



Bulk Deployment Utility Guide

Cisco Wireless IP Phone 8821 & 8821-EX



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Introduction

The Bulk Deployment Utility (BDU) for the Cisco Wireless IP Phone 8821 and 8821-EX can be utilized for initial deployment or after the phones have been deployed.

The BDU provides quick provisioning and deployment when unique 802.1x accounts are used with EAP-FAST, PEAP-GTC, or PEAP-MSCHAPV2 or when a common set of credentials are used by all phones (e.g. PSK or a single 802.1x account).

A personal computer running Microsoft Windows or Apple OS X with Java installed is required. Java can be downloaded at <https://java.com/en/download>.

The BDU requires firmware version 11.0(3)SR4 or later for the Cisco Wireless IP Phone 8821 and 8821-EX.

The BDU does not support certificate provisioning, however the phones can download certificates via Simple Certificate Enrollment Protocol (SCEP) or be manually installed via the phone's admin webpage interface (<https://x.x.x.x:8443>), where x.x.x.x is the IP address of the phone. You can also place a Root CA certificate on the TFTP Server (named **WLANRootCA.cer**), which automatically downloads to the phone.

For more information on certificate provisioning, see the Cisco Wireless IP Phone 8821 and 8821-EX Wireless LAN Deployment Guide at <https://www.cisco.com/c/en/us/support/collaboration-endpoints/unified-ip-phone-8800-series/products-implementation-design-guides-list.html>.

