

Agenda

Outline

EPD Solution Architecture

ePaper Display advantage

EPD-230,EPD-332 Network Topology

Set up steps

Wireless ePaper Solution Suites



Device Management



EPD Content Delivery



EPD Content Design



Edge Event Feedback



DeviceOn/ePaper

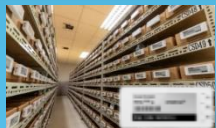


台灣精品
2022

Full sizes of Solution Suites

2.9"

Inventory Management



5.6"

Production Cart



13.3"

Clinic Information Board



Bedside Card



4.37"

Ubiquitous Interactive Device



5.6"

Scheduling Card



26"

Bus Stop



31.2"

Smart Lighting



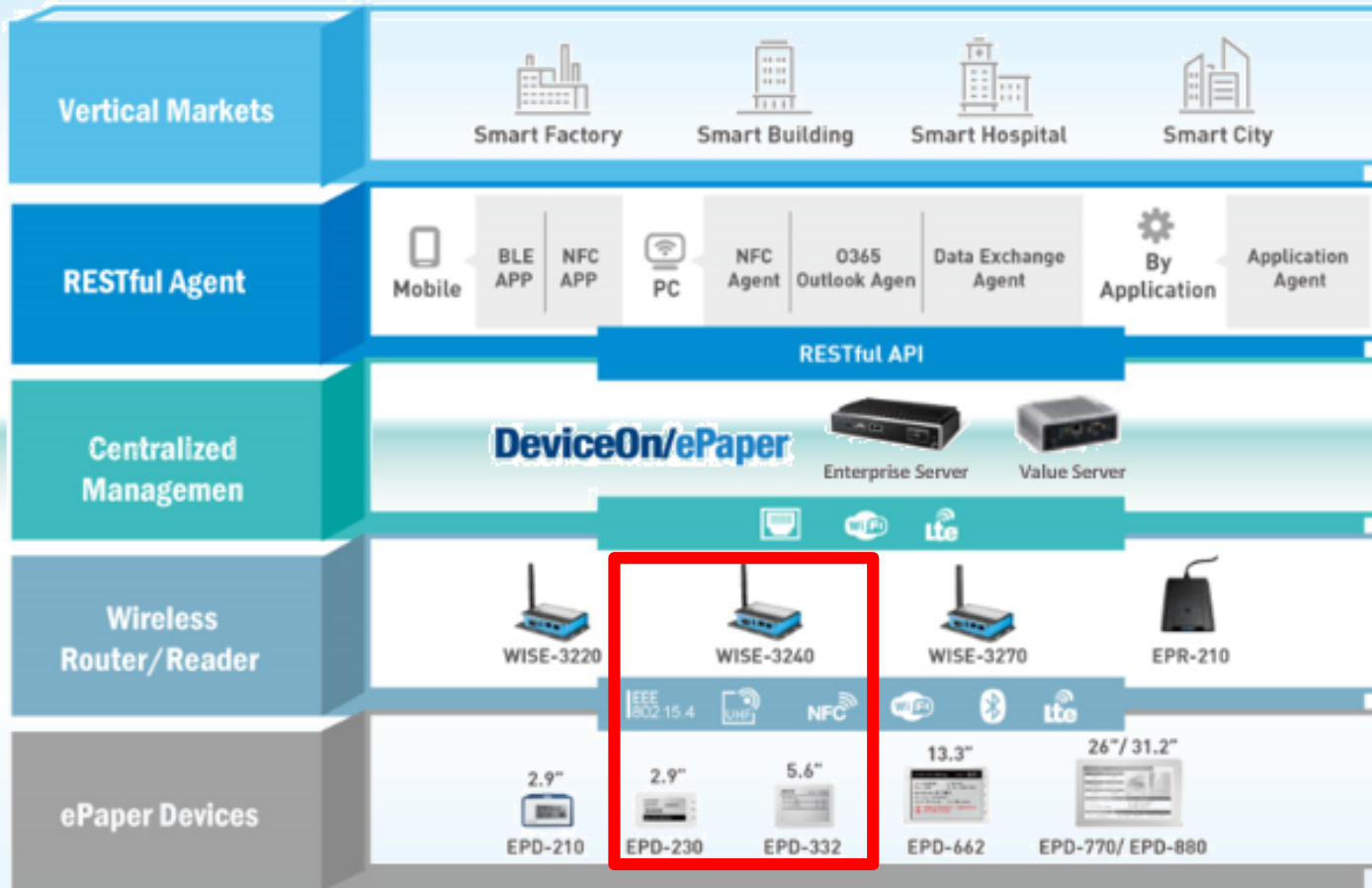
Smart Factory

Smart Hospital

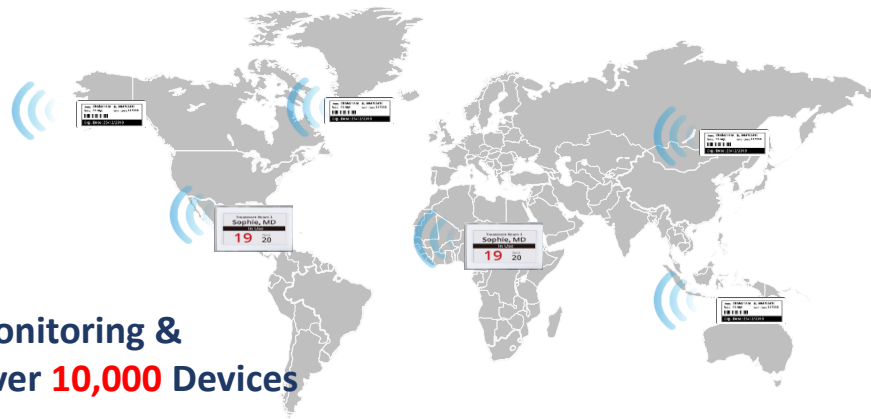
Smart Building

Smart City

EPD Solution Suite Architecture



Content Management Software



Real-Time Monitoring & Firmware OTA for over **10,000** Devices

Device Management

- Device monitoring
- Battery/Status Report
- Task report
- Remote control

Service Management

- FW/image to device
- Scheduling execution
- Event management

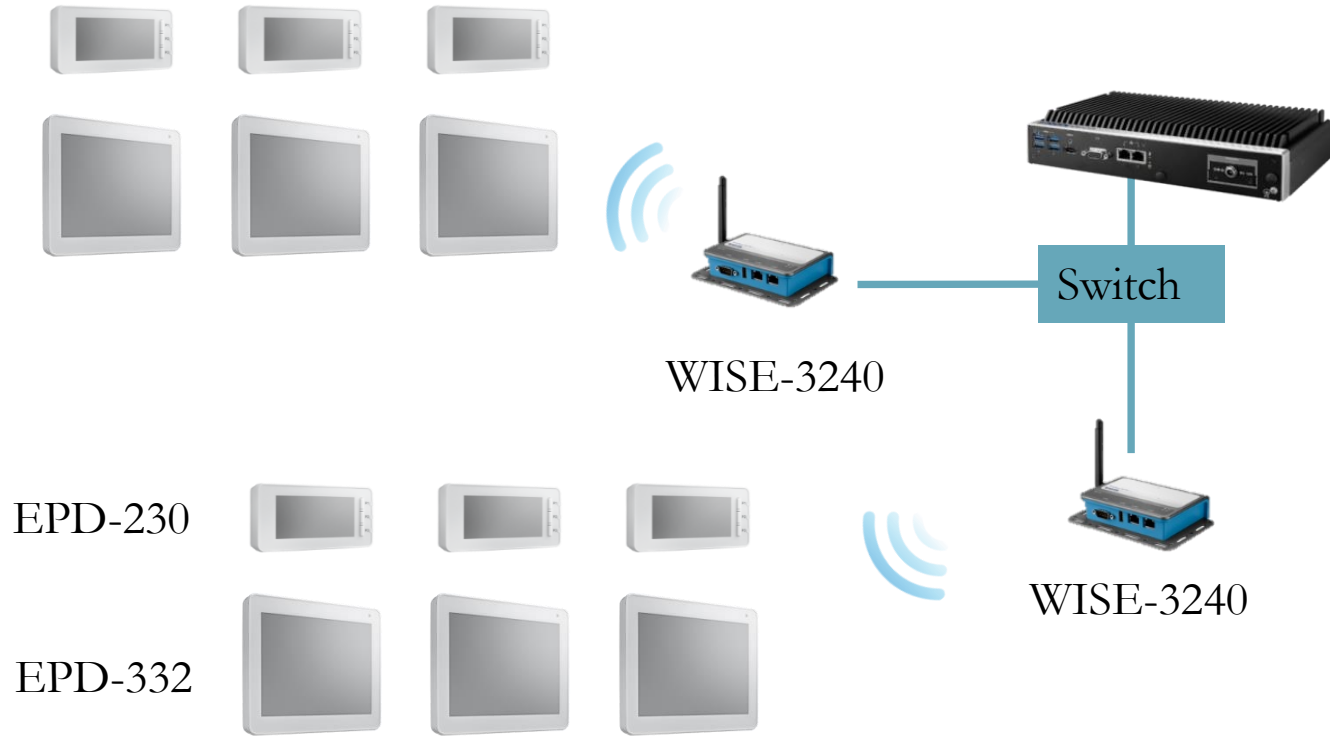
Image Generator

- Drag & Drop the image design component
- Image preview
- Data field setting to receive restful API
- Image file transform to system format

