Eweb Configuration Sample For FAT AP

RGOS Version 11.1(5) B9P5

2017-10

Contents

Ruijie
Networks

Contents

☐ **Daily maintainance**

Modify Super Administrator Password

Create new administrator

Configure Log Server

Upgrade System from 11.x to 11.x

Export /Import Current Config

Restore Factory Setting

☐ **Appendix**

Upgrade system from 10.4 to 11.x

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Preface

Audience

Ruijie business partners and customers who are responsible for configuring and maintaining Ruijie wireless devices.

Revision Record

| Version	Release Date	Contents	Author
V1.0 V1.1	2015.8 2016.8	First Release Add Custom Landing Page Template	Scott Oscar

Note :

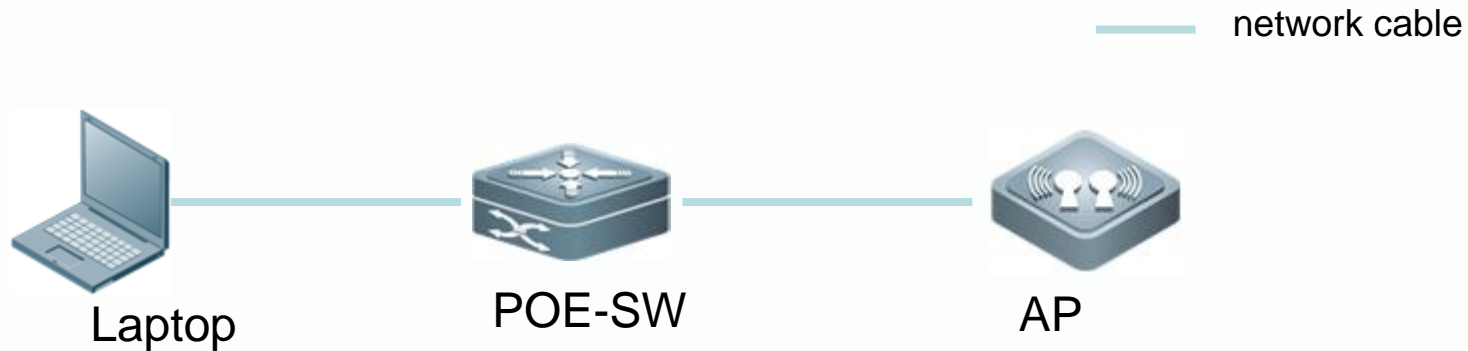For more detail configuration , see configuration guide for each product . you can download configuration guide at http://www.ruijienetworks.com

For more technical enquiry , you can visit Ruijie Service portal at http://case.ruijienetworks.com . You need to sign up before submit a case.

Preface

- This slide is going to guide you how to configure Ruijie AP in Fat mode with web management tool------ Eweb

- In 1st part , you will study how to initialize AP including login Web UI and convert to Fat AP

- In 2nd part , there are 2 most practical configuration scenarios .

- In 3rd part , there are some advanced configurations .

- In 4th part , daily maintenance

- The brief workflow is as below :

| 1st | •login web UI •Convert to Fat mode | 2nd | •Quick configuration •Common configuration | 3rd | advanced configurations | 4th | Daily Maintenance |
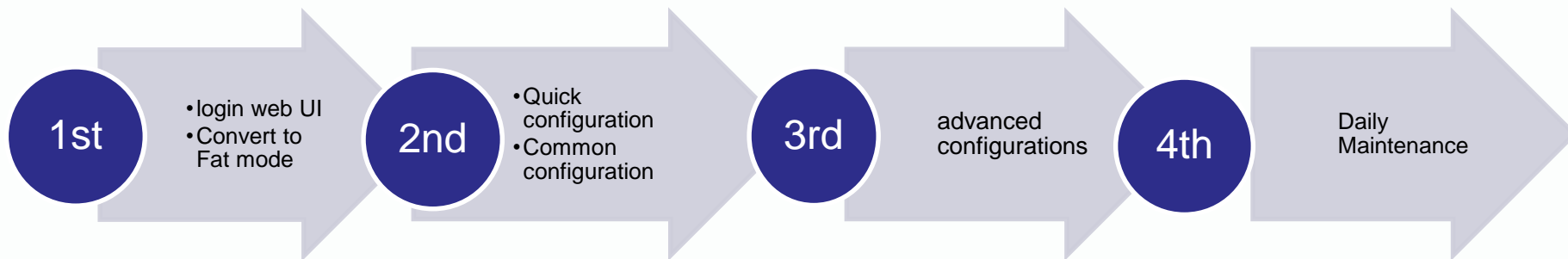
Initialization : Connect and power on AP

network cable

Laptop   POE-SW   AP

- ☐ As shown in above diagram , you need one POE switch to power AP on .(POE adapter is also ok)

- ☐ Put both laptop and AP in the same vlan .By default , the IP address of AP is 192.168.110.1/24 , so assign IP address 192.168.110.2/24 to laptop.

- ☐ Now , laptop should be able to communicate with AP. You can verify it by ping.

Initialization : Login Web Management Page

❑ Open browser and visit http://192.168.110.1 You will see below login page
The default identity is that **Username: admin** & **Password: admin**

Initialization : Convert AP from fit mode to fat mode

☐ Go to "System" -> "System Mode" in the left ,select "Fat AP Mode" in the right AP will reload and switch to Fat mode.

Note : By default , AP works in Fit Mode.

select "Fat AP Mode"

Scenario 1 ： Quick Configuration

☐ If it is the first time you configure Ruijie AP , your requirement is just one "plug and play " AP to broadcast only one SSID , it is recommend to use "Quick configuration".

☐ "Quick configuration" allows you to configure a WLAN by simply specifying the "SSID name" and "password" . Then ,you can plug AP in your network and it will extend wired to wireless .

