# Hotspots and Mobile GPS-enabled hotspots
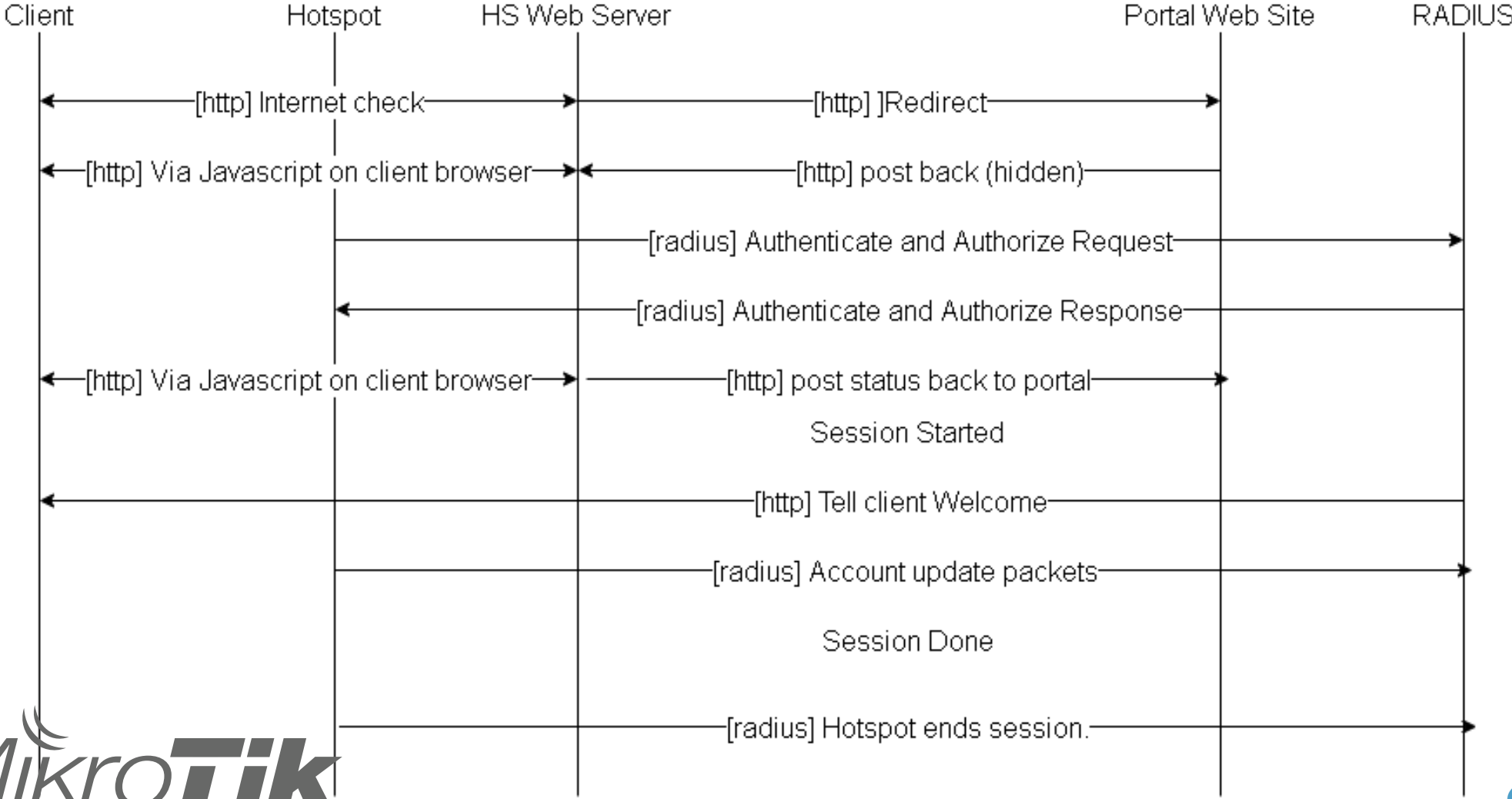
**MikroTik User Meeting – Johannesburg – Feb 2020**

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

1. How Hotspots and Captive portals work

2. Understanding Radius AAA

3. Write your own code!

   1. What can we do with GPS?

**Click Networks**

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## How Hotspots and Captive portals work

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## How Hotspots and Captive portals work

▶ Client Internet check:

- All modern internet client devices need a way to check if they have internet.

- Most use an http request to an online webpage, determined by each different manufacturer.

- For example an android phone will request http://clients3.google.com

- If the http response is not 200/204 the client knows that it has no internet.

- In a hotspot setup, the proxy will rewrite the http headers with a 302 redirect to the hotspot page.

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## How Hotspots and Captive portals work

```
GET /redirect HTTP/1.1
Host: www.msftconnecttest.com
Connection: keep-alive
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/79.0.3945.130 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9,af;q=0.8,en-ZA;q=0.7

HTTP/1.1 302 Hotspot login required
Cache-Control: no-cache
Content-Length: 135
Content-Type: text/html
Date: Wed, 05 Feb 2020 19:03:22 GMT
Expires: 0
Location: http://local.clickspot.co.za/login?dst=http%3A%2F%2Fwww.msftconnecttest.com%2Fredirect

<html>
<head><title>Error 302: Hotspot login required</title></head>
<body>
<h1>Error 302: Hotspot login required</h1>
</body>
</html>
```

**MikroTik User Meeting – Johannesburg – Feb 2020**

Click Networks

**How Hotspots and Captive portals work**

## ▶ Why not use https redirect?

- ▶ Self signed certificates are not trusted by your client browsers

- ▶ Trusted Certs can work, but are difficult to maintain on hotspots

- ▶ Much easier not to have TLS on the Hotspot redirect page.