Integration

- Provide API for device update
- Provide sample code for SI integration

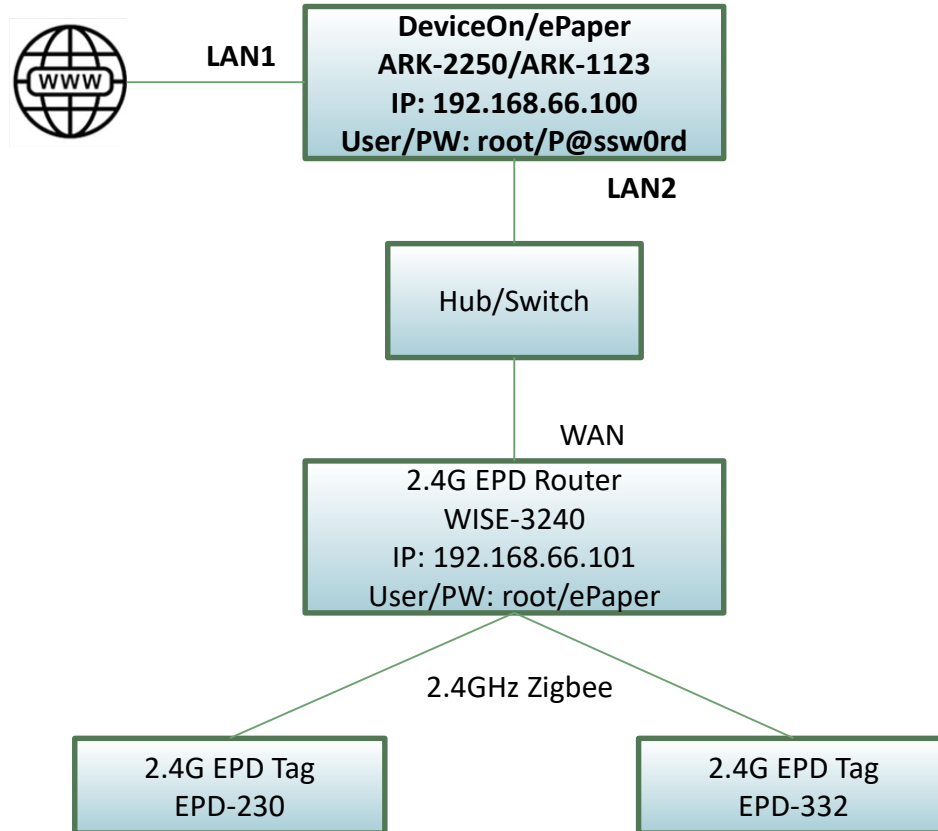
EPD-230,332 Network Topology



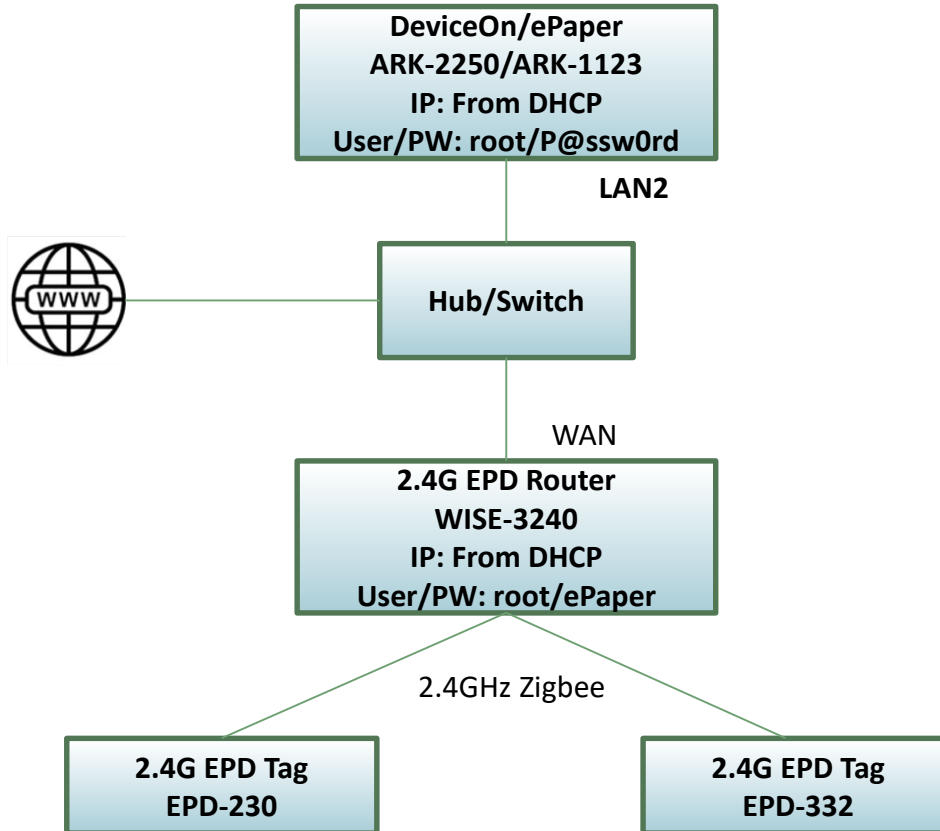
Preparation- Hardware Equipment

- EPD-230 x1, EPD-332 x1
- WISE-3240
- ARK-1123H DeviceOn/ePaper Server x1
- WiFi Hub x1