LAN

Layer 2 Poe Switch

wired devices
vlan 10

Fat AP

wireless devices
vlan 10
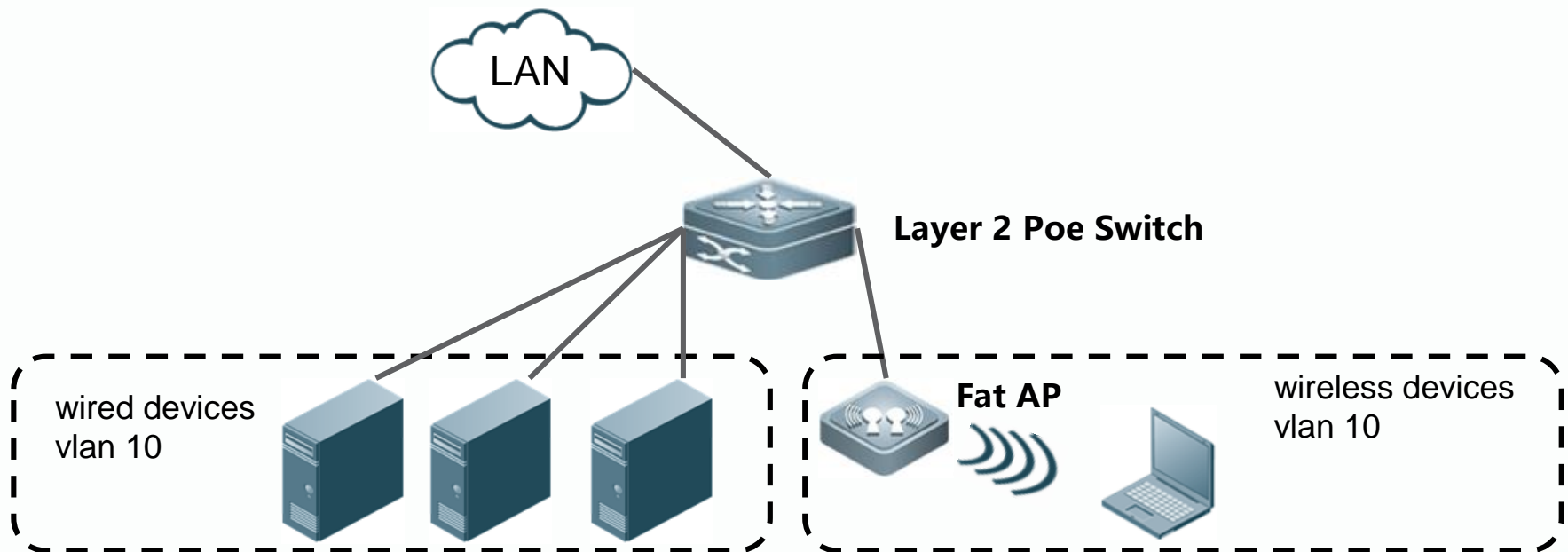
Scenario 1(1):Modify vlan and management IP

- ❑ Eweb will prompt the "Quick configuration" for the first time you login.
- ❑ Also ,you can open "Quick configuration" in the top right of Eweb.
- ❑ First choose access mode
- ❑ Assign one management IP address to Fat AP.

Scenario 1(1):Set SSID name and password

- ☐ Specify SSID name and set password .

- ☐ So far "Quick configuration" has finished !

Scenario 1(2) :Modify management IP

- ☐ Now we choose routing mode
- ☐ Assign one management IP address to Fat AP.
- ☐ And we do not choose NAT

Scenario 1(2) :Set SSID name and password

☐ Specify SSID name and set password .
☐ After these configuration we need to write an route point to users in the Layer3 device.
☐ So far "Quick configuration" has finished !

1.Specify SSID name and password

2.Create vlan for users

3.Click "Finish"

Scenario 1(3) :Modify management IP

- ☐ Now we choose routing mode
- ☐ Assign one management IP address to Fat AP.
- ☐ And we choose NAT

Scenario 1(3) :Set SSID name and password

☐ Specify SSID name and set password .
☐ So far "Quick configuration" has finished !

Ruijie AP

*e*WEB Model: AP740-I Detail

Monitor
- Dashboard
- User Info

Network

Security

Advanced

System

Quick Settings—WiFi

1.Specify SSID name and password

SSID: levyrouter *

WiFi Password: 12345678 ☑ Show Password

DHCP: ☑ Enable (IP addresses are allocated by AP)