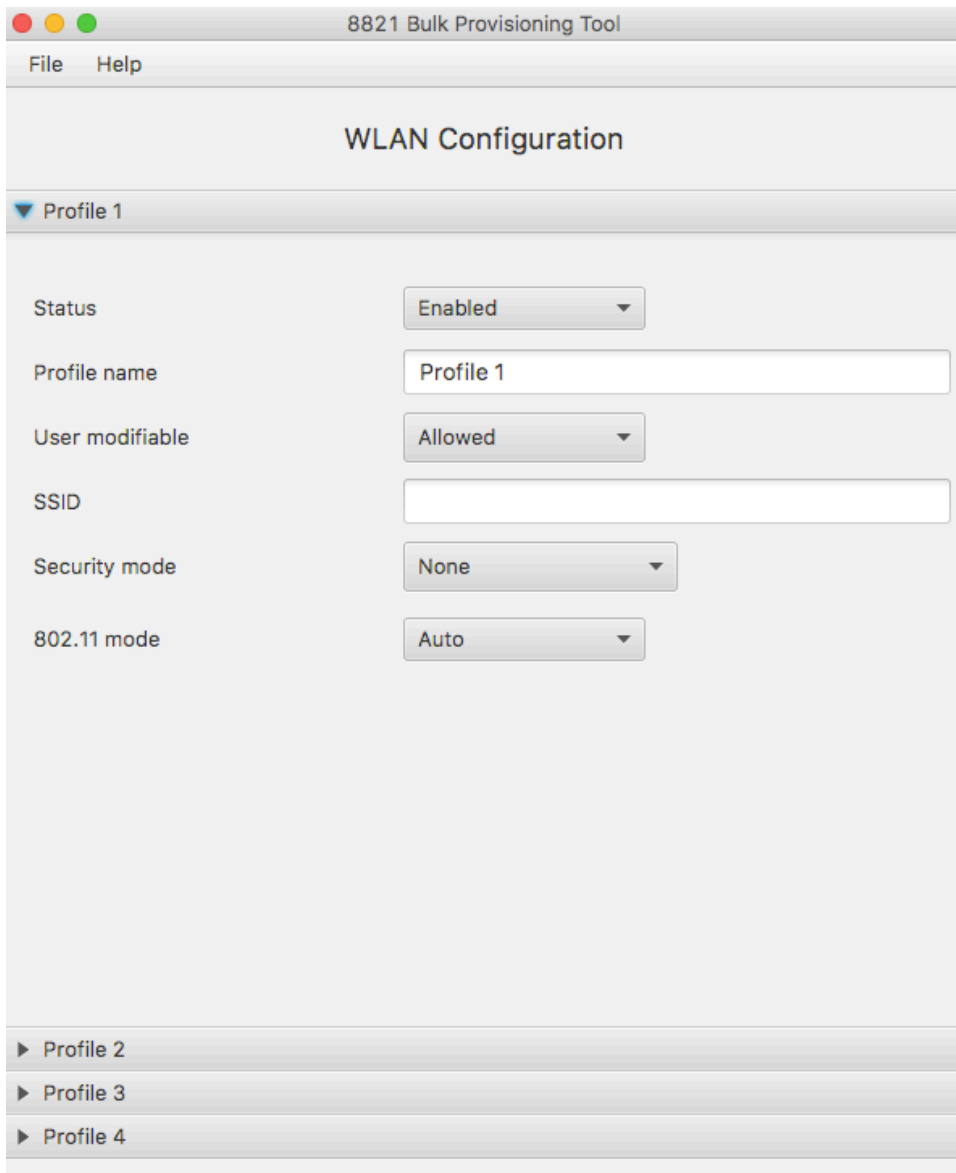
Create Wi-Fi Profiles

Once **882xBD.1-0.jar** is downloaded from Cisco.com, double-click the file to launch the BDU.

Prior to exporting TFTP downloadable configuration file(s), the Wireless LAN configuration parameters must be specified.

1. Configure the **Status** per Wi-Fi profile as necessary.
 - **Enabled** (Profile 1 is enabled by default)
 - **Disabled** (Profiles 2-4 are disabled by default)
2. Configure the **Profile name** per Wi-Fi profile as necessary.
 - A string with up to 32 characters is allowed.
3. Configure **User modifiable** per Wi-Fi profile as necessary.
 - **Allowed** = The user has the capability to change any Wireless LAN settings (e.g. Enable/Disable, SSID, Frequency Band, Authentication Method, Username and Password, PSK Passphrase, WEP Key) locally on the endpoint.
 - **Disallowed** = The user is unable to change any Wireless LAN settings.
 - **Restricted** = The user is only able to change certain Wireless LAN settings (e.g. User ID and Password)
4. Configure the **SSID** per Wi-Fi profile as necessary.
 - A string with up to 32 characters is allowed.
5. Configure the **Security mode** per Wi-Fi profile as necessary.
 - **None**
 - **WEP**
 - Requires **WEP key** to be entered.
 - **PSK**
 - Requires **Passphrase** to be entered.
 - **EAP-FAST**

- Requires **User ID** and **Password** to be populated either automatically via CSV file or manually.
 - Check **Provide shared credentials** to manually specify the **User ID** and **Password**.
 - Uncheck **Provide shared credentials** to use a CSV file to specify the **User ID** and **Password**.
 - **EAP-TLS**
 - Requires **User certificate** to be set to either **Manufacturing installed** or **User installed**.
 - **PEAP-GTC**
 - Requires **User ID** and **Password** to be populated either automatically via CSV file or manually.
 - Check **Provide shared credentials** to manually specify the **User ID** and **Password**.
 - Uncheck **Provide shared credentials** to use a CSV file to specify the **User ID** and **Password**.
 - **PEAP-MSCHAPV2**
 - Requires **User ID** and **Password** to be populated either automatically via CSV file or manually.
 - Check **Provide shared credentials** to manually specify the **User ID** and **Password**.
 - Uncheck **Provide shared credentials** to use a CSV file to specify the **User ID** and **Password**.
6. Configure the **802.11 mode** per Wi-Fi profile as necessary.
- **Auto** = Gives priority to 5 GHz frequencies over 2.4 GHz frequencies.
 - **2.4 GHz** = Uses 2.4 GHz frequencies only.
 - **5 GHz** = Uses 5 GHz frequencies only.



Note: If you plan to use unique 802.1x accounts with the Bulk Export method, the username and password do not need to be specified; they will be specified in the CSV file.

The BDU does not support static IP addresses, therefore DHCP (including TFTP) is used.

Export Configuration Files

Once the Wireless LAN configuration parameters are specified, then the TFTP downloadable configuration file(s) can be exported by selecting **File > Export** from the BDU.

There are two methods for exporting configuration files (**Bulk Export** and **Default Export**), which is auto-determined based on the selected security mode and whether unique credentials are specified or not.

If you need to deploy the phones with unique 802.1x accounts utilizing EAP-FAST, PEAP-GTC, or PEAP-MSCHAPV2, then the **Bulk Export** method is selected automatically.

If you need to deploy the phones with identical wireless LAN settings (e.g. None, WEP, PSK, EAP-TLS, or single user account with EAP-FAST, PEAP-GTC, PEAP-MSCHAPV2), then the **Default Export** method is selected automatically.