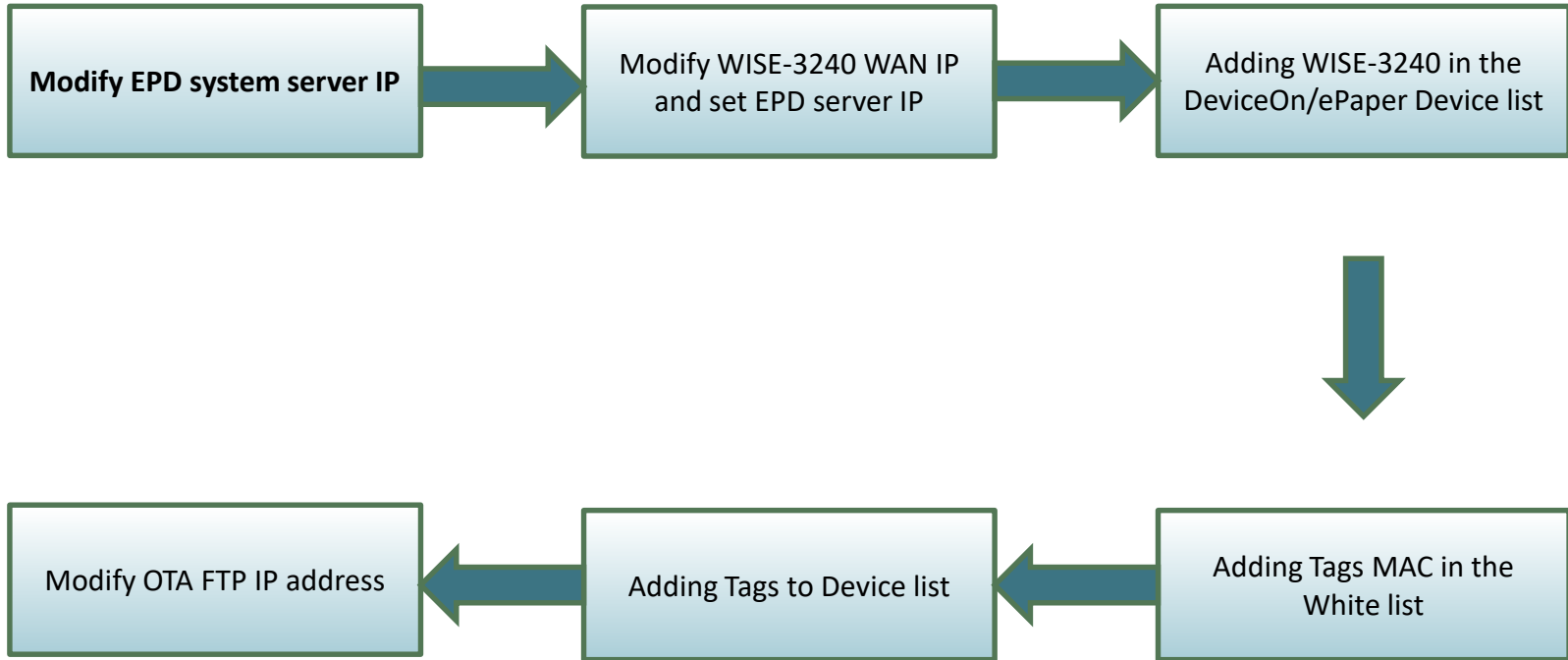
EPD DemoKit's Network Architecture1



EPD DemoKit's Network Architecture2



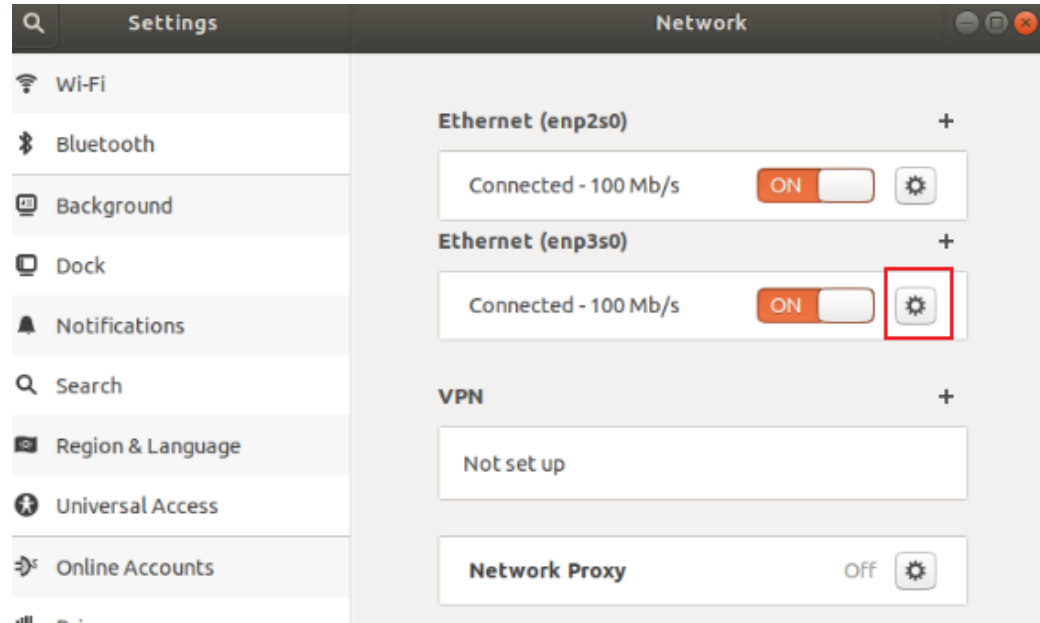
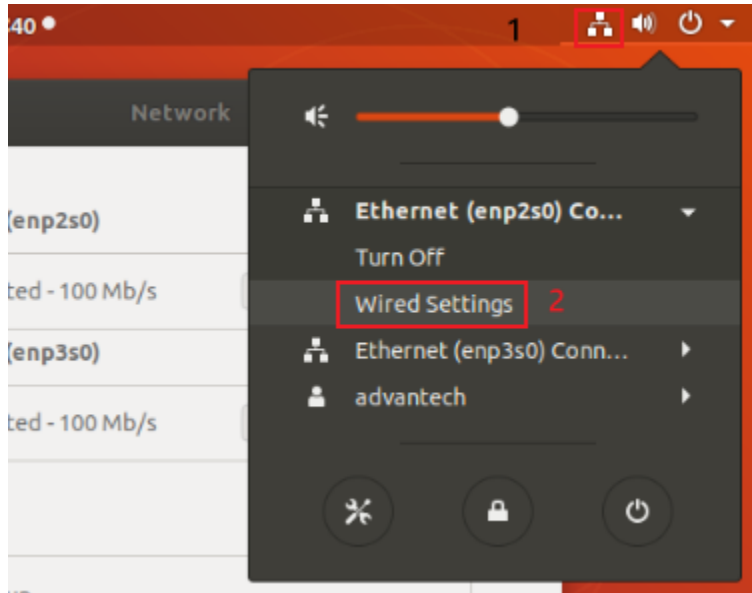
EPD System setting workflow



EPD system IP setting

Account: advantech

Password: P@ssw0rd



EPD system IP setting

Cancel Wired Apply

Details Identity **IPv4** IPv6 Security

IPv4 Method

Automatic (DHCP) Link-Local Only

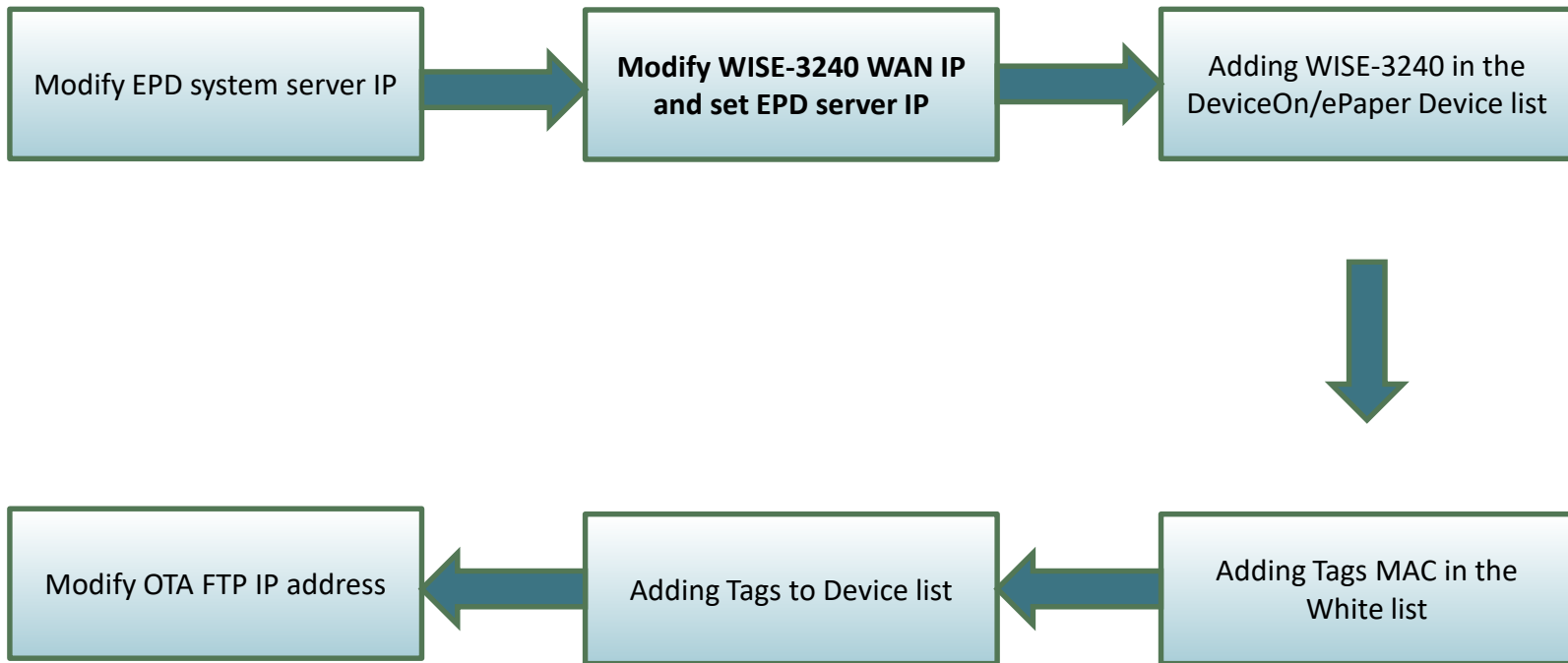
Manual Disable

Addresses

Address	Netmask	Gateway
192.168.66.100	255.255.255.0	

DNS Automatic

EPD System setting workflow

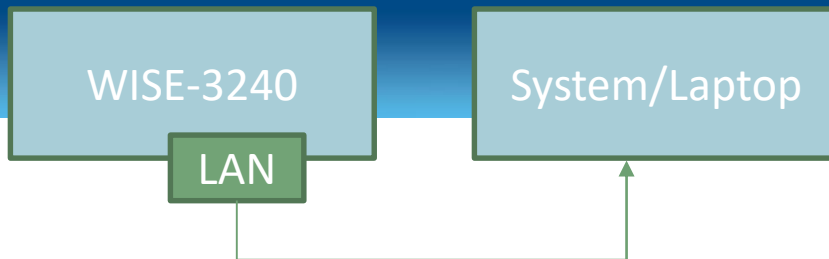


Login WISE-3240

IP: 192.168.1.1

Account: root

Password: ePaper



Browser address bar: 192.168.1.1/cgi-bin/luci

ADVANTECH

Authorization Required

Please enter your username and password.