Vlan ID: 10

2.Create vlan for users

IP Range: 10.10.10 1 to 254

DHCP Gateway: 10.10.10.254

Preferred DNS Server: 114.114.114.114 Optional

Secondary DNS Server: Optional

**3.Click "Finish"**

Back Finish

Scenario 1 : Verification

☐ Connect this FAT AP to your network , and it starts to broadcast SSID "Eweb_226A1" . Connect to this SSID and input password , you are able to obtain the network.
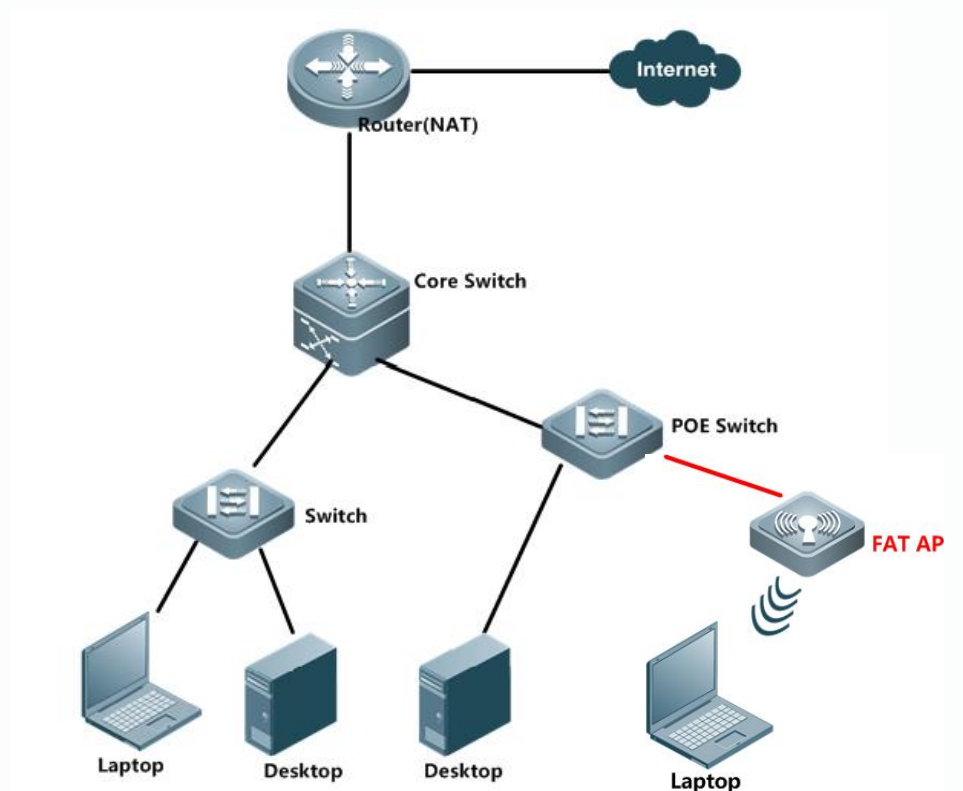
Scenario 2 : Normal Configurations

☐ Compare with "Quick configuration", if you want to configure multiple SSIDs and customize additional settings like ,vlan , DHCP etc , "Normal Configuration " is prefer.

☐ Following sample displays a common enterprise wired network . Now we are going to build wireless network. In design ,besides common wired network , we create two more vlans : one for AP management , the other one for wireless users .
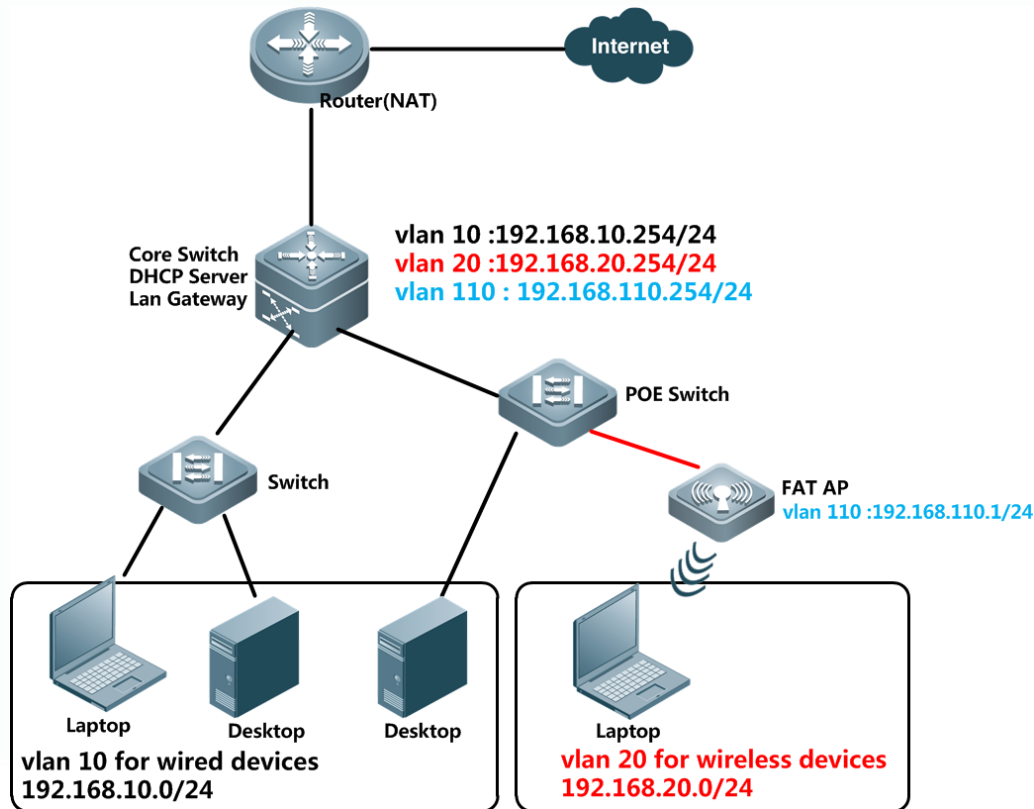
Note :

- Set Core switch as gateway for vlan 10,20 and 110.

- Set Core switch as DHCP Server for vlan 10,20 and 110.

- You can also set Fat AP as DHCP Server for vlan 20.(optional , will cover in following content)

Scenario 2 : Configure POE Switch

◻ It is recommended to set the POE port on POE switch in Trunk mode and untag ap management vlan 110. Trunk port is able to forward traffic of multiple vlans so that you can configure multiple ssids and map one ssid to one vlan.

◻ Also , you can set POE port on POE switch in access mode , but access port is able to forward traffic of only one vlan .

