

Cisco AP1850

Configuration Guide



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- 1. Image Type Check & OS Conversion/Upgrade**
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1. Image Type Check & OS Conversion/Upgrade

❖ OS Image Type Check

```
cisco AIR-AP1852E-K-K9 ARMv7 Processor rev 0 (v71) with
Processor board ID KWC1929009B
AP Running Image      : 8.3.102.0
Primary Boot Image   : 8.3.102.0
Backup Boot Image    : 8.1.131.0
AP Image type        : MOBILITY EXPRESS IMAGE
AP Configuration     : NOT MOBILITY EXPRESS CAPABLE
2 Gigabit Ethernet interfaces
2 802.11 Radios
Radio FW version     : e5a4a8a71f070bfaa9221d5f60e73236
NSS FW version       : NSS.AK.1.0.c10-00017-E_custC-1
```

'show version' 명령어로 이미지 타입을 확인한다. 1850 Series AP에서 ME를 사용하기 위해서는 ME OS이어야 한다.

위의 사진에 표시된 것 처럼 AP Configuration 부분이 '**NOT MOBILITY ...**' 으로 표시되거나

'AP Image type' 과 'AP Configuration' 부분이 **표시되지 않는다**면 OS의 업데이트(or Conversion)가 필요하다.

1. Image Type Check & OS Conversion/Upgrade

❖ OS Conversion ~ CAPWAP → Mobility-Express

```
AP38ED.18CC.0A70#
AP38ED.18CC.0A70#
AP38ED.18CC.0A70#ap-type mobility-express
WORD TFTP transfer command
Enter the tftp transfer details in following format:
tftp://<tftp server ip-address>/<filename with path from root>

<cr>
AP38ED.18CC.0A70#ap-type mobility-express tftp://192.168.0.111/
```

OS conversion을 위해 PC에서 TFTP 서버를 활성화하고 ME OS 파일을 준비한다.

AP는 **capwap ap ip <AP의 IP> <Netmask> <gateway>** 명령어를 통해 IP를 설정한다.

TFTP서버와 전송할 파일이 모두 준비되었다면 AP에서 위의 사진과 같이

ap-type mobility-express tftp://<TFTP서버 IP>/<전송할 ME OS> 명령어를 통해 ME OS를 전송한다.

파일 전송이 완료되면 AP는 전송된 OS로 재부팅하게 된다. 재부팅 후 다시 한 번 이미지 타입을 확인한다.

* 해당 모델의 Mobility Express ".tar" 파일을 사용해야 한다.

1. Image Type Check & OS Conversion/Upgrade

❖ OS Upgrade

```
Base Ethernet MAC Address : 38:ED:18:CC:0A:70
Part Number                : 0-0000-00
PCA Assembly Number        : 074-13150-01
PCA Revision Number        : 01
PCB Serial Number          : KWC1929009B
Top Assembly Part Number   : 000-00000-00
Top Assembly Serial Number : KWC1929009B
Top Revision Number        : A0
Product/Model Number       : AIR-AP1852E-K-K9

AP38ED.18CC.0A70#
AP38ED.18CC.0A70#
AP38ED.18CC.0A70#
AP38ED.18CC.0A70#
AP38ED.18CC.0A70#archive download-sw /reload tftp://192.168.0.111/AIR-AP1850-K9-8.3.102.0.tar
##### 26.2%
```

OS Upgrade 를 위해 PC에서 TFTP 서버를 활성화하고 ME OS 파일을 준비한다.

AP는 **capwap ap ip <AP의 IP> <Netmask> <gateway>** 명령어를 통해 IP를 설정한다.

TFTP서버와 전송할 파일이 모두 준비되었다면 AP에서 위의 사진과 같이

archive download-sw /reload tftp://<TFTP서버 IP>/<전송할 ME OS> 명령어를 통해 ME OS를 전송한다.

파일 전송이 완료되면 AP는 전송된 OS로 재부팅하게 된다. 재부팅 후 다시 한 번 버전을 확인한다.

