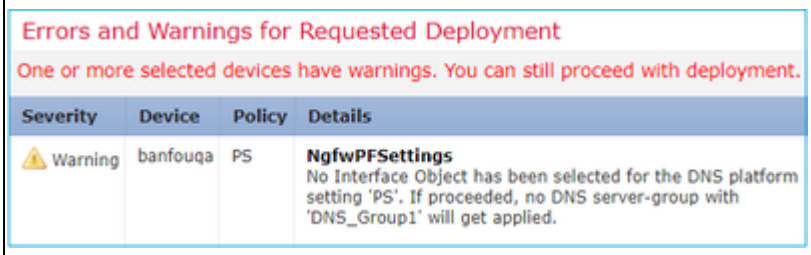

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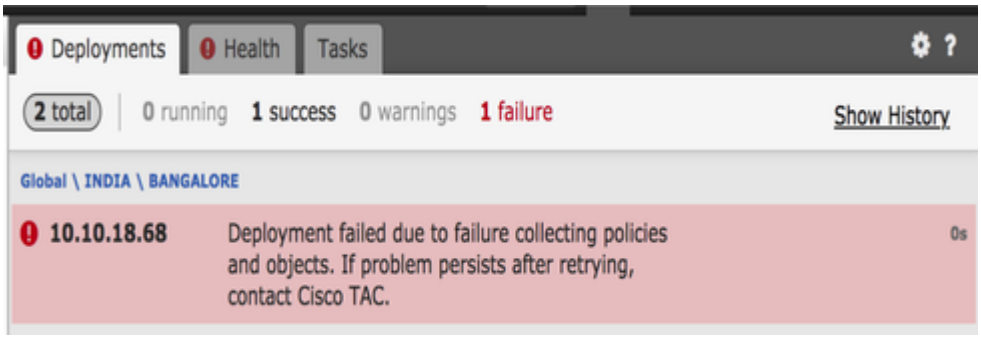

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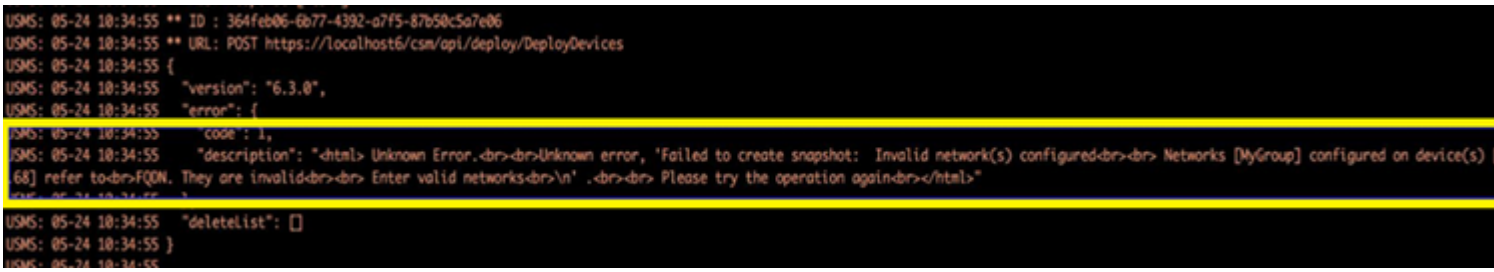

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關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。