Username:

Password:

Browser address bar: 192.168.1.1/cgi-bin/luci/stok=...

ADVANTECH Status System Security Network ePaper Manager Logout **AUTO REFRESH ON**

WAN LAN

Network menu: Ethernet (highlighted), Wifi, Diagnostics

Interfaces

Interface Overview

Network	Status	Actions
LAN br-lan	Uptime: 25d 5h 54m 57s MAC-Address: 74:FE:48:55:69:C8 RX: 1.29 MB (13517 Pkts.) TX: 1.57 MB (11802 Pkts.) IPv4: 192.168.1.1/24	<input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>
WAN eth0	Uptime: 25d 5h 54m 57s MAC-Address: 74:FE:48:55:69:C9 RX: 1.50 GB (4329781 Pkts.) TX: 602.95 MB (3840117 Pkts.) IPv4: 192.168.66.101/24	<input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>

WISE-3240 WAN Port setting


← → ↻ 不安全 | 192.168.1.1/cgi-bin/luci;/stok=... ☆

ADVANTECH Status ▾ System ▾ Security ▾ Network ▾ ePaper Manager ▾ Logout **AUTO REFRESH ON**

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation `INTERFACE.VLANNR` (e.g.: `eth0.1`).

Common Configuration

General Setup **Advanced Settings** Physical Settings Firewall Settings

Status	 eth0	Uptime: 25d 5h 57m 33s MAC-Address: 74:FE:48:55:69:C9 RX: 1.51 GB (4330071 Pkts.) TX: 603.01 MB (3840409 Pkts.) IPv4: 192.168.66.101/24
--------	--	--

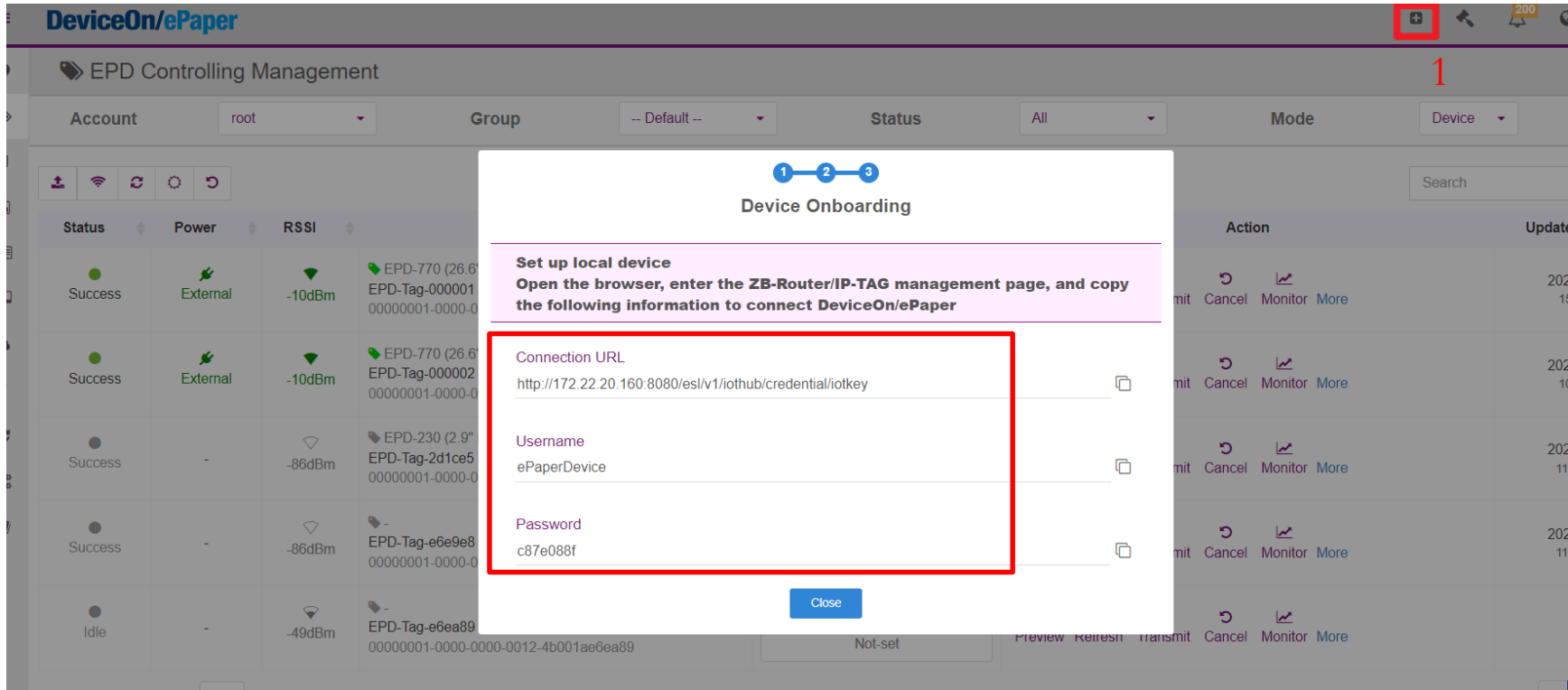
Protocol

IPv4 address

IPv4 netmask

Get ePaper server IP and Connection information

Click “” and remember the red region information. The information will set in the WISE-3240 config.



The screenshot displays the 'DeviceOn/ePaper' management interface. A 'Device Onboarding' dialog box is open, providing instructions and connection details for a local device. The dialog box includes a progress indicator (1-2-3) and a pink instruction box: 'Set up local device. Open the browser, enter the ZB-Router/IP-TAG management page, and copy the following information to connect DeviceOn/ePaper'. Below this, three fields are listed: 'Connection URL' (http://172.22.20.160:8080/esl/v1/iotHub/credential/iotkey), 'Username' (ePaperDevice), and 'Password' (c87e088f). A red box highlights these three fields. A red '1' is visible in the top right corner of the interface, pointing to a plus icon in the header.

Status	Power	RSSI	Device Info
Success	External	-10dBm	EPD-770 (26.6") EPD-Tag-000001 00000001-0000-0
Success	External	-10dBm	EPD-770 (26.6") EPD-Tag-000002 00000001-0000-0
Success	-	-86dBm	EPD-230 (2.9") EPD-Tag-2d1ce5 00000001-0000-0
Success	-	-86dBm	EPD-Tag-e6e9e8 00000001-0000-0
Idle	-	-49dBm	EPD-Tag-e6ea89 00000001-0000-0012-4b001ae6ea89

Set ePaper Manager server IP and ePaper URL

Issue in the configuration which you just remember

ADVANTECH Status ▾ System ▾ Security ▾ Network ▾ **ePaper Manager ▾** Logout

ePaper Manager
User can configure IP address connect to ePaper Manager server.