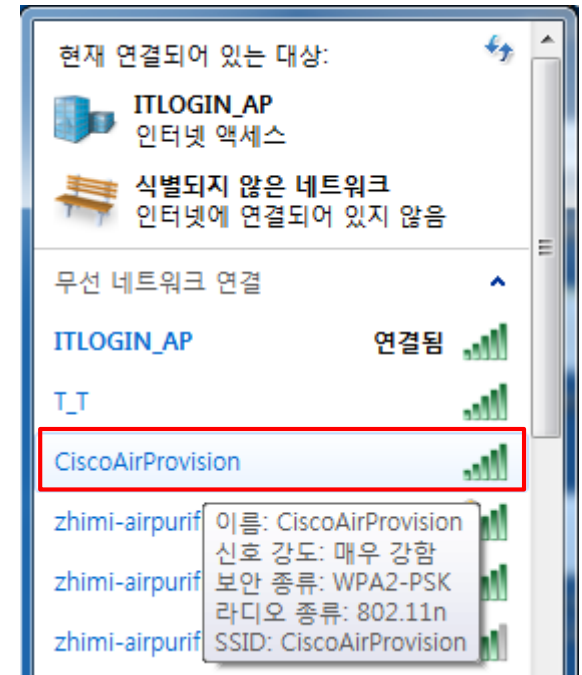
* 해당 모델의 Mobility Express ".tar" 파일을 사용해야 한다.

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2. Controller Configuration ~ Web GUI

```
67.2609] waiting for uplink IP address and reachable default gateway
67.2609]
02.2593] waiting for uplink IP address and reachable default gateway
02.2593]
07.2777] waiting for uplink IP address and reachable default gateway
07.2777]
12.2762] waiting for uplink IP address and reachable default gateway
12.2762]
17.2746] waiting for uplink IP address and reachable default gateway
17.2746]
22.2730] waiting for uplink IP address and reachable default gateway
22.2730]
27.2715] waiting for uplink IP address and reachable default gateway
27.2715]
32.2699] waiting for uplink IP address and reachable default gateway
32.2699]
37.2783] waiting for uplink IP address and reachable default gateway
37.2783]
42.2768] waiting for uplink IP address and reachable default gateway
42.2768]
```



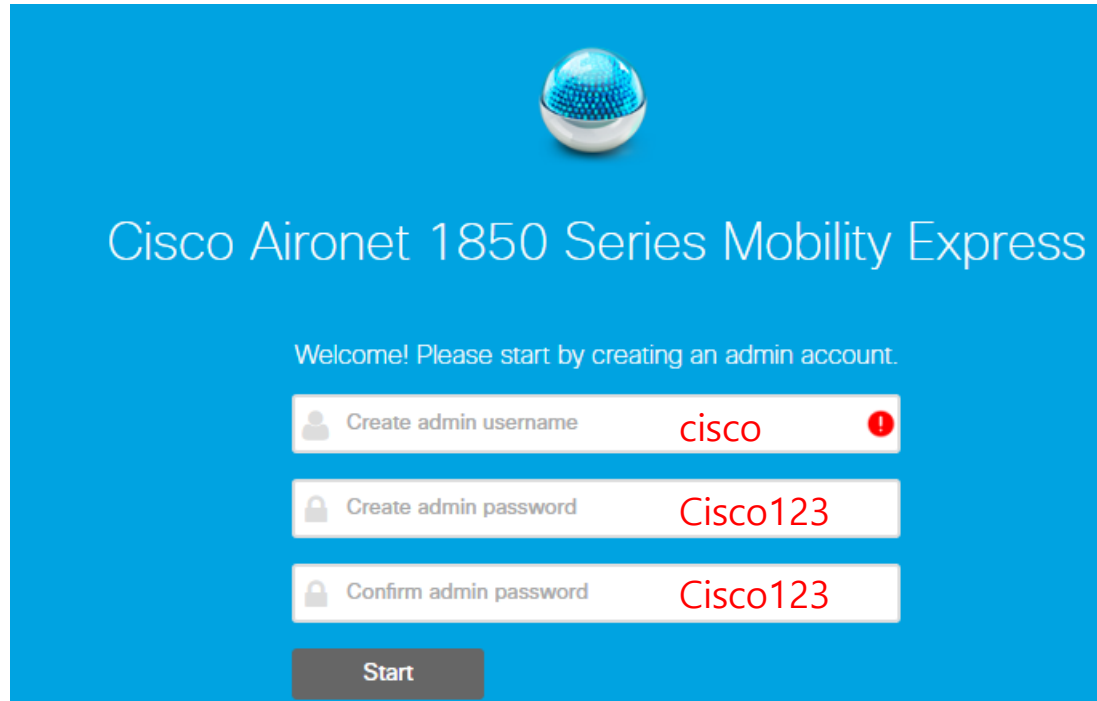
1850 Series AP는 부팅이 완료되면 위의 사진과 같이 Uplink의 IP address와 통신 가능한 gateway를 찾는다.

