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HotSpot Manager Specifications

HotSpot Manager for Mikrotik generates customized printed tickets with randomly generated or predefined usernames and passwords for a Mikrotik User Manager based HotSpot.

HotSpot Manager works connected to Mikrotik User Manager and prints to a thermal ESC/POS compatible Epson printer with network support (wifi or ethernet) to issue paper tickets.

Infinitel HotSpot Manager supports as many Mikrotik User Manager profiles as you need. You can set your Mikrotik User Manager to set tickets duration in minutes, hours, days or weeks and print them with a single touch.

The app allows you to setup many options:

- Setup as many profiles/credits as needed.
- Define the username prefix and length.
- Define the password length.
- Define list of predefined reusable usernames
- Customize main screen logo.
- Protect settings with password.
- Define a customized ticket/voucher:
    - Format your text font: bold, underlined, double tall, double wide.
    - Align it to left, center or right.
    - Print your custom logo.
    - Print a QRCode to access hotspot captive portal and autofill username.
    - Use the QRCode to redirect your users to a page of your choice after login.
    - Set autocut paper if printer supports it.

HotSpot Manager is compatible with Mikrotik RouterOS 4.17, 5.12 or higher.

Changelog

Version 1.5

- Added option to register a list of predefied usernames that can be reused. A selectable droplist will appear on the main screen and you can choose AUTO to generate a random user or a predefined user name to delete the current user with the same name and create a new one with the same name and the selected profile.

Version 1.4

- Added option to generate usernames randomly or sequentially
- Solved error with Mikrotik RouterOS with beta/rc version numbers

Version 1.3

- App name/Icon/Logo changed to a more neutral/no mark look
- Added an option to customize the main screen's logo
- The settings screen can be password protected

Version 1.2

- Rebuilt printer libraries
    - Added formating tags: bold, underlined, double tall, double wide, alignment left,center or right.
    - Added logo printing support.
    - Added QRCode printing support.
    - Added paper cut support.

Version 1.1

- Added support for Mikrotik User Manager 4.17.
- Better handling of connection errors.

Requirements

The app needs these requirements to properly operate:

- An Android device with version 2.2 or higher
- A Mikrotik RouterOS 4.17, 5.12 or higher that should accomplish:
    - To have installed and configured an instance of Mikrotik User Manager
    - To have enabled API service
    - To have a user with access to API service
- A ticket printer with network support (Ethernet or wifi) and ESC/POS compatible

The Android device must have access to the network address of the Mikrotik device and of the printer. Specifically, by default should have visibility of port 8728 to access the service API and port 9100 to access the printer. These parameters are configurable from your application to resolve cases where the default ports are not used.

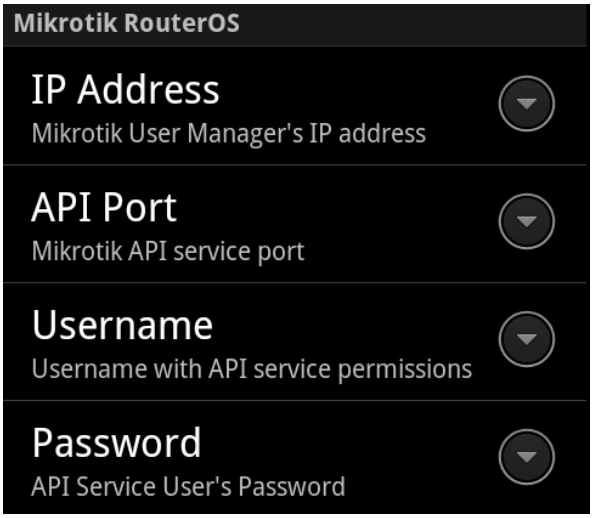
Settings

After installing the application, on its first run, it will show a message notifying that the application failed to connect to the device:

Just accept the message and enter to the Settings screen to perform our initial setup. As an example the next scenario will be used to explain some of the available settings:

Our basic installation example consist of an Android device, a RB751 running the hotspot and the User Manager's service, and a network printer. As shown on the previous diagram, Mikrotik User Manager is set at 192.168.1.1 and the printer uses 192.168.1.3.