EPD Hub Configuration **2**


EPD Deployment

Configuration

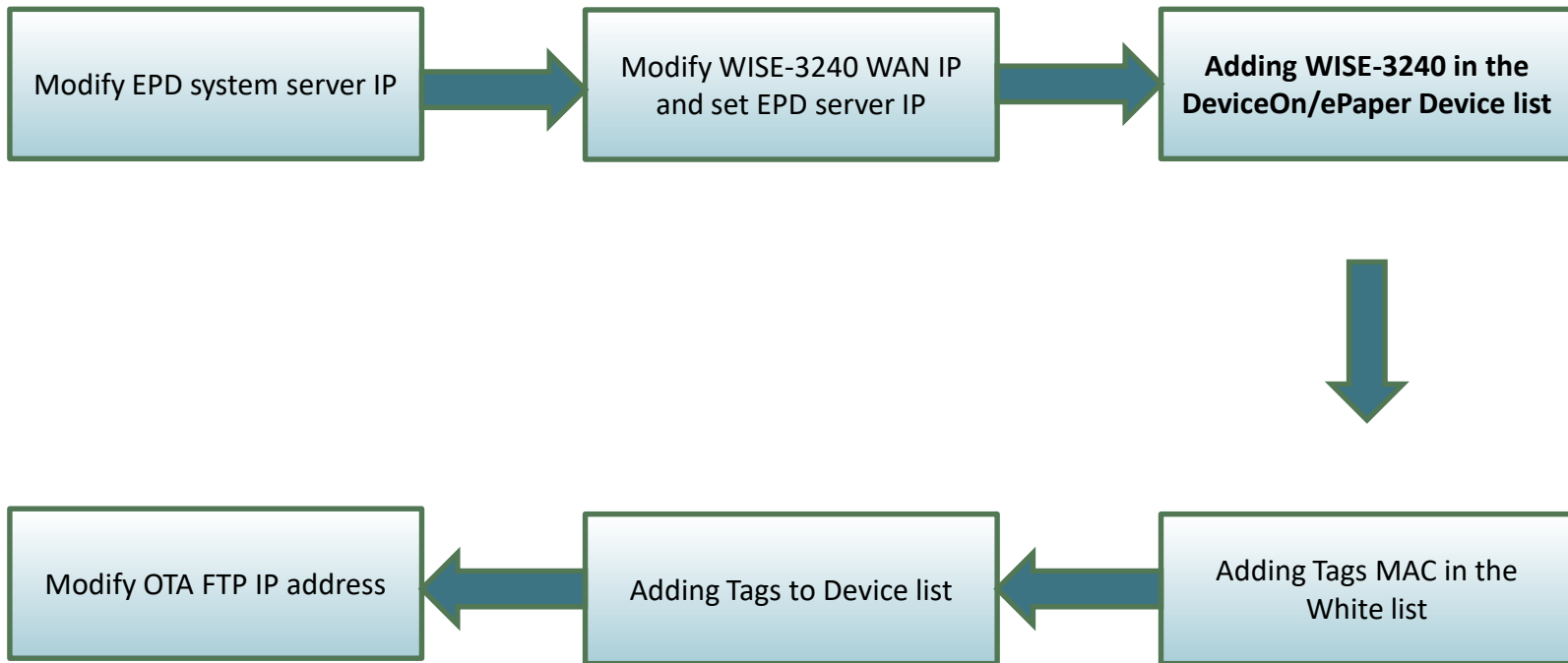
Server IP

ePaper URL

DeviceOn Username

DeviceOn Password 

EPD System setting workflow

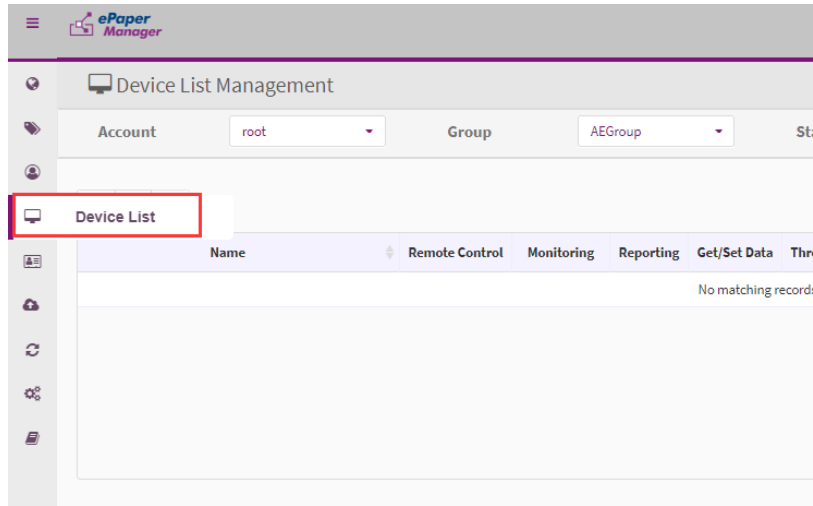


Router Devices Deployment- Add Router

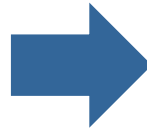
In the ARK server, open the web browser and modify the URL to 127.0.0.1:8080 and you will see the ePaper Manager web. The login information is as below:

Account: root

Password: P@ssw0rd

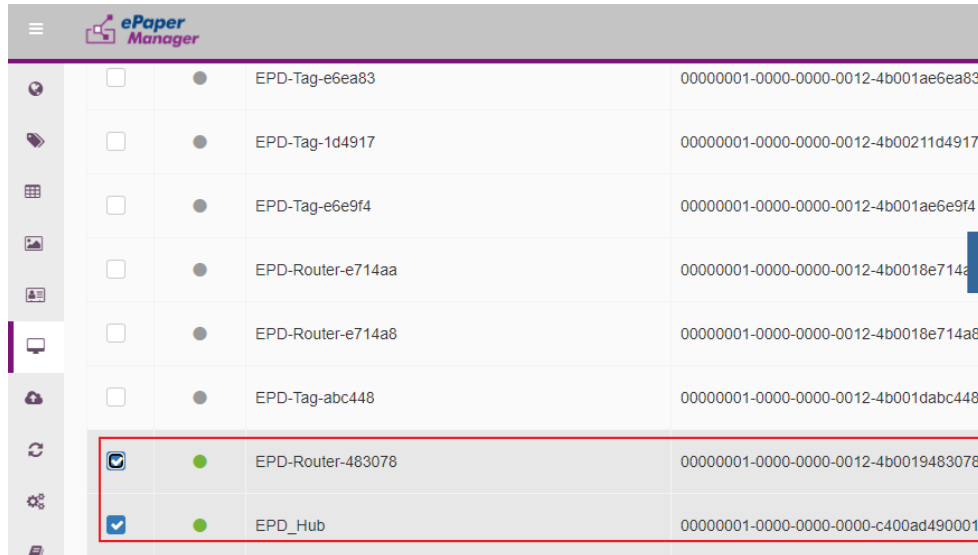


The screenshot shows the ePaper Manager web interface. The top navigation bar includes the ePaper Manager logo and a menu icon. Below the navigation bar, the page title is "Device List Management". There are two dropdown menus: "Account" set to "root" and "Group" set to "AEGroup". A sidebar on the left contains several icons, with the "Device List" icon highlighted by a red rectangular box. The main content area displays a table with columns: "Name", "Remote Control", "Monitoring", "Reporting", "Get/Set Data", and "Thru". The table is currently empty, showing "No matching records".

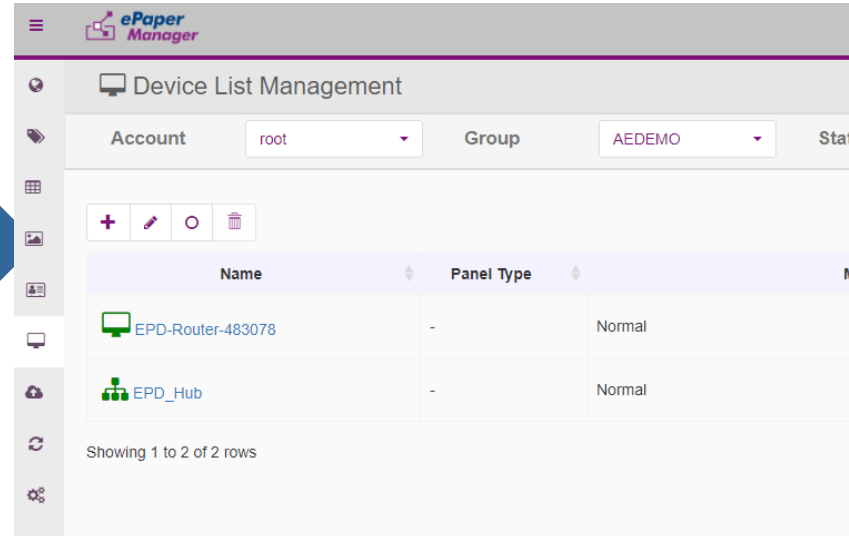


This is a close-up view of the "Add Device" button in the ePaper Manager web interface. The button is located in the top left corner of the main content area, next to a plus sign icon, a pencil icon, and a trash can icon. A red arrow points to the "Add Device" button. The button is labeled "Add Device" and is positioned above a table header with columns: "Name", "Remote Control", "Monitoring", and "Reporting".