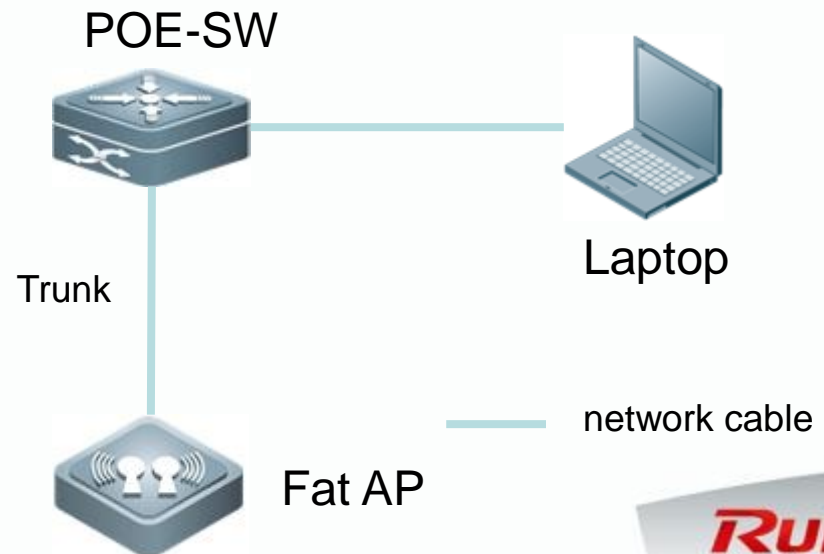**For example , on Ruijie POE switch,**

interface GigabitEthernet 0/1

 switchport mode trunk

 switchport trunk native vlan 110

 poe enable

 description link-to-fat AP

POE-SW

Trunk

Laptop

network cable

Fat AP

Scenario 2 : Create a new WLAN

☐ Log into Eweb , go to "WiFi/Wlan" , click the "+" button to create a new Wlan .

☐ Unfold "Advanced Settings" , map SSID "NewWlan" to vlan 20

Scenario 2 : Create a new VLAN

❏ Map SSID "NewWlan" to vlan 20 ,so create vlan 20 first

1.Click "Add VLAN"

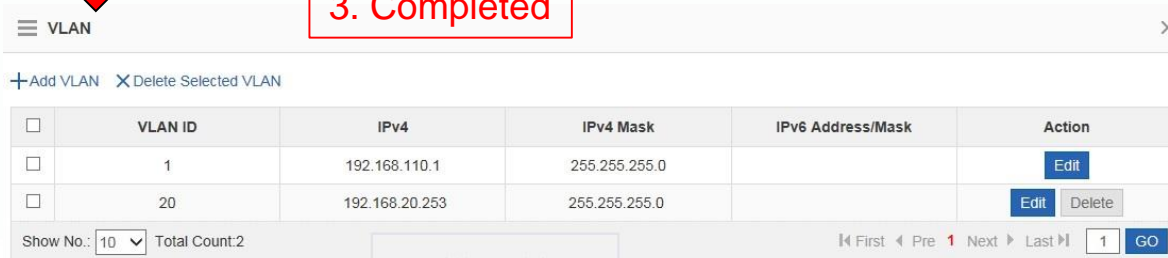≡ VLAN   ✕

➕ Add VLAN   ✕ Delete Selected VLAN

☐	VLAN ID	IPv4	IPv4 Mask	IPv6 Address/Mask	Action
☐	1	192.168.110.1	255.255.255.0		Edit

Show No.: 10 ▾ Total Count:1   ⏮ First ◀ Pre **1** Next ▶ Last ⏭   1   GO

2. Fill in Vlan ID and assign IP address to BVI 20

≡ Add VLAN   ✕

VLAN ID : | 20 | ✕ | * (Range: 1-4094)

IP: | 192.168.20.253 |

≫ Advanced Settings

Save   Cancel

3. Completed

≡ VLAN   ✕

➕ Add VLAN   ✕ Delete Selected VLAN

☐	VLAN ID	IPv4	IPv4 Mask	IPv6 Address/Mask	Action
☐	1	192.168.110.1	255.255.255.0		Edit
☐	20	192.168.20.253	255.255.255.0		Edit Delete

Show No.: 10 ▾ Total Count:2   ⏮ First ◀ Pre **1** Next ▶ Last ⏭   1   GO

Add succeeded

Scenario 2 : Map SSID to VLAN

☐ Map both 2.4G and 5G radio to VLAN 20 .
☐ Remain DHCP settings by default if you set DHCP Server on Core switch
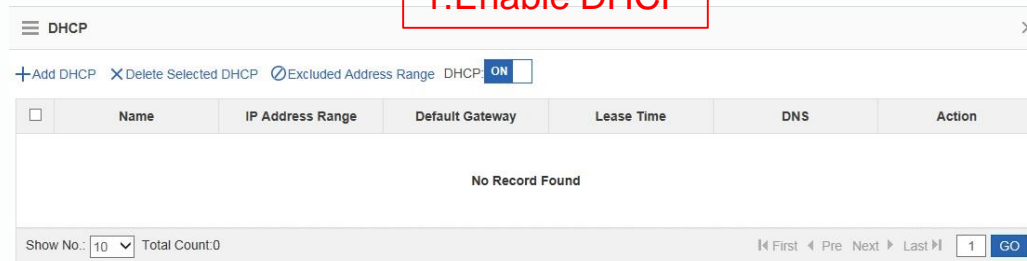☐ Read next page if you set DHCP Server on Fat AP (Optional)

Scenario 2 : Set DHCP Server on Fat AP (Optional)