Bulk Export

The Bulk Export method uses the common Wireless LAN configuration parameters specified when creating the template, and prompt for a CSV file, which will contain the phone MAC address, username, and password.

A sample CSV file (**userinfo.csv**), available at **Help > Userinfo template export**, can be used as a template.

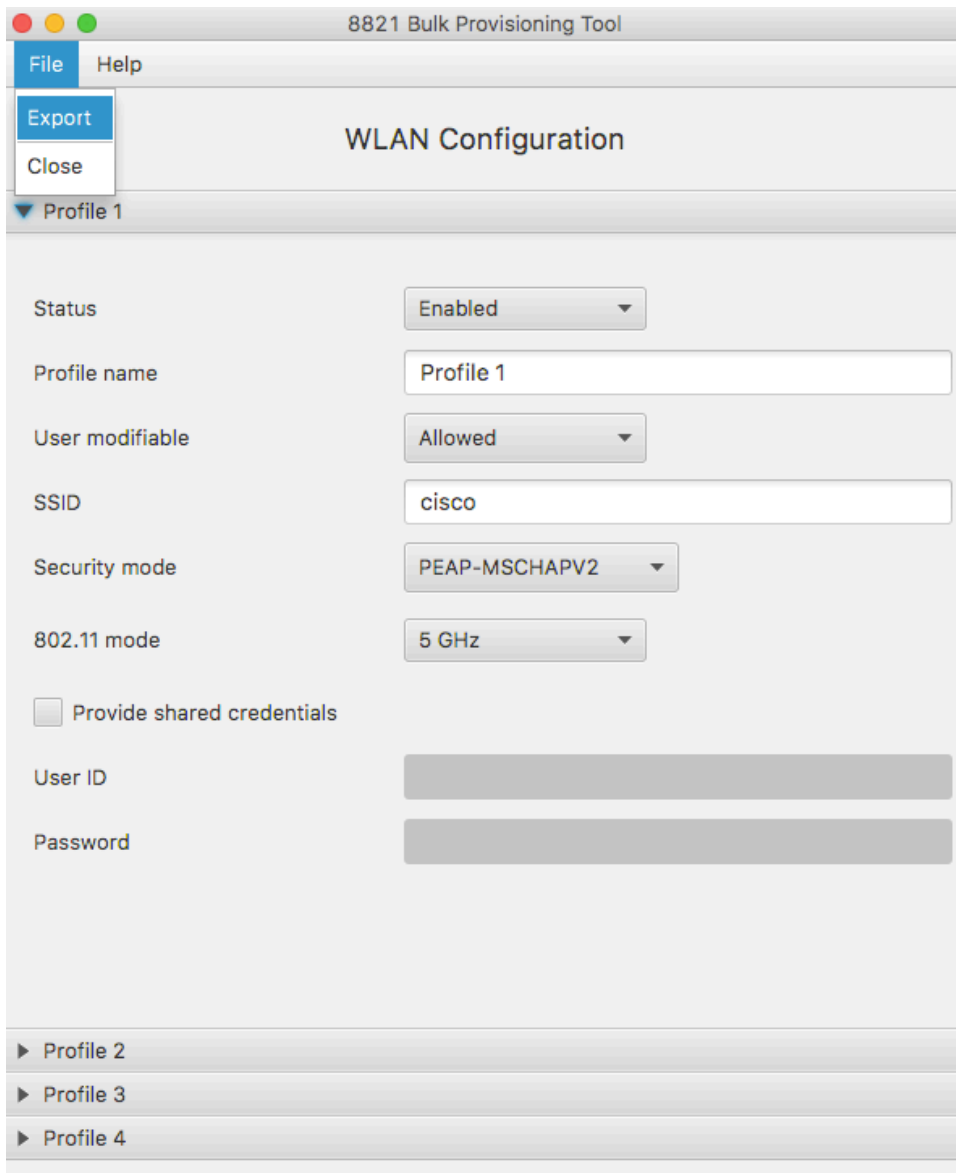
Below is the file format for the **userinfo.csv** file.

```
MAC,Username>Password  
00EBD5DB019C,Joe,Lee
```

Up to 5,000 entries are supported per CSV file.

After the CSV file is imported, TFTP downloadable configuration files for each phone are automatically created and exported to the location specified.