Router Devices Deployment- Add Router



<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Tag-e6ea83	00000001-0000-0000-0012-4b001ae6ea83
<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Tag-1d4917	00000001-0000-0000-0012-4b00211d4917
<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Tag-e6e9f4	00000001-0000-0000-0012-4b001ae6e9f4
<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Router-e714aa	00000001-0000-0000-0012-4b0018e714aa
<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Router-e714a8	00000001-0000-0000-0012-4b0018e714a8
<input type="checkbox"/>	<input type="checkbox"/>	●	EPD-Tag-abc448	00000001-0000-0000-0012-4b001dabc448
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	●	EPD-Router-483078	00000001-0000-0000-0012-4b0019483078
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	●	EPD_Hub	00000001-0000-0000-0000-c400ad490001

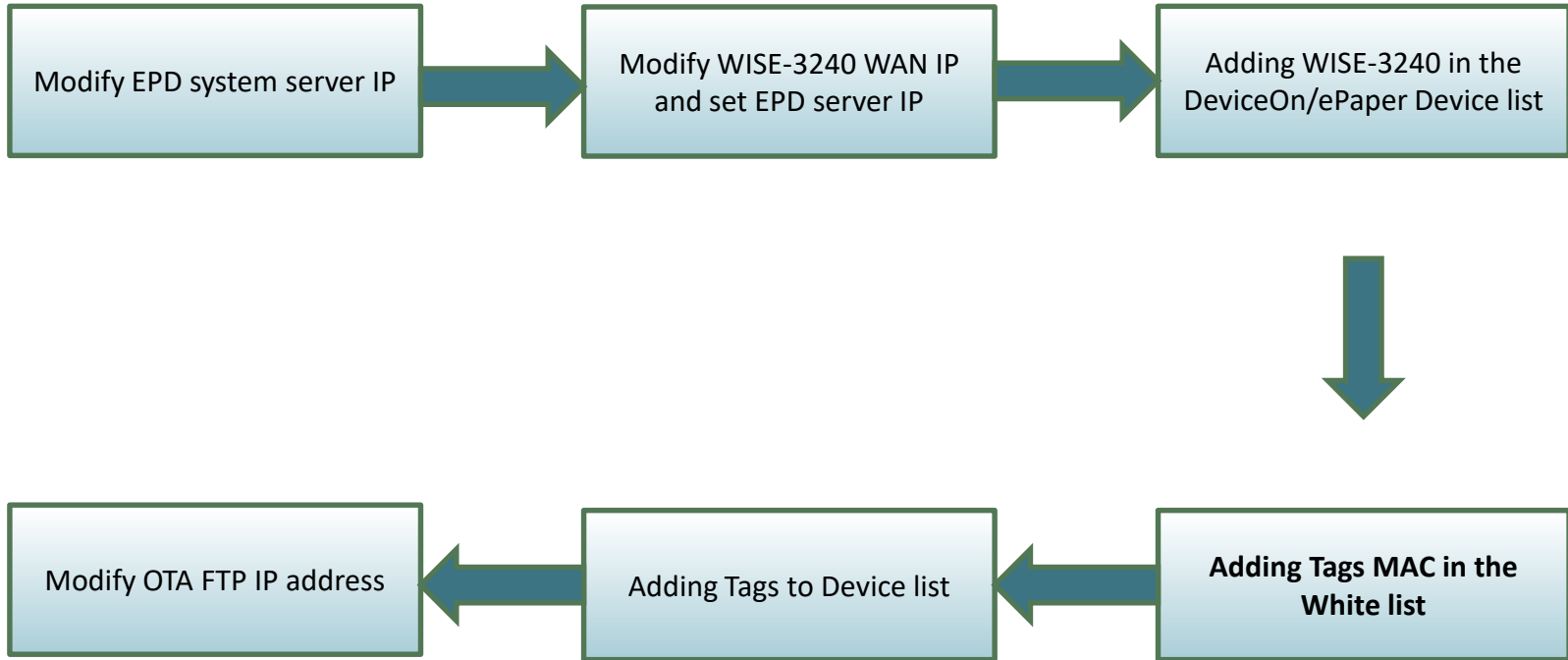


Account: root | Group: AEDEMO

Name	Panel Type	
EPD-Router-483078	-	Normal
EPD_Hub	-	Normal

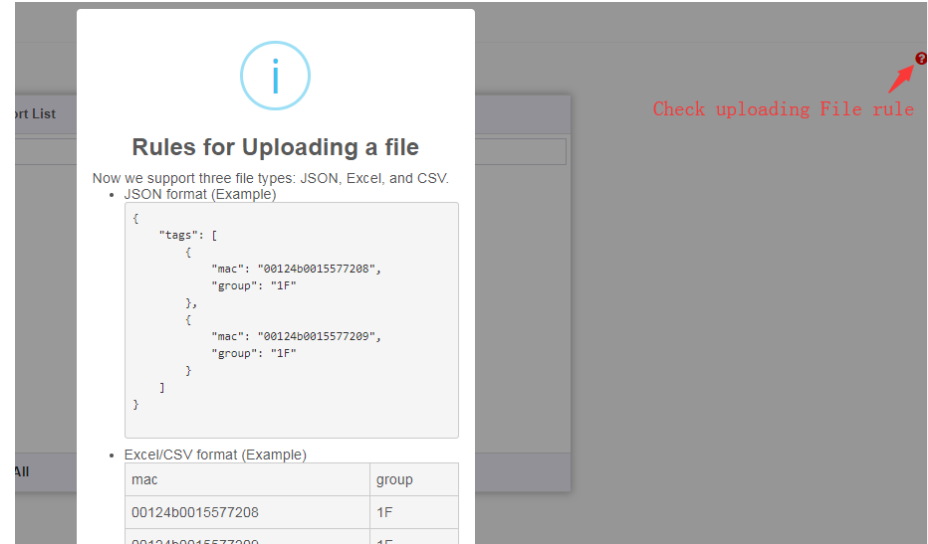
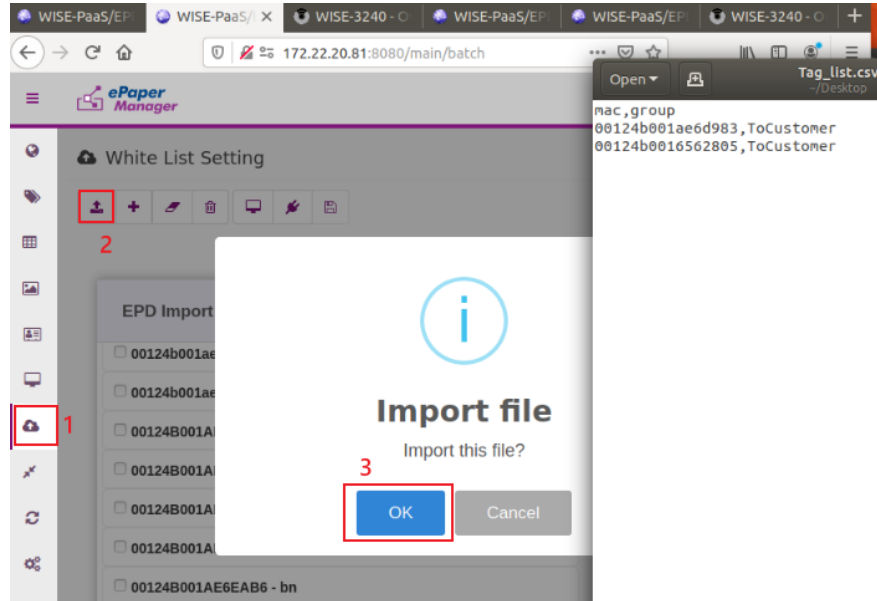
Showing 1 to 2 of 2 rows

EPD System setting workflow



White List Setting (EPD-023/EPD-053)

- Import adding tag devices with unique mac address
- File format could be json and CSV file