일정 시간 동안 Uplink를 찾지 못하면 AP는 연결가능한 컨트롤러가 없다고 판단하고 컨트롤러 이미지로 부팅 한다.

컨트롤러 이미지로 부팅이 끝나면 초기상태의 AP는 위의 사진과 같이 'CiscoAirProvision' 이라는 SSID를 생성하게 된다.

이 SSID의 암호는 password 이다.

2. Controller Configuration ~ Web GUI



The image shows the Cisco Aironet 1850 Series Mobility Express Web GUI. At the top center is a blue and white spherical logo. Below it, the text "Cisco Aironet 1850 Series Mobility Express" is displayed in white. A welcome message reads "Welcome! Please start by creating an admin account." Below this are three input fields for creating an admin account. The first field is "Create admin username" with the value "cisco" and a red exclamation mark icon. The second field is "Create admin password" with the value "Cisco123". The third field is "Confirm admin password" with the value "Cisco123". At the bottom is a dark grey "Start" button.

* 붉은색으로 표시된 내용은 각 항목의 예시이다.

'CiscoAirProvision' SSID에 접근한 뒤 위의 사진과 같이 웹 브라우저를 통해 192.168.1.1로 접속한다.

이 IP는 컨트롤러 이미지로 부팅된 AP1852의 default IP이다.

우선 컨트롤러에서 사용할 사용자명과 암호를 지정한다.

2. Controller Configuration ~ Web GUI

Cisco Aironet 1850 Series Mobility Express

1 Set Up Your Controller

System Name

Country

Date & Time

Timezone

NTP Server

Management IP Address

Subnet Mask

Default Gateway

* 붉은색으로 표시된 내용은 각 항목의 예시이다.

첫 번째로 컨트롤러 설정 페이지에서 각 항목에 맞춰 컨트롤러의 이름과 국가 등, 각 항목에 맞춰 알맞은 값을 설정한다.

2. Controller Configuration ~ Web GUI

2 Create Your Wireless Networks

Employee Network

Network Name

Security

Pass Phrase

Confirm Pass Phrase

VLAN

DHCP Server Address

Guest Network

* 붉은색으로 표시된 내용은 각 항목의 예시이다.

다음으로 Wireless 설정 페이지가 뜨면 SSID 이름, 암호화 방식 등 각 항목에 맞춰 알맞은 값을 설정한다.

2. Controller Configuration ~ Web GUI

CISCO Cisco Aironet 1850 Series Mobility Express

- 1 Set Up Your Controller ✓
- 2 Create Your Wireless Networks >
- 3 Advanced Setting v

RF Parameter Optimization

Client Density ?
Low Typical High

Traffic Type Data ▾

Back Next

마지막으로 Advanced 설정 페이지가 뜨면 RF Parameter Optimization 기능을 활성화 시킨다.

* RF Parameter Optimization은 추가 option 사항으로 꼭 사용할 필요는 없다.

2. Controller Configuration ~ Web GUI

CISCO Cisco Aironet 1850 Series Mobility Express

Please confirm settings and apply

1 Controller Settings

Username **cisco**
System Name **APC1852**
Country **Korea Extended (K) (KE)**
Date & Time **06/03/2016 18:39:17**
Timezone **Tokyo, Osaka, Sapporo**
NTP Server **-**

Management IP Address **10.0.0.253**
Management IP Subnet **255.255.255.0**
Management IP Gateway **10.0.0.254**

2 Wireless Network Settings

Employee Network

Network Name **T_T**
Security **WPA2 Personal**
Pass Phrase: *********
Employee VLAN **Management VLAN**
DHCP Server Address **-**

Guest Network

3 Advanced Settings

RF Parameter Optimization

Client Density **Typical**
Traffic Type **Data**

다음을 누르면 지금까지 설정한 내용이 표시되고 설정에 잘못된 점이 없으면 설정을 적용한다.