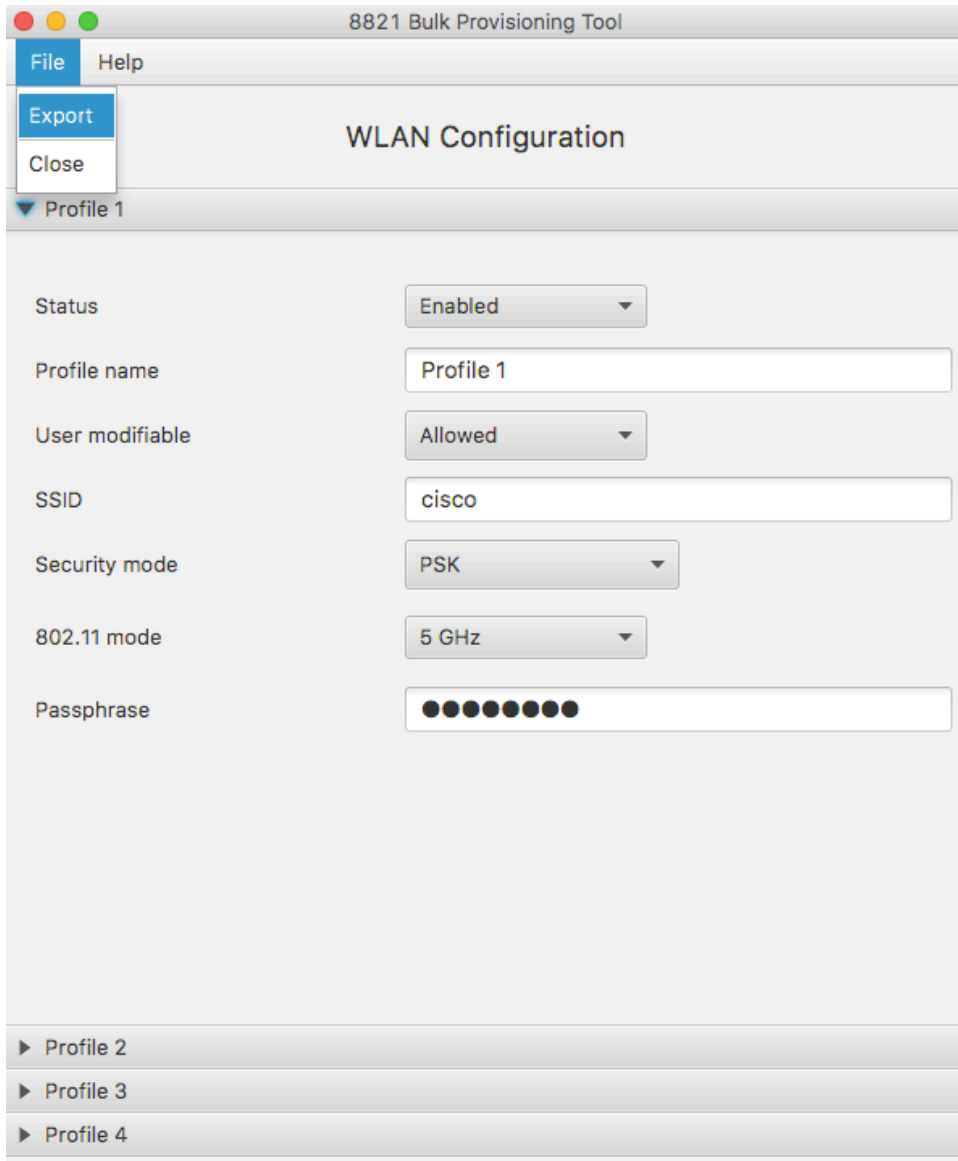
The exported file names are in the format of **8821-WLAN<MAC>.xml**, which the phone attempts to TFTP download when the phone is powered on or re-provisions.

