Update #5 - Dynamic Fail2Ban Ignore Rule with DDNS

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Dynamic Fail2Ban Ignore Rule with DDNS

Overview

To enhance security while ensuring admin access from a dynamic IP address, I created a script that automatically resolves my home DDNS address.

and updates Fail2Ban's `ignoreip` rule accordingly. This ensures my home IP is always whitelisted—even as it changes—preventing accidental lockouts.

Objective

Automatically update Fail2Ban's `ignoreip` field with the resolved IP address of a DDNS hostname and restart the service.

Components Used

- **Ubuntu 22.04 VPS**
- **Fail2Ban**
- **DDNS hostname**
- **Bash scripting**
- **Cron for automation (optional)**

Script Path

`/usr/local/bin/update-fail2ban-ignoreip.sh`

Script Logic

1. Uses `dig` to resolve the current IP of the DDNS hostname.
2. Backs up `/etc/fail2ban/jail.local`.
3. Replaces the existing `ignoreip` line with a new one including `127.0.0.1` and the resolved DDNS IP.
4. Restarts the Fail2Ban service.

```
#!/bin/bash

# Resolve DDNS to IP
DDNS_HOST="YOUR-DDNS-NAME-HERE"
RESOLVED_IP=$(dig +short "$DDNS_HOST" | grep -Eo '([0-9]{1,3}\.){3}[0-9]{1,3}' | head -n1)

# Path to jail.local
JAIL_LOCAL="/etc/fail2ban/jail.local"

# Backup original
cp "$JAIL_LOCAL" "$JAIL_LOCAL.bak"

# Update ignoreip in jail.local
sed -i "/^ignoreip =/c\ignoreip = 127.0.0.1 $RESOLVED_IP" "$JAIL_LOCAL"

# Restart Fail2Ban
systemctl restart fail2ban
```

Setup Steps

Create the script:

1. `sudo nano /usr/local/bin/update-fail2ban-ignoreip.sh`
   Paste the script above, change it to YOUR-DDNS-SERVER - save and exit.

Make it executable:

- Run it manually to verify:

```
sudo /usr/local/bin/update-fail2ban-ignoreip.sh
```

Verification

- Checked with:

```
sudo cat /etc/fail2ban/jail.local
```

  Confirmed the new IP is listed in `ignoreip`.
- Validated Fail2Ban is running:

```
sudo systemctl status fail2ban
```

Optional: Automate with Cron

To run the update daily:

```
sudo crontab -e
```

Add:

```
0 3 * * * /usr/local/bin/update-fail2ban-ignoreip.sh
```

Result

Fail2Ban now dynamically ignores my home IP—even though it’s behind a DDNS—and I no longer risk locking myself out while administering my VPS.

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