설정을 적용하면 시스템이 재부팅 된다는 팝업이 뜨고 확인을 누르면 설정 내용이 적용된 후 장비가 재부팅 하게 된다.

* 8.3.x 버전 이후로 DHCP 설정 항목이 추가되었다. 그 외 설정 부분은 대부분 동일하다.

2. Controller Configuration ~ Web GUI

The screenshot displays the Cisco Aironet 1850 Series Mobility Express Web GUI. The browser address bar shows the URL <https://10.0.0.253/screens/dashboard.html#/MainDashboard>. The page title is "Cisco Aironet 1850 Series Mobility Express". The left sidebar contains navigation menus: Monitoring (Network Summary, Access Points, Clients), Wireless Dashboard (AP Performance, Client Performance), Best Practices, Wireless Settings, Management, and Advanced. The main content area shows a "NETWORK SUMMARY" section with a search bar and several data cards: Wireless Networks (1), Access Points (2), Active Clients (2.4GHz: 0, 5GHz: 0), Rogues (APs: 0, Clients: 0), and Interferers (2.4GHz: 0, 5GHz: 0). Below this are two empty sections: "ACCESS POINTS BY USAGE" (NO DATA TO DISPLAY) and "OPERATING SYSTEMS".

1850 Series AP가 컨트롤러 이미지로 재부팅 되면 앞서 설정한 IP를 이용해 컨트롤러 웹페이지(https)로 접속할 수 있다.

웹페이지를 통해 현재 연결된 AP, 클라이언트 의 수 또는 각 AP, 클라이언트의 사용량 등을 확인할 수 있다.

※ 간혹 컨트롤러 설정을 마치고 구성/연결상에 문제가 없는데도 반복적으로 Uplink 및 gateway를 찾으면서 컨트롤러 이미지로 부팅이 되지 않는 경우가 있는데 이런 경우 capwap ap ip 설정을 확인하고 이를 올바르게 다시 설정해준다.

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3. Controller Configuration ~ CLI

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57.2609]
02.2593] waiting for uplink IP address and reachable default gateway
02.2593]
07.2777] waiting for uplink IP address and reachable default gateway
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22.2730] waiting for uplink IP address and reachable default gateway
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27.2715] waiting for uplink IP address and reachable default gateway
27.2715]
32.2699] waiting for uplink IP address and reachable default gateway
32.2699]
37.2783] waiting for uplink IP address and reachable default gateway
37.2783]
42.2768] waiting for uplink IP address and reachable default gateway
42.2768]

Starting Portal Server Services: ok
Starting Management Services:
  Web Server:    CLI:    Secure Web: ok
ok
Enabling Controller Provisioning
Configuring management interface
Enabling mgmt via wireless
Enabling Provisioning SSID
SSID: CiscoAirProvision, Admin Status: 1, Interface Name: management, 802.11 Au
: Enabled

(Cisco Controller)

Cisco Aironet 1850 Series Mobility Express
Welcome to the Cisco Wizard Configuration Tool
Use the '-' character to backup

Would you like to terminate autoinstall? [yes]: █
```

1850 Series AP는 부팅이 완료되면 위의 사진과 같이 Uplink의 IP address와 통신 가능한 gateway를 찾는다.

일정 시간 동안 Uplink를 찾지 못하면 AP는 연결가능한 컨트롤러가 없다고 판단하고 컨트롤러 이미지로 재부팅 한다.

컨트롤러 이미지로 부팅이 끝나면 위의 사진과 같이 컨트롤러 초기 설정 단계로 넘어간다.

3. Controller Configuration ~ CLI

```
COM1 - PuTTY
Would you like to terminate autoinstall? [yes]:
System Name [Cisco_cc:0a:60] (31 characters max): WLC1850
Enter Administrative User Name (24 characters max): cisco
Enter Administrative Password (3 to 24 characters): *****
Re-enter Administrative Password : *****