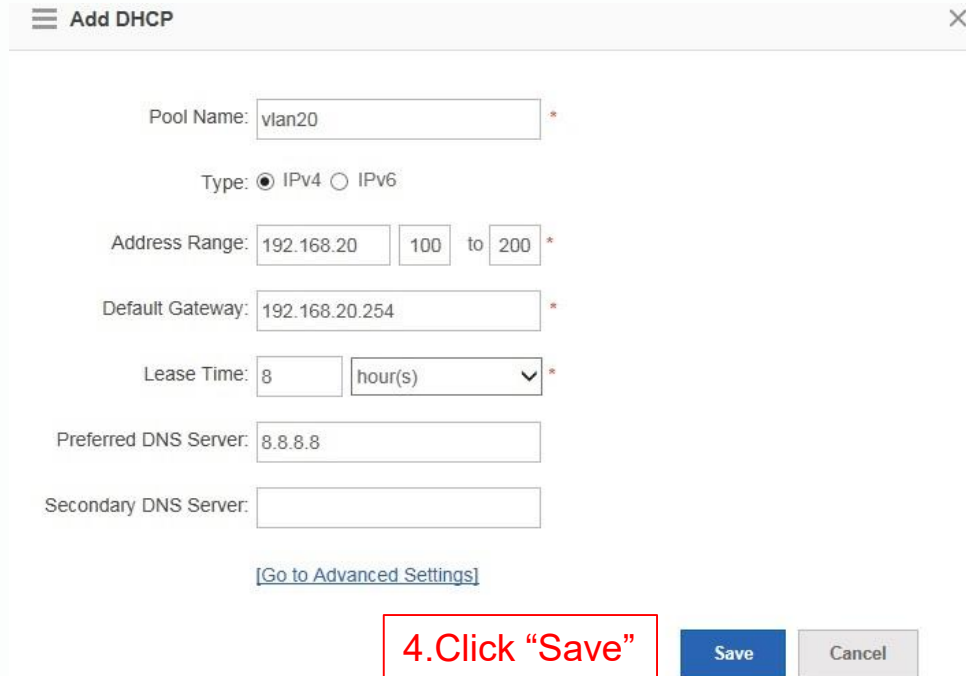☐ If there is no external DHCP Server , set DHCP Server on Fat AP.

1.Enable DHCP

2. Add DHCP

≡ DHCP   ✕

+Add DHCP   ✕Delete Selected DHCP   ⊘Excluded Address Range   DHCP: **ON**

☐	Name	IP Address Range	Default Gateway	Lease Time	DNS	Action

No Record Found

Show No.: 10 ▾   Total Count:0   ⏮ First ◄ Pre   Next ► Last ⏭   1   GO

3.Fill in required fields "*", note that "Default Gateway" 192.168.20.254 is IP address of SVI 20 on Core Switch . In addition , remember to specify the DNS Server .

≡ **Add DHCP**   ✕

Pool Name: vlan20 *

Type: ◉ IPv4 ○ IPv6

Address Range: 192.168.20 | 100 | to | 200 *

Default Gateway: 192.168.20.254 *

Lease Time: 8 | hour(s) ▾ *

Preferred DNS Server: 8.8.8.8

Secondary DNS Server:

[Go to Advanced Settings]

4.Click "Save"   Save   Cancel

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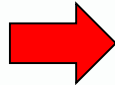
Scenario 2 : Complete and Save configuration

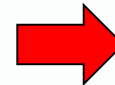- ☐ SSID name and password
- ☐ VLAN mapping and DHCP setting

Scenario 2 : Verification
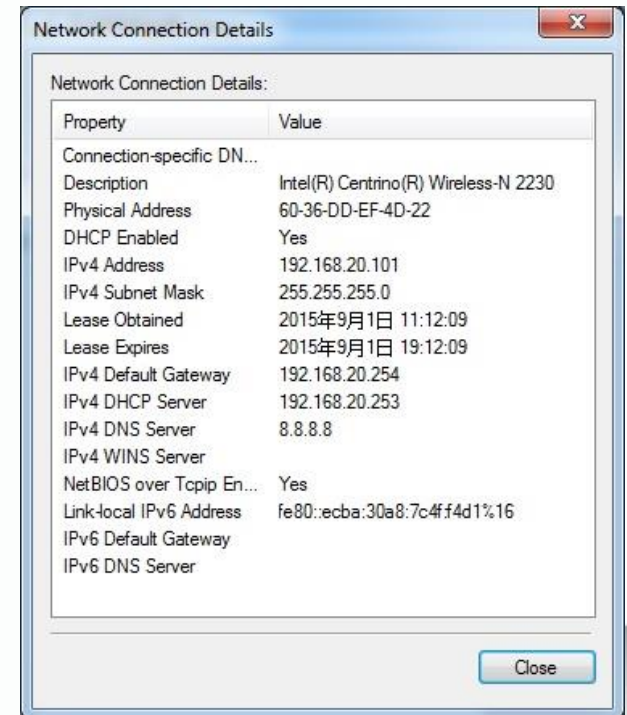
◻ Follow below steps to Verify wireless function.

1. Connect your wireless device to SSID "NewWlan

2. Input the password and click "OK"

3. Connected and obtained IP address of subnet 192.168.20.0/24 and DNS Server

ruijie-802.1x	.ull
Eweb_226A1	.ull
wx_esing	.ull
NewWlan	.ull
yue	.ull
asana	.ull
duke	.ull

Connect to a Network

Type the network security key

Security key: NewPassword

☐ Hide characters

OK   Cancel

Network Connection Details

Network Connection Details:

Property	Value
Connection-specific DN...	
Description	Intel(R) Centrino(R) Wireless-N 2230
Physical Address	60-36-DD-EF-4D-22
DHCP Enabled	Yes
IPv4 Address	192.168.20.101
IPv4 Subnet Mask	255.255.255.0
Lease Obtained	2015年9月1日 11:12:09
Lease Expires	2015年9月1日 19:12:09
IPv4 Default Gateway	192.168.20.254
IPv4 DHCP Server	192.168.20.253
IPv4 DNS Server	8.8.8.8
IPv4 WINS Server	
NetBIOS over Tcpip En...	Yes
Link-local IPv6 Address	fe80::ecba:30a8:7c4f:f4d1%16
IPv6 Default Gateway	
IPv6 DNS Server	

Close

Networks

Advanced Configurations: Modify SSID name and Password

☐ Go to "Wifi/WLAN" in the left, select "wlan name" in the right .
☐ Modify SSID name and password , then save configuration.

Advanced Configurations: Channel ,power and STA limitation

☐ Go to "Channel" in the left .
☐ Adjust "Channel" , "RSSI " and Signal Strength , and "Max STA Count " for both 2.4G and 5G radio .

1.Adjust channel. Channel "1" , "6" and "11" are recommended in 2.4G

2.Adjust RSSI level. Select mode in drop down box

3.Adjust station limitation. By default , 2.4G radio limitation is 32.

1.Adjust channel. Select recommended channel in drop down box.