Mikrotik RouterOS



As you enter the setup window, the first section contains the configuration data to connect to the Mikrotik device running Mikrotik User Manager.

IP Address

We must set the IP address or dns entry of the Mikrotik device running Mikrotik User Manager. In our example this should be ***192.168.1.1***.

API Port

The TCP port used to connect to the previously selected device. By default ***8728***.

Username

Username with enough permissions to access the Mikrotik device through API service, read settings and write new User Manager users. In our example we will suppose we hava an ***apiuser*** use with has enough permissions to connect to API, read the configuration and create new User Manager users.

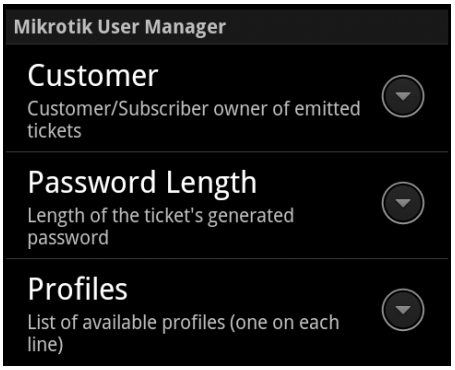
Password

The password of the previously specified user. In our example lets suppose its ***apipass***.

Mikrotik User Manager

The next group of parameters refers to the Mikrotik User Manager settings. These will determine how new User Manager users will be created.

Customer

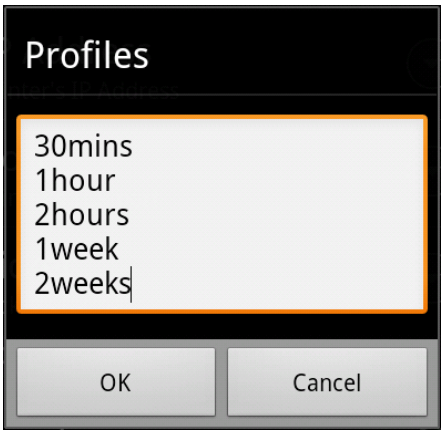


This parameter makes reference to the customer/subscriber (depending on User Manager's version) that owns the profiles/credits that the application uses. Specifically, the owner of the profiles (in 5.x) or credits (in 4.17) and the owner of the newly created users that will get printed tickets. For our example we will suppose a customer named ***manager***.

Password Length

This parameter will set the default length for the newly generated user's password which will always be a random string of the specified length.

Profiles



The profiles parameter refers to profile elements in Mikrotik 5.12 or higher, or credit elements in version 4.17. There must be one single entry on each line of the parameter's value. Each entry on this list will create a button in the main screen of the app. If an entry is erroneous it will be ignored and the button for that entry will not be generated on the main screen. When you push one of the generated buttons on the main screen, the app will connect to the User Manager and will generate a new random username with a random password and send the corresponding ticket/voucher to the network printer.

The title of the generated buttons will be determined by:

- On version 4.17: The credit's comment value will be used as the button text. If the value of comment is empty the name of the profile will be used instead.
- On version 5.12 or higher: The profile's field "name-for-users" will be used as the button's text. If not set, the name of the profile will be used instead.

Autogenerated Users

Prefix

Newly created user will get an username like [prefix][random string]. For example, when issuing a ticket, the app will generate a random string like ***AaBbCc*** and the if the prefix has been set to ***Infinitel_*** the new username will be ***Infinitel_AaBbCc***.

Username Length

This parameter specifies the length of the random string generated to compose the new usernames. It is recommended to use a string length greater than or equal to 4. Lets suppose a prefix set to ***Infinitel_*** and a value of 4 for this parameter, the resulting username could look like ***Infinitel_AbCd***. If we set 6 as the length value the result could be like ***Infinitel_AbCdEf***.