Enable Link Aggregation (LAG) [yes][NO]: no

Management Interface IP Address: 192.168.0.112
Management Interface Netmask: 255.255.255.0
Management Interface Default Router: 192.168.0.14
Cleaning up Provisioning SSID
Management Interface VLAN Identifier (0 = untagged):

Virtual Gateway IP Address: 1.1.1.1
Multicast IP Address: 239.0.0.1
Mobility/RF Group Name: CUWN
Network Name (SSID): 1850_8.1.131
Configure DHCP Bridging Mode [yes][NO]: no
Allow Static IP Addresses [YES][no]: yes

Configure a RADIUS Server now? [YES][no]: no
Warning! The default WLAN security policy requires a RADIUS server.
Please see documentation for more details.

Enter Country Code list (enter 'help' for a list of countries) [US]: KE

Enable 802.11b Network [YES][no]: yes
Enable 802.11a Network [YES][no]: yes
Enable 802.11g Network [YES][no]: yes
Enable Auto-RF [YES][no]: yes

Configure a NTP server now? [YES][no]: no
Configure the system time now? [YES][no]: yes
Enter the date in MM/DD/YY format: 03/28/17
Enter the time in HH:MM:SS format: 10:57:00

Would you like to configure IPv6 parameters[YES][no]: no

Configuration correct? If yes, system will save it and reset. [yes][NO]: yes
Cleaning up DHCP Server
Cleaning up Provisioning SSID

Configuration saved!
Resetting system with new configuration...

Writing reload timestamp (Tue Mar 28 10:57:27 UTC 2017) to disk

[03/28/2017 10:57:29.1109] UBIFS: un-mount UBI device 0, volume 3
[03/28/2017 10:57:29.9306] Restarting system.
[03/28/2017 10:57:29.9806] Going down for restart now
```

위의 사진은 컨트롤러 기본 설정 예시이다. 자신의 네트워크 망 및 구성에 맞춰 알맞게 설정한다.

※ 위 사진은 ME OS 8.1.x 버전에서의 예시이다.

3. Controller Configuration ~ CLI (ME OS ver.8.3.x)

```
COM1 - PuTTY
Would you like to terminate autoinstall? [yes]:
Enter Administrative User Name (24 characters max): cisco
Enter Administrative Password (3 to 24 characters): *****
Re-enter Administrative Password : *****

System Name [Cisco_cc:0a:60] (31 characters max): WLC1850

Enter Country Code list (enter 'help' for a list of countries) [US]: KE

Configure a NTP server now? [YES][no]: no
Configure the system time now? [YES][no]: yes
Enter the date in MM/DD/YY format: 03/28/17
Enter the time in HH:MM:SS format: 10:05:30
Enter timezone location index (enter 'help' for a list of timezones): 26

Management Interface IP Address: 192.168.0.112
Management Interface Netmask: 255.255.255.0
Management Interface Default Router: 192.168.0.14
Cleaning up Provisioning SSID
Create Management DHCP Scope? [yes][NO]: yes
DHCP Network : 192.168.0.0
DHCP Netmask : 255.255.255.0
Router IP: 192.168.0.14
Start DHCP IP address: 192.168.0.120
Stop DHCP IP address: 192.168.0.130

DomainName : AP1850.Test
DNS Server : [OPENDNS][user DNS] user DNS
Name Server 1: 8.8.8.8
Name Server 2: 168.126.63.1
Create Employee Network? [YES][no]: yes
Employee Network Name (SSID)?: 1850_AP
Employee VLAN Identifier? [MGMT][1-4095]: VLAN ID 입력
Employee Network Security? [PSK][enterprise]: psk
Employee PSK Passphrase (8-38 characters)?: 12345678
Re-enter Employee PSK Passphrase: 12345678
Create Guest Network? [yes][NO]: no
Enable RF Parameter Optimization? [YES][no]: no

Configuration correct? If yes, system will save it and reset. [yes][NO]: yes
Cleaning up Provisioning SSID

Configuration saved!
Resetting system with new configuration...

