MikroTik hAP ax³ Setup Guide

This guide will walk you through setting up a MikroTik hAP ax³ router with the following features:

- **Two SSIDs**: Home and Guest
- **Three VLANs**: Home, Guest, and IoT
- **PPSK (Private Pre-Shared Key)**: Different keys for Home and IoT networks
- **Firewall Rules**: Optimized for streaming and gaming

Prerequisites

1. **MikroTik hAP ax³**: Ensure your router is powered on and connected to your network.
2. **Winbox or Web Interface**: Use Winbox or a web browser to access the router's management interface.
3. **Basic Network Setup**: Have an existing internet connection.

Step-by-Step Setup

Step 1: Access MikroTik Router

1. **Open Winbox**: Connect to your MikroTik router using Winbox or the web interface at `http://192.168.88.1`.
2. **Log in**: Use the default username `admin` and no password (change this immediately after login for security).

Step 2: Update RouterOS

1. **Navigate to**: System > Packages.
2. **Check for updates**: Click on **Check for Updates** and apply any available updates to ensure you have the latest RouterOS version.

Step 3: Create VLANs

1. **Navigate to**: Interfaces > VLANs.
2. **Create VLANs** for Home, Guest, and IoT.

Home VLAN

- **Name**: Home
- **VLAN ID**: 10
- **Interface**: Select the interface connected to your network.

Guest VLAN

- **Name**: Guest
- **VLAN ID**: 20
- **Interface**: Select the interface connected to your network.

IoT VLAN

- **Name**: IoT
- **VLAN ID**: 30
- **Interface**: Select the interface connected to your network.

Step 4: Configure Bridge and VLAN Filtering

1. **Navigate to**: Bridge > Add a new bridge.

Bridge Settings

- **Name**: bridge1

2. **Add VLANs to the Bridge**:
   - Go to Bridge > VLANs.
   - Add each VLAN to the bridge with the respective VLAN ID and ports.

Step 5: Set Up Wireless Networks (SSIDs)

1. **Navigate to**: Wireless > Add new.

Home SSID

- **Name**: Home
- **SSID**: Home
- **Security Profile**: Create a new profile with WPA2-PSK.
- **VLAN ID**: 10

Guest SSID

- **Name**: Guest
- **SSID**: Guest
- **Security Profile**: Create a new profile with WPA2-PSK.
- **VLAN ID**: 20

2. **Configure PPSK for Home Network**:
   - Navigate to Wireless > Security Profiles.
   - Create separate security profiles for each key associated with VLAN 10 and VLAN 30.

Step 6: Configure DHCP Servers

1. **Navigate to**: IP > DHCP Server.
2. **Create DHCP servers** for each VLAN:

Home VLAN DHCP

- **Interface**: VLAN10
- **Address Pool**: Create an address pool for VLAN 10.

Guest VLAN DHCP

- **Interface**: VLAN20
- **Address Pool**: Create an address pool for VLAN 20.

IoT VLAN DHCP

- **Interface**: VLAN30
- **Address Pool**: Create an address pool for VLAN 30.

Step 7: Configure Firewall Rules

1. **Navigate to**: IP > Firewall > Filter Rules.
2. **Create firewall rules** to optimize streaming and gaming:

Allow Streaming Services

- **Chain**: forward
- **Action**: accept
- **Src. Address List**: Create an address list for streaming services.

Allow Gaming Services

- **Chain**: forward
- **Action**: accept
- **Src. Address List**: Create an address list for gaming services.

Deny Other Traffic

- **Chain**: forward
- **Action**: drop
- **Log**: enabled (for troubleshooting purposes).

3. **Prioritize Traffic**:
   - Use **Mangle** rules to mark packets from specific devices and apply **Queue Trees** to prioritize gaming and streaming traffic.

Step 8: Test the Configuration

1. **Connect devices** to the Home and Guest SSIDs.
2. **Test connectivity** to ensure devices are assigned to the correct VLANs.
3. **Verify streaming and gaming performance** to ensure traffic is prioritized correctly.

Additional Tips

- **Secure Access**: Change the default admin password and secure management access.
- **Regular Backups**: Save your configuration regularly to avoid data loss.
- **Firmware Updates**: Keep your RouterOS and firmware up-to-date for security and performance.

https://mikrotik.com/product/hap_ax3

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