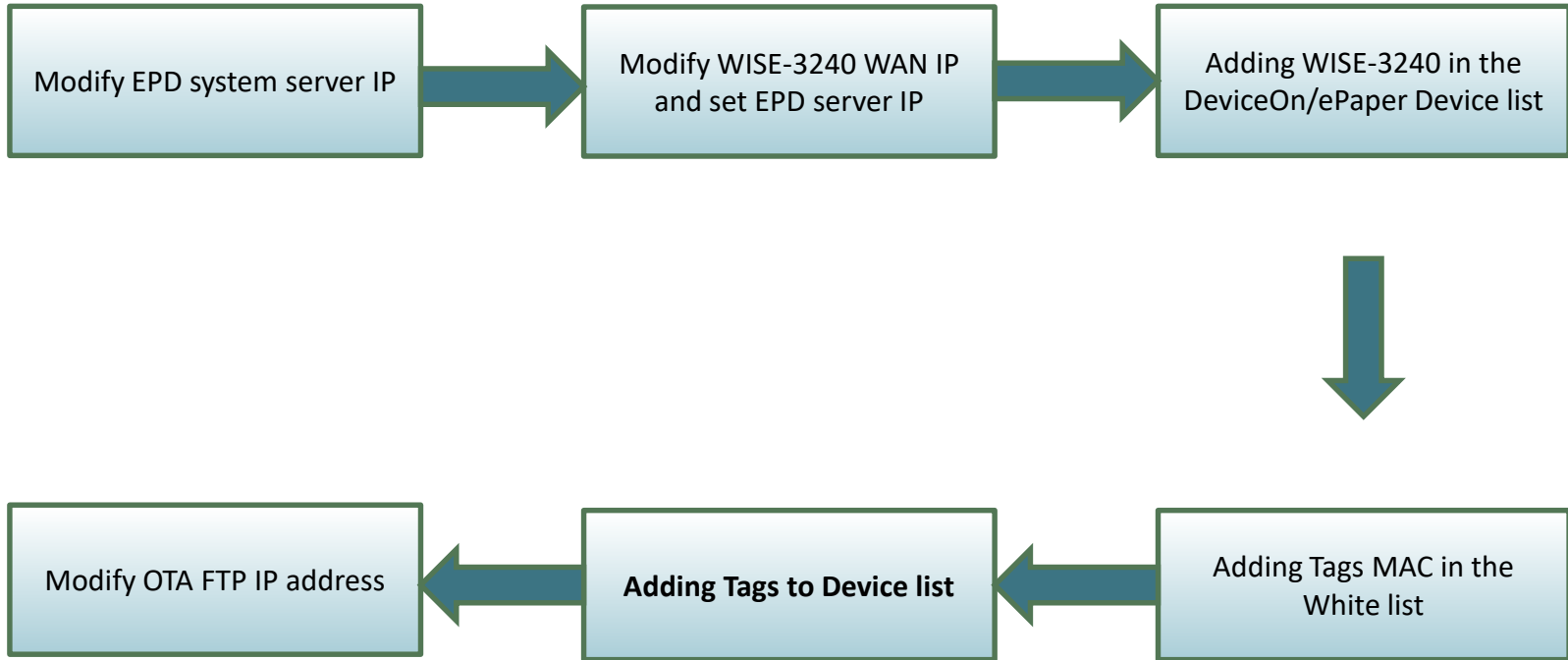
White List Setting (EPD-230/EPD-232/EPD-332)

- Assign tag devices to specific Router

The screenshot displays the 'White List Setting' interface. At the top left, there is a title 'White List Setting' and a toolbar with icons for upload, delete, refresh, and save. The main area is divided into two panels: 'EPD Import List' on the left and 'EPD-Router-14a8' on the right. In the 'EPD Import List' panel, two devices are listed with checkboxes: '00124b0016562805 - AETEST' and '00124b0016562705 - AETEST'. A red box highlights these two entries, with a red '1.' next to it. In the 'EPD-Router-14a8' panel, there is a search bar and a 'Select All' button at the bottom. A red box highlights the right arrow icon in the center of the interface, with a red '2.' next to it. A red '3.' is placed above the save icon in the toolbar. Below the panels, there are three numbered instructions in red text: '1. Check adding tag devices', '2. Tick right arrow to assign them in specific Router', and '3. Save the configuration'.



1. Check adding tag devices
2. Tick right arrow to assign them in specific Router
3. Save the configuration

EPD System setting workflow



Tag Devices Deployment- Add tag devices

The screenshot displays the 'Device List Management' interface in ePaper Manager. The top navigation bar includes the ePaper Manager logo and a hamburger menu. The main header shows the title 'Device List Management' and three filter dropdowns: 'Account' (set to 'root'), 'Group' (set to 'AEDEMO'), and 'Status' (set to 'All'). Below the filters, there are four action icons: a plus sign (+), a pencil (edit), a circular arrow (refresh), and a trash can (delete). The main content area features a table with the following data:

Name	Panel Type	Messages
 EPD-Router-483078	-	Normal
 EPD_Hub	-	Normal

Below the table, it indicates 'Showing 1 to 2 of 2 rows'. On the right side of the interface, there is a 'Reporting' button.

Add tag devices (EPD-230/EPD-332)

<input type="checkbox"/>	Status	Device Name	Agent ID	Panel Type
<input type="checkbox"/>	●	EPD-Tag-33afc1	00000001-0000-0000-0012-4b002133afc1	EPD-023R
<input checked="" type="checkbox"/>	●	EPD-Tag-562705	00000001-0000-0000-0012-4b0016562705	EPD-023B
<input checked="" type="checkbox"/>	●	EPD-Tag-562805	00000001-0000-0000-0012-4b0016562805	EPD-053R
<input type="checkbox"/>	●	EPD-Tag-02daec	00000001-0000-0000-0000-e04f4302daec	EPD-132R
<input type="checkbox"/>	●	EPD-Tag-e6eb9e	00000001-0000-0000-0012-4b001ae6eb9e	EPD-023B



Success

Add device successfully

OK

Device List

Device List Management

Account Group Status Mode



Search

Name	Status Message
EPD-Tag-2805	Disconnected
EPD-Tag-2705	Disconnected
EPD-Router-14a8	Normal
EPDGW_023_053	Normal
EPD-Tag-cc2a	Normal
EPDGW-132	Normal

Showing 1 to 6 of 6 rows rows per page







Device List (EPD-230/EPD-332)

- the icon light of tag devices will change from gray to green after few seconds

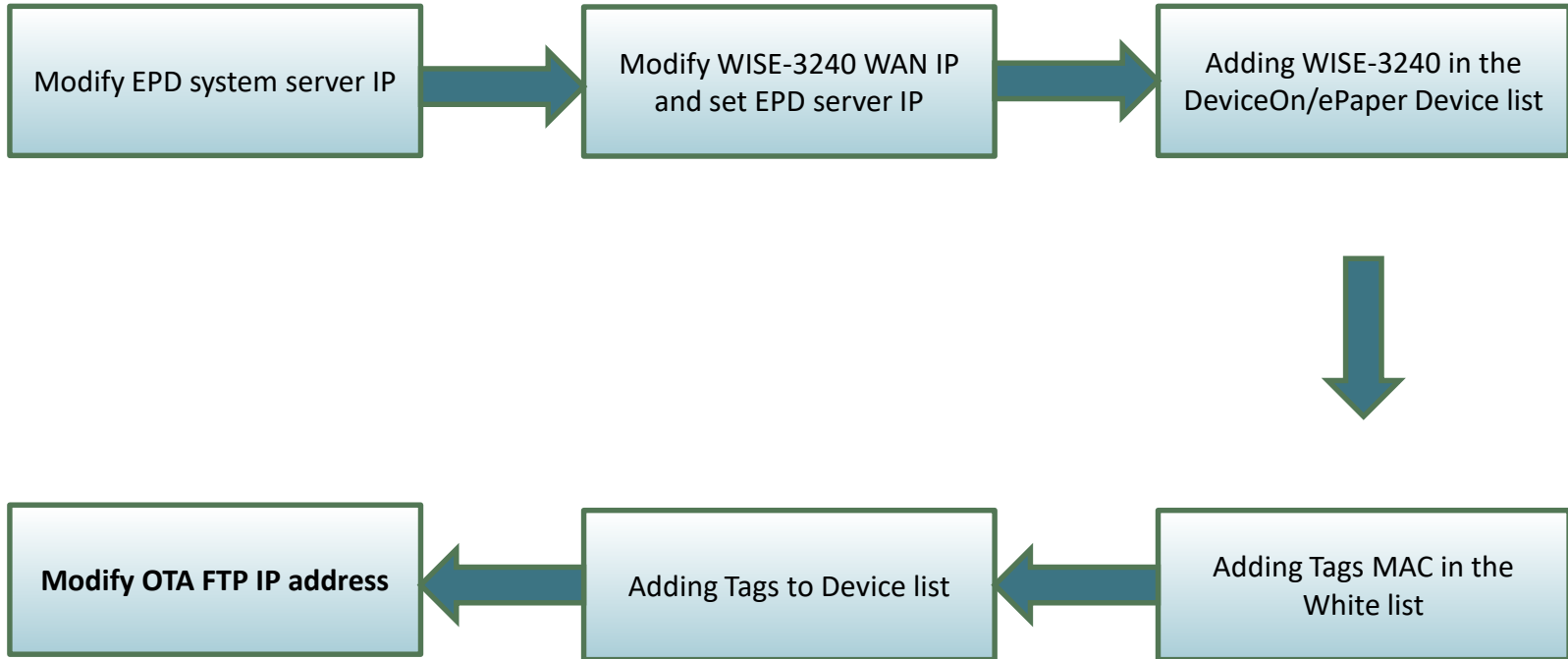
Device List Management

Account: root | Group: AEGROUP | Status: All | Mode: Device

+ 🔍 🗑️ Search

<input type="checkbox"/>	Name	Status Message
<input type="checkbox"/>	 EPD-Tag-2805	Normal
<input type="checkbox"/>	 EPD-Tag-2705	Normal
<input type="checkbox"/>	 EPD-Router-14a8	Normal
<input type="checkbox"/>	 EPDGW_023_053	Normal
<input type="checkbox"/>	 EPD-Tag-cc2a	Normal
<input type="checkbox"/>	 EPDGW-132	Normal