Writing reload timestamp (Tue Mar 28 10:08:00 UTC 2017) to disk

[03/28/2017 10:08:02.7723] UBIFS: un-mount UBI device 0, volume 3
[03/28/2017 10:08:03.6220] Restarting system.
[03/28/2017 10:08:03.6620] Going down for restart now
```

위의 사진은 컨트롤러 기본 설정 예시이다. 자신의 네트워크 망 및 구성에 맞춰 알맞게 설정한다.

※ 위 사진은 ME OS 8.3.x 버전에서의 예시이다.

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4. AP Join Problem & Firmware Update

```
AP1702#  
AP1702#show ver  
Cisco IOS Software, C1700 Software (AP3G2-K9W8-M), Version 15.3(3)JBB, RELEASE SOFTWARE (fc1)  
Technical Support: http://www.cisco.com/techsupport  
Copyright (c) 1986-2015 by Cisco Systems, Inc.  
Compiled Mon 04-May-15 17:26 by prod_rel_team  
  
ROM: Bootstrap program is C1700 boot loader  
BOOTLDR: C1700 Boot Loader (AP3G2-BOOT-M) LoaderVersion 15.3() [ TRUE]  
  
AP1702 uptime is 2 minutes  
System returned to ROM by power-on  
System image file is "flash:/ap3g2-k9w8-mx.153-3.JBB/ap3g2-k9w8-xx.153-3.JBB"  
Last reload reason:
```

1850 Series AP가 컨트롤러로 동작할 경우 일반적인 WLC들과 마찬가지로 Join될 AP의 펌웨어를 확인하고 컨트롤러에 Join 가능한 펌웨어로 업데이트를 진행한다.

위의 사진은 1850 컨트롤러에 Join될 AP의 'show version' 화면이다. 사진에서 보이듯이 기존의 펌웨어는 153-3.JBB이다.

4. AP Join Problem & Firmware Update

```
AP1702#
AP1702#
examining image...
AP1702#
*Jun  3 07:25:51.000: %CAPWAP-5-DTLSREQSEND: DTLS connection request sent peer_ip: 10.0.0.253 peer_port: 5246
*Jun  3 07:25:51.251: %CAPWAP-5-DTLSREQSUCC: DTLS connection created successfully peer_ip: 10.0.0.253 peer_port: 5246
*Jun  3 07:25:51.251: %CAPWAP-5-SENDJOIN: sending Join Request to 10.0.0.253perform archive download capwap:/ap3g2 tar file
*Jun  3 07:25:51.591: %CAPWAP-6-AP_IMG_DWNLD: Required image not found on AP. Downloading image from Controller.
*Jun  3 07:25:51.595: Loading file /ap3g2...
```

처음 AP가 컨트롤러에 Join을 시도하면 위의 사진과 같이 AP의 펌웨어가 Join 가능한 펌웨어인지 확인한다.

Join 가능한 펌웨어가 아닐 경우 해당 AP에 알맞은 이미지 파일을 찾게 된다.

4. AP Join Problem & Firmware Update

```
eer_port: 5246
*Jun  3 07:38:31.251: %CAPWAP-5-DTLSREQSUCC: DTLS connection created sucessfully peer_ip: 10.0.
0.253 peer_port: 5246
*Jun  3 07:38:31.255: %CAPWAP-5-SENDJOIN: sending Join Request to 10.0.0.253perform archive dow
nload capwap:/ap3g2 tar file
*Jun  3 07:38:31.343: %CAPWAP-6-AP_IMG_DWNLD: Required image not found on AP. Downloading image
from Controller.
*Jun  3 07:38:31.347: Loading file /ap3g2...

ERROR: Image is not a valid IOS image archive.
Download image failed, notify controller!!! From:8.1.102.0 to 0.0.0.0, FailureCode:3

archive download: takes 80 seconds

Translating "CISCO-CAPWAP-CONTROLLER"...domain server (255.255.255.255)
*Jun  3 07:39:51.351: capwap_image_proc: problem extracting tar file
*Jun  3 07:39:51.351: %DTLS-5-SEND_ALERT: Send FATAL : Close notify Alert to 10.0.0.253:5246

examining image...
*Jun  3 07:40:19.459: AP has SHA2 MIC certificate - Using SHA2 MIC certificate for DTLS.