- ▶ You can encrypt your portal landing page.

http://local.hotspot.co.za >> https://login.hotspotspot.co.za

Client is still secured, only entering personal info over TLS connection.

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## How Hotspots and Captive portals work
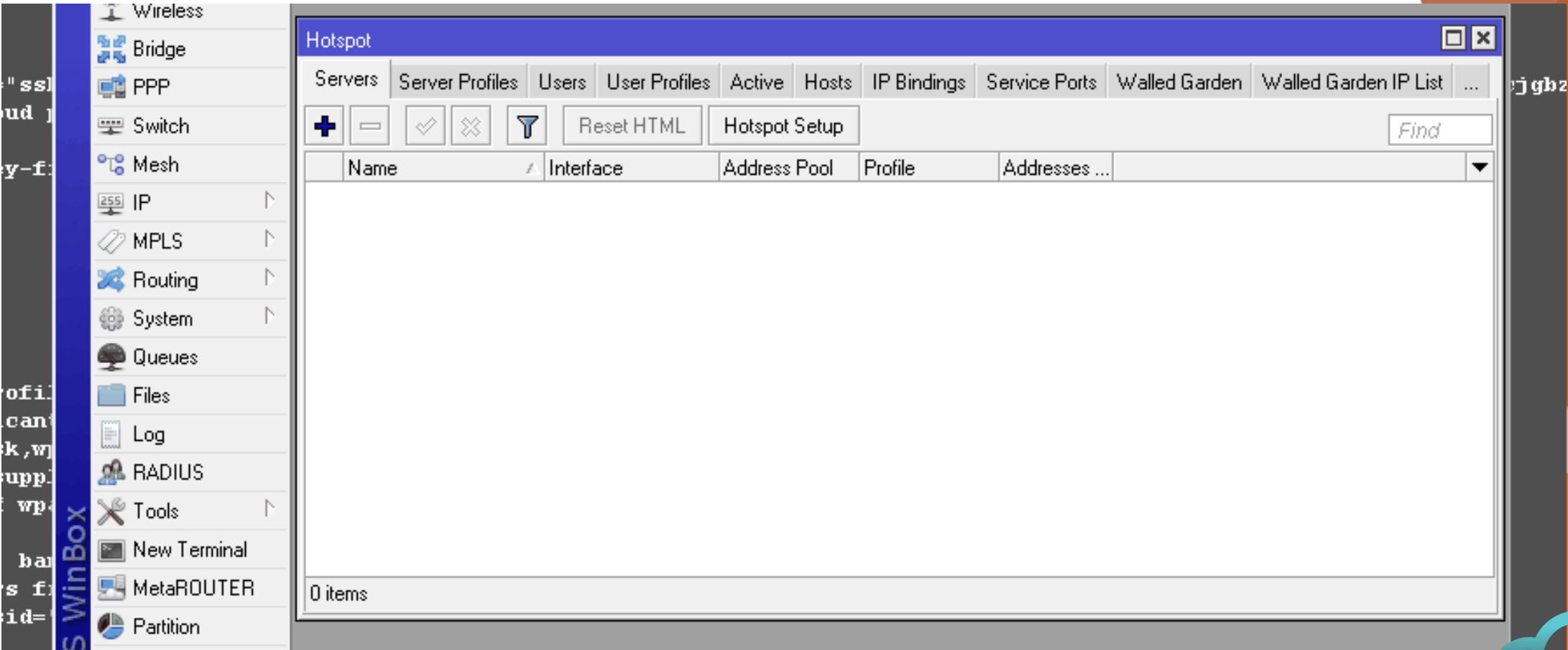
## Understanding RADIUS and AAA

► **R**emote **A**uthentication **D**ial-**I**n **U**ser **S**ervice

- ► Radius is a form of AAA; **A**uthenticate, **A**uthorise, **A**ccount

- ► Authentication and Network Permissions.

- ► Modular

- ► Scalable – performance

- ► Why use it?

- ► Resources?   -  FreeRadius Beginner's guide – by Dirk van der Walt (PACKT publishing)

**MikroTik User Meeting – Johannesburg – Feb 2020**

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## Write your own code!

▶ **Programming is an incredibly powerful tool for managing network services!**

  ▶ Streamline customer on-boarding

  ▶ Process payments online.

  ▶ Activate immediately.

▶ ClickSPOT – a retail and hospitality WiFi platform.

▶ Code as an asset.

▶ MikroTik – RouterOS Combined with our custom development has enabled to participate in some really exiting projects with our clients and partners.

▶ MikroTik API – Automate everything!

**MikroTik User Meeting – Johannesburg – Feb 2020**

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## Write your own code!

▶ **MikroTik + GPS + LTE = Massive opportunity!**

  ▶ Mobile Hotspots, advertising and tracking - fleet, rental and mass transport.

  ▶ Leverage existing GPS platforms (SaaS)

  ▶ Platform for IOT and Telematics in transport sector.

  ▶ Just-In-Time marketing – reach the right person, at the right time, in the right location.

# MikroTik – Hotspots and Mobile GPS-enabled hotspots

## Contact info

- Nico Sassenberg
- Office: 010 312 5053
- Social media: don't
- info@clicknetworks.co.za

- www.clicknetworks.co.za
- www.clickspot.co.za