2.Adjust RSSI level. Select mode in drop down box

3.Adjust station limitation. By default , 5G radio limitation is 32.

Advanced Configurations: Rate limit

☐ Go to "WiFi/WLAN" in the left , select "Wlan name" in the right , unfold "Advanced settings" (we need to cerate the wlan first, then set the rate limit)

☐ The Unit is 8Kbits = 1KBytes , for example, input 256 if you want to limit each wireless STA at speed 256KB/s

Advanced Configurations: WDS

❏ Go to both of the root bridge and non-root and create vlan for WDS first.

Advanced Configurations: WDS

☐ Then add a new wlan on both of root bridge and non-bridge.

Advanced Configurations: WDS

❑ Go to choose WDS, and turn on the button of "5G Network WDS".
❑ And choose the wifi of WDS. Then save the configuration.

Advanced Configurations: Containment

☐ Make the terminal which is connected to the rouge ap goes offline or has a bad internet experience.

Advanced Configurations: AP based User Isolation

☐ Go to "Security " ->"User isolation" in the left .
☐ Wireless STA that is not in "Allowed MAC" list cannot visit other STA.
☐ Wireless STA that is in "Allowed MAC" list can visit other STA

Advanced Configurations: AP based static Black & White list

- ☐ Go to "Security" ->"MAC based Access Control" in the left.
- ☐ If "AP based blacklist" is enable ,STA in blacklist is unable to access AP.
- ☐ If "AP based white" is enable , only STA in whitelist is able to access AP.

Advanced Configurations: AP based static Black list

❑ There is another way to add users into Black list.
❑ There is one thing needs to mention is that you can add user into blacklist, if there is a need to delete user from blacklist, please go to Blacklist/Whitelist.

2.Click this button

1.Choose the user you want to add him into the blacklist

Advanced Configurations : SSID based static Black & White list

☐ Go to "Security" ->"MAC based Access Control" in the left.
☐ If "SSID based blacklist" is enable ,STA in blacklist is unable to access WLAN.
☐ If "SSID based white" is enable , only STA in whitelist is able to access WLAN.

1.Select "SSID-based" mode ,switch to below UI

2.Select SSID

3.Select "blacklist" or "Whitelist" mode

4.Add MAC address, username is optional

5.Save configuration

Advanced Configurations: Dynamic blacklist

☐ The device will identify the attack then add the user in blacklist for some time, then after the time expired the user will leave the blacklist automatically

Advanced Configurations: Nfpp/Arp

☐ This nfpp function can monitor the attack, then will be shown in the log
☐ The function of arp can static bind the ip address with mac address and it can support manually bind and remove binding.

Advanced Configurations: ACL

☐ There is also a acl function in ap, click "add acl" then "add access rule" and config
☐ Configure the acl time and then invoke it in the acl.

Advanced Configurations : Built-in Web Authentication

☐ Go to "Network" ->"Internet Auth" in the left , select "Iportal" in the right.
☐ Authentication package : you can utilize default built-in web authentication page or you can customize it . For more information about page customization , see configuration guide accordingly.
☐ Authentication mode: This option indicates the place you store user accounts. You can store in remote Radius Server or in local system.
☐ In below sample , we utilize default authentication page and store user accounts in local system.

1.Select type of "authentication page" , here we select "default package"

2.Select "authentication mode" , here we select "use local user information on

3.Select SSID which you want to apply web authentication to.

Advanced Configurations : Create local user accounts

- ☐ Click "Local User" , enter Local user management.
- ☐ Click "Add User" , fill in the "Username" and "Password" . Click "Save" when finished.

4.Create Local users

Authentication Package: ○ Default Package ○ Custom Package [Local User] [Online User]

≡ Local User ✕

5.Add user

+Add User ✕ Delete Selected User   Username-based: [＿＿＿＿＿＿] **Search**

☐	Username ⇕	Action
☐	scott	Edit Delete

Show No.: 10 ▾ Total Count:1   ⏮ First ◂ Pre **1** Next ▸ Last ⏭   1   **GO**

≡ Add User ✕

6.Fill in Username and password , click save when finish

Username: [＿＿＿＿＿＿] *

Password: [＿＿＿＿＿＿] *

Save   **Cancel**

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Advanced Configurations : Built-in Web Authentication Verification

☐ Before verification , it is recommend that turn off "Encryption Type" cause usually , we apply only one authentication method to a WLAN
☐ Connect your STA to SSID, then it succeeds to obtains IP address and DNS.
☐ Visit any website ,you will be redirected to authentication page .
☐ Input your credentials , pass the authentication and visit Internet

Advanced Configurations : Extra Features – Login Redirection

☐ The setup and clarified basic Built-in Web-Auth (iPortal) must be done.
☐ Basic template for redirection page
   ☐ online-popup *http://domain.name* //The URL will pop up after success login on iPortal.
   ☐ login-popup *http://domain.name* //The URL will pop up while the iportal landing page loading.
   ☐ time-interval xx //Config iportal login-popup time interval, count by hour, enter 0 for always pop up.
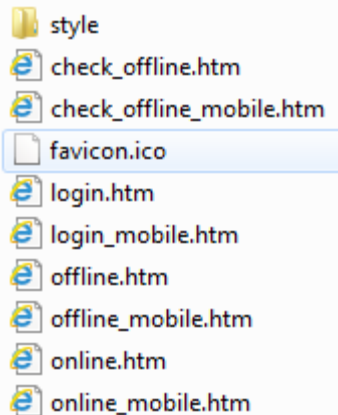☐ Example:

```
web-auth template iportal
 page-suite default
 authentication l
 accounting iportal_account
time-interval 0
login-popup http://www.ruijie.com.cn
online-popup http://www.ruijienetworks.com
```

Advanced Configurations : Customize Landing Page Template (Copy out from AC)

- ☐ Find the template landing page
- ☐ dir flash:/portal/zip

```
Xlab-WS6108#dir flash:/portal/zip
Directory of flash:/portal/zip
Number   Properties    Size              Time                      Name
------   ----------    ------    ------------------------    ------------------
   1        -rwx       86.7k     Tue Jul 26 21:20:07 2016    gateway.zip
   2        -rwx       91.0k     Tue Jul 26 21:20:07 2016    default.zip
2 files, 0 directories
281,903,104 bytes data total (196,956,160 bytes free)
536870912 bytes flash total (196,956,160 bytes free)
Xlab-WS6108#
```

- ☐ Copy out through tftp server
- ☐ copy flash:/portal/zip/default.zip tftp://192.168.1.1/default.zip

- ☐ Unzip the default.zip to a new folder.