Serialized Number Username

When **Serialized Number Username** is enabled, usernames will be created sequentially building the username as [**prefix]+[next number]**. The username number will be taken from **Next Number for Username** and will be formatted as a zero filled string based on the value of **Username Length**. As an example, having a **Username Length** of 4 and a **Prefix** as **Pre_** new generated users will be in the range of **Pre_0001** and **Pre_9999**. Once, in this example, the 9999 value is reached count will restart at 1.

Next Number for Username

The value for the next sequentially generated username.

Predefined Users

Use Predefined Users

Enable predefined usernames.

List of Users

List of predefined and reusable usernames. Those will be available from the main app screen.

This function can be easily explained through an example. Suppose we have a small hotel with 10 rooms. We want to assign an username to each room and change the password each time a new guest checks in. We should create a username list like this:

Room01

Room02

Room03

…

Room10

On the main screen we will find a drop list with AUTO option and each of the defined usernames. If we choose AUTO the app work as usual, generating random or sequential usernames. If we choose a predefined username, **Room03** as an example, and we push the desired profile button, let's say **1week**. Within this example we will get a ticket with Room03 as username, for 1 week and with a random password. If user Room03 already exists in User Manager, it will be deleted and replaced with a newly created user.

Printer

The printer's section allows setting the connection values to access the network printer. It will also allow to setup the ticket/voucher's format.

IP Address

To set the address of the network printer. Use its ip address or dns entry. In our example deployment we will use ***192.168.1.3***.

Port

The printer's TCP port. Usually ***9100***.

Ticket

The ticket parameter is a vertically scrollable field to set the full content of the ticket that will be send to the printer when creating an user. It's a text field with vertical scroll. An example of a ticket could be something like this:

```
[C][LOGO]
[B][U]HotSpot Infinitel"
[L][b][u]
[B]Acceso: [b]${profile}
[B]Nombre: [b]${user}
[B]Clave: [b]${pass}

[C][QR]
[R][W][T]Thank you

[CUT]
```

When editing the ticket we should specify the following variables:

- ${profile} will be filled with the profile's name
- ${user} will be filled with the generated username
- ${pass} will be filled with the generated random password

To set the format of the ticket we can use the following tags:

- [B] Set bold text
- [b] Unset bold text
- [U] Set underlined text
- [u] Unset underlined text
- [T] Set double tall text
- [t] Unset double tall text
- [W] Set double wide text

- [w] Unset double wide text
- [L] o [l] Align to the left
- [C] o [c] Align to center
- [R] o [r] Align to the right
- [LOGO] Print the bitmap set to the position 1 of NV memory in the ESC/POS printer
- [CUT] Make paper cut (if supported by the printer)
- [QR] Insert a QRCode that opens the hotspot's captive portal and redirect the user to a configurable page after a successful login.

QRCode

The QRCode's section allows to enter the settings to include a QRCode in the printed output. The QRCode points to the hotspot's captive portal and autofills the username. When successfully logged the user will be redirected to a specified url.

HotSpot URL

DNS or IP address URL of the hotspot's gateway. For example: ***http://10.0.0.1*** or ***http://hotspot.mydomain.com***. Always as configured in your own hotspot deployment. If blank, the [QR] tag on the ticket will be ignored.

QRCode URL Redirection

The URL where the user will be redirected after a successful login. For example: ***http://www.infinitel.es***. If the parameter is left blank, the user will not be redirected after login.

The resulting QRCode, using our example values, will generate the next url address: http://10.0.0.1/login?username=Infinitel_AaBbCc&dst=http%3A%2F%2Fwww.infinitel.es

When using an QRCode decoder on a mobile/table device the user will be send to the captive portal, the username will be automatically filled and when logged successfully the browser will be redirected to www.infinitel.es.