*Jun  3 07:40:19.000: %CAPWAP-5-DTLSREQSEND: DTLS connection request sent peer_ip: 10.0.0.253 p
eer_port: 5246
*Jun  3 07:40:19.251: %CAPWAP-5-DTLSREQSUCC: DTLS connection created sucessfully peer_ip: 10.0.
0.253 peer_port: 5246
*Jun  3 07:40:19.251: %CAPWAP-5-SENDJOIN: sending Join Request to 10.0.0.253perform archive dow
nload capwap:/ap3g2 tar file
*Jun  3 07:40:19.343: %CAPWAP-6-AP_IMG_DWNLD: Required image not found on AP. Downloading image
from Controller.
*Jun  3 07:40:19.347: Loading file /ap3g2...
```

특별히 문제가 없다면 별도의 설정 없이 펌웨어 업데이트가 진행된다.

AP1850 컨트롤러의 OS 버전에 따라 업데이트가 실패할 수 있다.*

* [Cisco Wireless Solutions Software Compatibility Matrix](#) 를 참고하여 확인할 수 있다.

4. AP Join Problem & Firmware Update

The screenshot displays the management interface for an AP. On the left sidebar, the 'Management' menu is selected, and 'Software Update' is highlighted. The main content area shows the current version as 8.1.131.0 and a 'Posted Successfully' message. Below, the configuration fields for IP Address (10.0.0.10), File Path (AIR-AP1850\ME\AIR-AP1850-K9-), and Set Reboot Time are visible. The 'Save Tftp Parameters' button is highlighted with a red box.

1850 Series 컨트롤러에서 직접 펌웨어를 업데이트 하기 위해 메뉴탭에서 Management – Software Update를 선택한다.

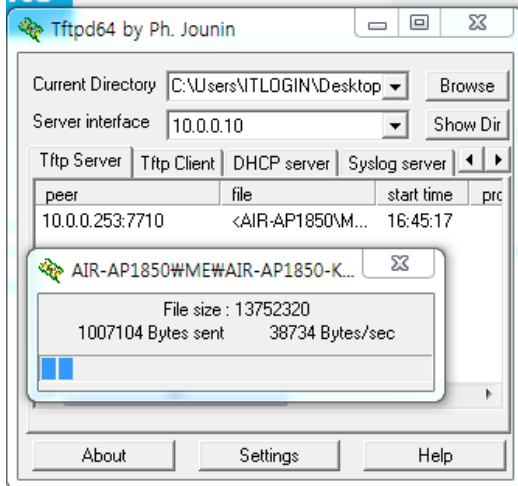
TFTP 서버의 IP와 1850 Series의 OS 파일이 존재하는 경로를 입력한 후 'Save Tftp parameters' 를 클릭한다.

4. AP Join Problem & Firmware Update

Cisco Aironet 1050 Series Mobility Express

ITS ADMINISTRATION

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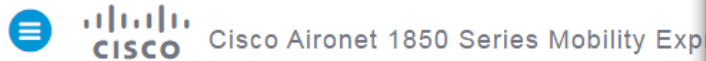
```
extracting info (291 bytes)
Image info:
  Version Suffix: k9w8-.153-3.JBB6
  Image Name: ap3g2-k9w8-mx.153-3.JBB6
  Version Directory: ap3g2-k9w8-mx.153-3.JBB6
  Ios Image Size: 11561472
  Total Image Size: 13732352
  Image Feature: WIRELESS LAN|LWAPP
  Image Family: AP3G2
  Wireless Switch Management Version: 8.1.131.0
  MwarVersion:08018300.First AP Supported Version:080048B9.