📁 style
🌐 check_offline.htm
🌐 check_offline_mobile.htm
📄 favicon.ico
🌐 login.htm
🌐 login_mobile.htm
🌐 offline.htm
🌐 offline_mobile.htm
🌐 online.htm
🌐 online_mobile.htm

Description:

login.htm > PC login page

login_mobile.htm > mobile login page

offline.htm >PC offline page

offline_mobile.htm > mobile offline page

online.htm > PC online page

online_mobile.htm > mobile online page

Advanced Configurations : Customize Landing Page Modification

☐ Right click the login.htm file, then choose Wordpad.exe to edit the basic html coding.

☐ Find and match the bottom content and URL link.

☐ Browser

Clear saved user information

Login ☐ Remember me

on the automatic login option for wireless networks:
(1)Click [Settings] icon on the desktop
(2)Select Settings in the [Wi-Fi] or

© 2012 Ruijie Networks Co., Ltd.

☐ Wordpad edit

```
<!--底层链接处理-->
<div class="shadow">
    <a href="http://www.ruijie.com.cn"
align="center" target="_black"> &copy 2012 Ruijie Networks Co., Ltd.</a>
    </div>
            </div>
        </div>
    </div>
</body>
```

Advanced Configurations : Customize Landing Page Modification

☐ Original content: "&copy 2012 Ruijie Networks Co., Ltd."
☐ Change to "Welcome to Ruijie Networks."

☐ Original URL: "http://www.ruijie.com.cn"
☐ Change URL to http://www.ruijienetworks.com

☐ Repeat all the html file with same content modification.
☐ Zip those html files into zip file. (Don't include the main folder!)

Advanced Configurations : Customize Landing Page Upload

☐ On the AC iPortal page, choose [Custom package] to upload new modified template.

Advanced Configurations : Customize iPortal Verification

☐ Connect your STA to SSID, then it succeeds to obtains IP address and DNS.
☐ Visit any website ,you will be redirected to authentication page .
☐ Input your credentials , pass the authentication and visit Internet
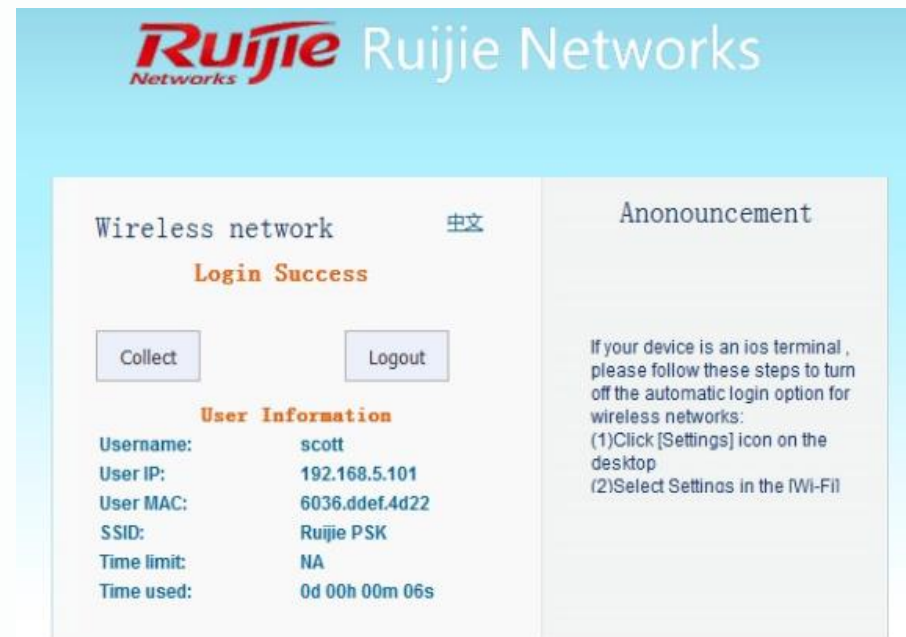
Advanced Configurations : Customize iPortal login page

☐ Enter folder Style , will get below file list .

☐ prepare a gif format picture with dimensions 468 x 105, name it as en_logo.gif , cover the original one to replace the logo on English PC login page
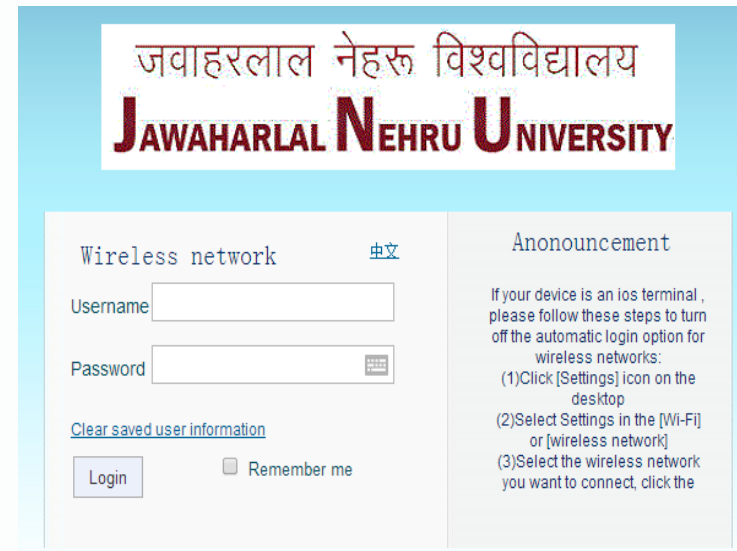
Advanced Configurations : Customize iPortal login page

☐ When finished , open login.htm to verify. The Chinese login page remains the same , now switch to "English".