EPD System setting workflow



Modify OTA FTP IP address

Storage Management

Storage Name	Type	Security	Max Connections	Operation
localStorage	FTP	NONE	5 30	

OTA

Upgrade

Package

Storage

172.22.20.160:8080/main/storage

Edit FTP Storage

* Storage Name: localStorage

* Security: NONE FTPS FTPES

* Domain: 172.22.20.160

Port: 21

* Account Name: user1

Back Confirm

Item Data edit

- Import existed item data from CSV or JSON file

DeviceOn/ePaper

Item Data Management

EPD023DEMO EPD053CAREPD EPD123DEMO MeetingRoom WholeDaySchedule Warehouse TestGraphic

Item Data 1

pd-210-demo EPD-662_Hospital_demo EPD_Page_Marker + Add 2

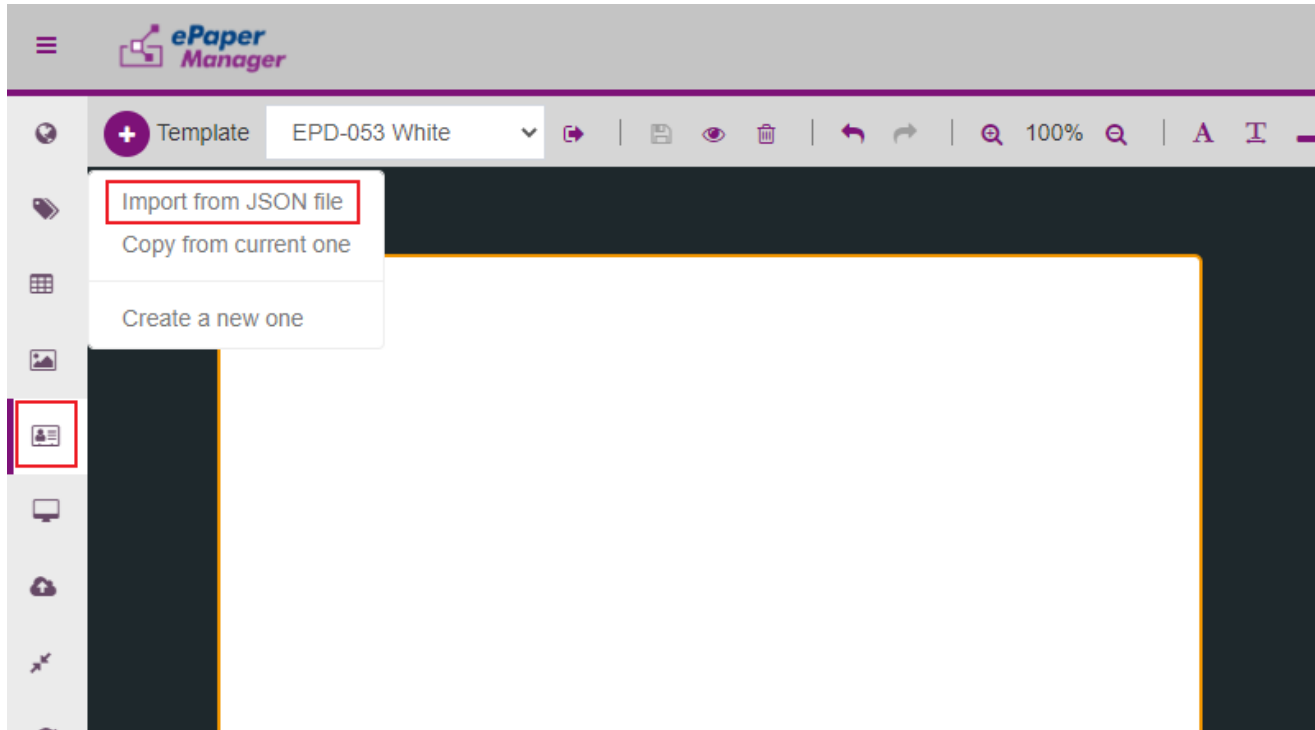
3

Search

Part No	Desc	Mfr	Package	Series	Freq	Memory	Amount	
771-FS32K148UAT0VLQT	MCU S32K148 144 LQFP	NXP Semiconductors	LQFP-144	S32K1xx	112 MHz	2 MB	15	https://product
634-JG12B500FGM48C	MCU ARM Cortex-M3	Silicon Labs	QFN-48	EFM32JG12	40 MHz	1024 kB	20	https://product

Image Generation- Template Generation

- Import existed template from JSON file
- File can be generated by json format



Template Generation

ePaper Manager

Template MeetingRoom

100%

1. **roomID** **date** Whole Day Schedule **time** **status** **appointer** **ext** **subject**

2. Edit template

3. Save the template

Click Me

TECH

Data Binding

DeviceOn/ePaper 🔍 200 🌐 👤 root

EPD Controlling Management

Account: root Group: ToCustomer Status: All Mode: Device

⬇️ 📶 🔄 ⚙️ ↻

Search ☰

Status	Power	RSSI	Tag Name	Bind	Action	Update Time
Success	Good	-44dBm	EPD-023B EPD-Tag-562705 00000001-0000-0000-0012-4b0016562705	634-JG12B500FGM48C ChipDemo1	Preview Refresh Transmit Cancel Monitor More	2022/4/20 10:38:13
Success	Excellent	-54dBm	EPD-053R EPD-Tag-562805 00000001-0000-0000-0012-4b0016562805	m-EPD102 MeetingRoom_OnSite	Preview Refresh Transmit Cancel Monitor More	2022/3/23 0:32:25

Showing 1 to 2 of 2 rows

Data Binding

The screenshot displays the 'EPD Controlling Management' interface. A modal dialog titled 'EPD Tag Binding' is open, featuring two dropdown menus: 'Template' (selected: MeetingRoom_OnSite) and 'Item Data' (selected: m-EPD102). Below these is a 'Preview' section showing a red tag with the following text: 'EPD102 2022-04-29 On Site Booking', '11:00~11:30', 'BOOKED Homer.Wang', 'test1234', and '>> FREE'. The background interface includes a top navigation bar with 'DeviceOn/ePaper', a search bar, and a table with columns for 'Update Time' and 'Device'. The table contains two rows of data with dates and times.

Update Time
2022/4/20 10:38:13
2022/3/23 0:32:25

Refresh Tag Device- Transmit

RSSI	Tag Name
-44dBm	EPD-023B EPD-Tag-562705 00000001-0000-0000-001
-53dBm	EPD-053R EPD-Tag-562805 00000001-0000-0000-001

Transmit Image Options

Which page in EPD Tag: 1

Refresh After Transmit? ON

With Blinking LED?

Auto Retry Jobs ▲

Max retry count:

Max keep job time (Minutes):

Override exist jobs: OFF

Mode	Device			
Search				
Action				
Refresh	Transmit	Cancel	Monitor	More
Refresh	Transmit	Cancel	Monitor	More

Resful API & SampleCode

Step 1. Sign In

Step 2. Single Page Transmit

Step 3. Transmit With LED

Step 4. Transmit Multiple Images

Step 4. Switch Page

Step 5. Update Information

Step 6. Bind Batch Data

Single Tag Transmit

Test API **Source Code**

API URL:

RUN

Method:

Request Parameters:

Device group :

Which EPD device?

Which page?

Refresh or not? Yes No

```
{
  "agentid": "00000001-0000-0000-0012-4b0016562185",
  "page": "0",
  "refresh": 1
}
```

Response:

Status Code :