Image version check passed

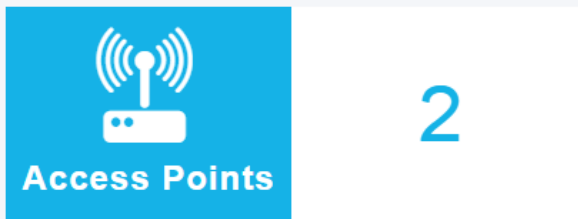
Extracting files...
ap3g2-k9w8-mx.153-3.JBB6/ (directory) 0 (bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/ap3g2-k9w8-mx.153-3.JBB6 (215867 bytes)!!!!!!!!!!!!!!!!!!!!!!
!
extracting ap3g2-k9w8-mx.153-3.JBB6/ap3g2-k9w8-tx.153-3.JBB6 (73 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/ap3g2-bl-2600 (190140 bytes)!!!!!!!!!!!!!!!!!!!!!!
extracting ap3g2-k9w8-mx.153-3.JBB6/ap3g2-bl-3600 (189183 bytes)!!!!!!!!!!!!!!!!!!!!!!
ap3g2-k9w8-mx.153-3.JBB6/html/ (directory) 0 (bytes)
ap3g2-k9w8-mx.153-3.JBB6/html/level/ (directory) 0 (bytes)
ap3g2-k9w8-mx.153-3.JBB6/html/level/1/ (directory) 0 (bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/appsui.js (563 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/back.shtml (512 bytes)!
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/forms.js (20442 bytes)!!
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/sitewide.js (17250 bytes)!
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/config-oeap.js (779 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/officeExtendap.css (41801 bytes)!!!!
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/ap_home.shtml.gz (1370 bytes)
ap3g2-k9w8-mx.153-3.JBB6/html/level/1/images/ (directory) 0 (bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/images/background web41.jpg (732 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/images/cisco-logo-2007.gif (1648 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/images/info.gif (399 bytes)
extracting ap3g2-k9w8-mx.153-3.JBB6/html/level/1/images/login homeap.gif (19671 bytes)!!
```

TFTP 서버 IP와 파일 경로설정이 적용되면 잠시 후 각 AP에 알맞은 버전의 이미지 파일이 전송되는 것을 확인할 수 있다.

4. AP Join Problem & Firmware Update



ACCESS POINTS ADMINISTRATION



Access Points 2

	Manage	Location	Name	IP Address
		default location	AP1852	10.0.0.2
		default location	AP1702	10.0.0.5

```
ROM: Bootstrap program is C1700 boot loader
BOOTLDR: C1700 Boot Loader (AP3G2-BOOT-M) LoaderVersion 15.3() [ TRUE]

AP1702 uptime is 2 minutes
System returned to ROM by power-on
System image file is "flash:/ap3g2-k9w8-mx.153-3.JBB6/ap3g2-k9w8-xx.153-3.JBB6"
Last reload reason:
```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wvl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

```
cisco AIR-CAP1702I-K-K9 (PowerPC) processor (revision A0) with 376810K/134656K B
Processor board ID FTX1913S0B0
PowerPC CPU at 800Mhz, revision number 0x2151
Last reset from power-on
LWAPP image version 8.1.131.0
1 Gigabit Ethernet interface
2 802.11 Radios

32K bytes of flash-simulated non-volatile configuration memory.
```

펌웨어 업데이트 완료 후 AP가 정상적으로 컨트롤러에 join된 것을 확인할 수 있다.

추가적으로 AP의 펌웨어가 153-3.JBB6으로 업데이트 된 것을 확인 할 수 있다.

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3. Controller Configuration ~ CLI
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- 5. Factory Reset**

5. Factory Reset

```
GPIO 7: Pull High detected...
Power Type: 802.3af POE or Others detected...

Button is pressed. Configuration reset activated..
Keep the button pressed for > 20 seconds for full reset

Wait for the button to be released ....
Button pressed for 24 seconds

Setting env for full reset..
Writing to SPI Flash...
Erasing block 0x1c0000
Erasing at 0x1c7000 -- 100% complete.
done
Image start      0x45000000 size 0x00138000
Key start        0x45138000 size 0x00000230
Sinature start  0x45138230 size 0x00000180
Signature returns 0
BL signing verification success, continue to run...
Manual boot mode, use bootcmd
Hit ESC key to stop autoboot:  0
Specified BOOT: part1
```

1850 Series의 초기화는 같은 Air-AP 시리즈와 마찬가지로 AP 후면에 위치한 Mode 버튼을 누른 상태에서 전원을 인가하면 된다. 위 사진에서 보이듯이 Mode 버튼을 20초 이상 눌렀다 떼어야 정상적으로 초기화가 진행된다.

Thank You

 IT Login

 IT Login