☐ The logo on English login page has changed.

Daily maintenance : Modify super administrator Password

☐ Go to "Settings" in the left , select "Password" in the right.
☐ You can modify Eweb Login password and Telnet password.

Fill in old and new password , "save" when finish

double input new password , "save" when finish

Daily maintenance : Create a new administrator

☐ Go to "System" ->"Permissions" in the left .
☐ You can create new administrator and grant authority accordingly.
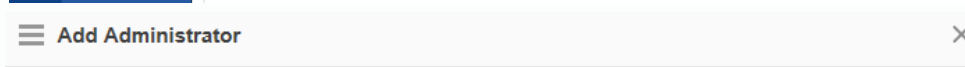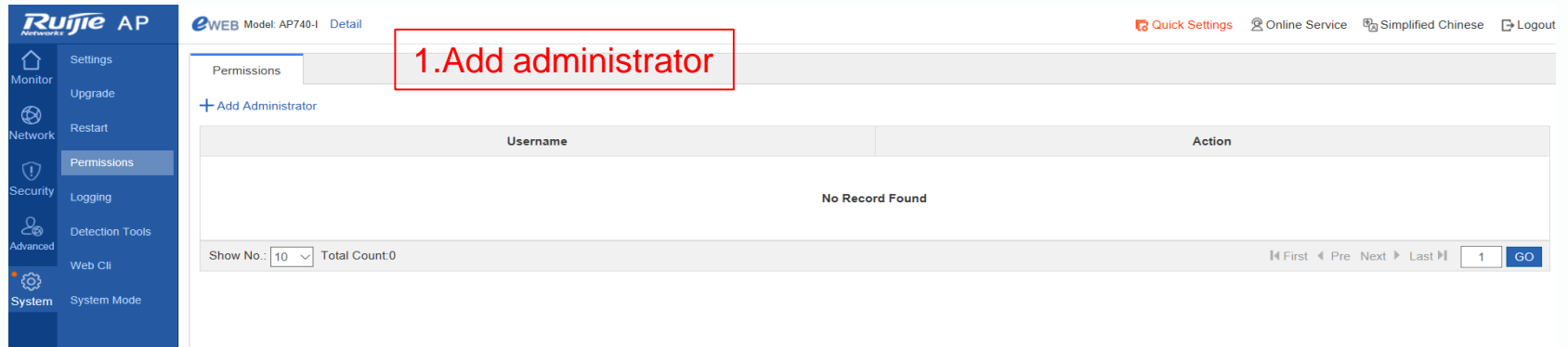
Daily maintenance : Configure Log Server

☐ Go to "System" -> "Logging" in the left .
☐ By default , logs are stored in local buffer . If you would like to save logs permanently , send logs to log server.
☐ You need to install a tool on server to receive logs , like Syslog server.

Daily maintenance : Upgrade System

☐ In this part , it is applicable for upgrade from 11.x version to 11.x version . Not application for upgrade from 10.4 to 11.x version .

☐ If 10.4 to 11.x upgrade is required , see Appendix.

☐ Visit Ruijie Partner FTP and download correct firmware. For FTP credential application , please get in touch with your local sales or presales.

☐ Check current firmware version before upgrade

1.Check current software version.

Daily maintenance : Upload firmware

- ☐ Go to "System" -> "Logging" in the left , select "Local Upgrade" in the right
- ☐ Browse and upload firmware, then click "Upgrade". System starts to verify firmware bin file and will restart automatically
- ☐ Do NOT POWER OFF AP or do any other operation during upgrade is in progress

Daily maintenance : Verification

☐ Go back to "Home" dashboard , verify current firmware version.

Daily maintenance : Import/Export Current Config

☐ Go to "System" ->"Setting" in the left , select "Restore" in the right
☐ Export Current configuration files to backup.
☐ Import saved configuration files to restore.

Daily maintenance : Restore Factory Setting

- ☐ Go to "System" ->"Setting" in the left , select "Restore" in the right
- ☐ Restore factory settings , all configurations are removed and AP resume to Fit mode.

Appendix : Upgrade from 10.4 to 11.x

☐ The software version RGOS 11.x is released in late 2014 , compare with old 10.4 version , it has better performance and more features .

☐ Nearly all the wireless controller and AP support upgrade to 11.x software version.

In this part , you will know how to upgrade FAT AP from 10.4 to 11.x software version with TFTP Server via CLI .

☐ **Step 1** Log on to CLI via console / telnet , verify that FAT AP Current version is 10.4.

Ruijie#show version

☐ **Step 2** Setup TFTP Server, prepare firmware. You need to upgrade twice.

In 1st upgrade , FAT AP upgrades from 10.4 to 11.x interim version.

In 2nd upgrade , FAT AP upgrades from 11.x interim to 11.x latest version.

Appendix : Upgrade from 10.4 to 11.x

❏ **Step 3** Start to upgrade .Remember to save and backup configuration file before upgrade.

1ˢᵗ upgrade :
Ruijie#copy tftp://192.168.1.100/AP_RGOS11.1(2)B1_AP320_v1.0_upgrade.bin
flash:rgos.bin
Ruijie#**reload**

2ⁿᵈ upgrade :
Ruijie#**upgrade download**
tftp://192.168.1.100/AP_RGOS11.1(2)B1_AP320_01240204_install.bin
Upgrade the device must be auto-reset after finish, are you sure upgrading now?[Y/n]**y**

❏ **Step 4** Verification
Ruijie#show version

THANKS

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