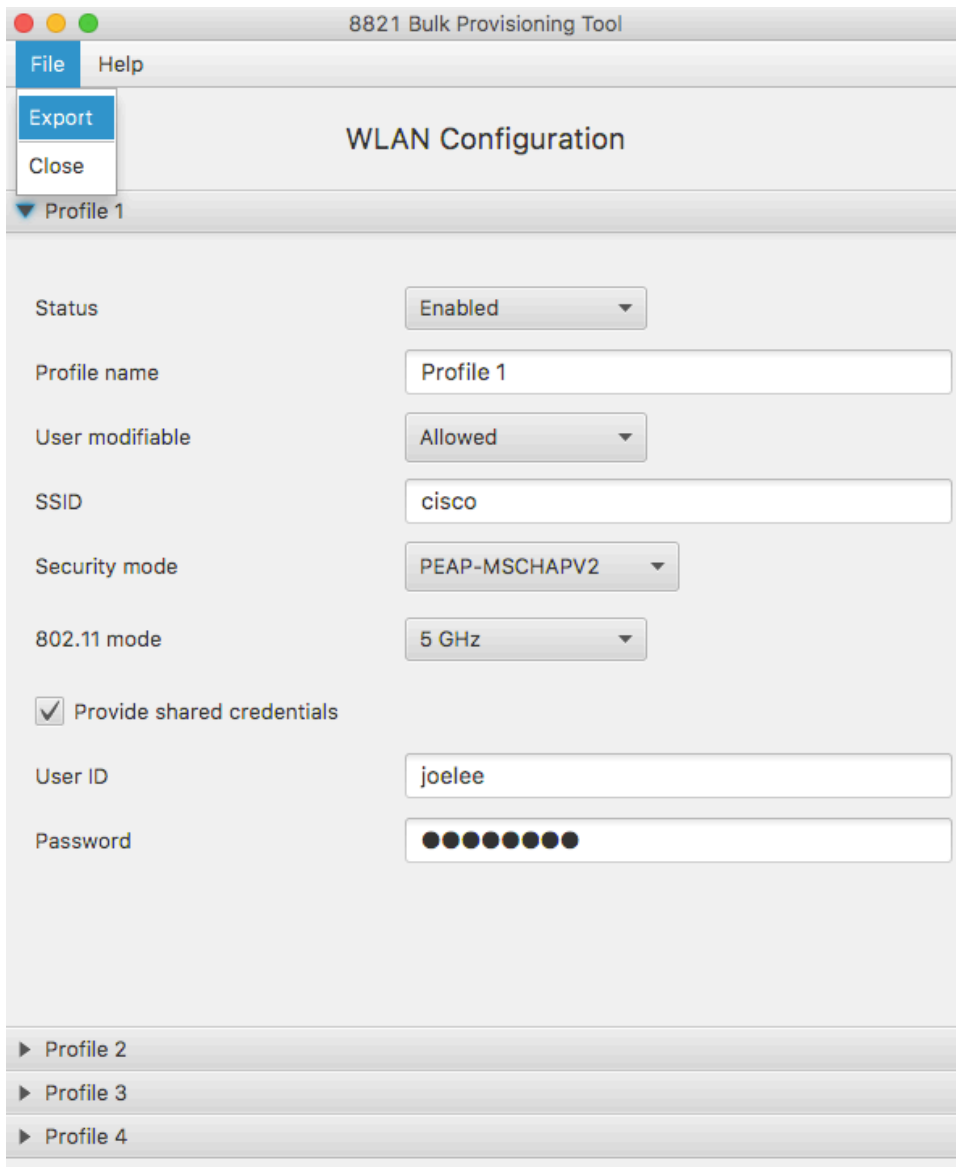


Default Export

The Default Export method uses the common Wireless LAN configuration parameters specified when creating the template and a TFTP downloadable configuration file will be automatically created and exported to the location specified.

The exported file name will be **8821-WLANDefault.xml**, which the phone attempts to TFTP download when the phone is powered on or re-provisions.





Push Configuration Files to the Cisco 8821 and 8821-EX

The BDU does not have TFTP server capabilities, therefore either the TFTP server on Cisco Unified Communications Manager / Cisco Unified Communications Manager Express or a third-party TFTP server will be required to host the phone configuration files once exported.

For initial deployment, use one of the following methods:

- Connect the phone to an Ethernet network while docked with a supported USB to Ethernet dongle connected to obtain IP settings via DHCP (including TFTP server) where the phone can TFTP download the phone configuration file.
- Connect the phone to a wireless LAN using the default SSID (cisco) to obtain IP settings via DHCP (including TFTP server) where the phone can TFTP download the phone configuration file.

For post-deployment, where phones are already being utilized on the production wireless LAN, copy the phone configuration files to the TFTP server that the phones are pointed to, then reset the phones to reconnect to the production wireless LAN. The phone then attempts to TFTP download the phone configuration file. The TFTP service may need to be restarted prior to resetting the phones depending on which type of TFTP server is utilized.

After the phone receives the configuration file, the phone will re-provision with the new settings and attempt to join the intended wireless LAN.

If currently docked with an active USB to Ethernet connection, the phone attempts to join the wireless LAN once undocked.