

MIKROTIK IMPLEMENTATION

By Michael Takeuchi

STMIK ADHI GUNA, 30 March 2018



Little Things About Me – Michael Takeuchi



- My name is Michael Takeuchi
- Was MikroTik Certified on MTCNA, MTCRE, MTCINE, MTCUME, MTCWE, MTCTCE, MTCIPv6E
- Was Cisco Certified on CCNA-RS
- Was Juniper Certified on JNCIA-Junos
- MikroTik Certified Consultant on mikrotik.com
- January 2017 – June 2017 Work as Remote Network Engineer at Middle East
- July 2017 – Now Work as Network Analyst at Internet Service Provider (AS38320)

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 <https://www.facebook.com/mict404>

**MAU KEMANA SETELAH
LULUS KULIAH/SEKOLAH?**

**5 TAHUN MENDATANG,
MAU NGAPAIN?**

Kerja?

Nyari kerja kok
susah ya...



Pekerja

Nyari tenaga kerja
yang qualified susah ya



Pengusaha

ARE YOU QUALIFIED?

<https://www.jobstreet.co.id>

<https://id.jobsdb.com/id>

<http://www.qerja.com/>

<https://jobindo.com/>

dkk

IMPROVE
YOUR SKILLS!

A close-up of a right hand holding a black marker. The hand is positioned to underline the text 'YOUR SKILLS!' with a red line. The text 'IMPROVE' is on the line above. The background is white.

Contoh Pekerjaan Dengan Keahlian Khusus

- Klik website pencari kerja
 - Search dengan kata kunci “mikrotik”

<https://www.jobstreet.co.id/id/job-search/job-vacancy.php?key=mikrotik>

Lowongan Kerja mikrotik x

Aman | <https://www.jobstreet.co.id/id/job-search/job-vacancy.php?key=mikrotik>

Beranda Cari Lowongan MyJobStreet Profil Perusahaan Lainnya ▾ Bahasa ▾ Michael ▾

JobStreet.com
Quality Candidates, Quality Employers

Mencari berdasarkan posisi, keahlian dan kata kunci... 🔍 Lanjutan Perusahaan

lowongan mikrotik 📧 Simpan sebagai Email Pemberitahuan Lowongan 1 - 20 of 82 lowongan

Pilih Kriteria

Semua lokasi ▾

Semua spesialisasi ▾

Gaji Minimum (IDR)

Cari Lowongan

Telusuri Lowongan

[Spesialisasi](#)

[Tingkat Jabatan](#)

[Lokasi](#)

[Nama Perusahaan](#)

[Lowongan di Luar Negeri](#)

Semua Lowongan Perusahaan Perusahaan Perekrutan Sesuai ▾


IT Support

PT Wook Mobile Commerce

📍 Jakarta Utara (Jakarta Raya)
\$ IDR 4,500,000 - 5,850,000

Req : Max Usia 30. Minimal lulusan S1 IT. Mengetahui pengetahuan yang luas di bidang IT. Ahli di Networking(Lan, File Sharing). Troubleshoot Windows....

6 jam yang lalu • Perlihatkan lebih banyak ▾




LAN Administrator & Mkrotik

PT Sebastian Citra Indonesia (Jakarta)

📍 Jakarta Barat (Jakarta Raya) - Kalideres
\$ IDR 4,000,000 - 5,200,000

Kualifikasi : Usia Maks 30 tahun. Min D3 Teknik Informasi/Informatika. Pengalaman Min 1 Tahun di bidang yang sama. Bisa Handle Mikrotik , Networking,...

22 jam yang lalu • Perlihatkan lebih banyak ▾



Network Infrastructure Staff

PERNAH DENGAR?

- BGP
- Firewall
- MPLS
- NAT
- QoS
- Routing
- VLAN
- VPN

Lalu? Apa Sih MikroTik?

MikroTik

MikroTik

- Name of Company & Brand (<https://www.mikrotik.com>)
- Which Has Product (<https://mikrotik.com/products>) :
 - RouterBOARD
 - **RouterOS** – MikroTik Operating System (Used on MikroTik Product & x86/x64)
- Which Has Program:
 - MikroTik Academy (<https://mikrotik.com/training/academy>)
 - MikroTik User Meeting (<https://mum.mikrotik.com>)
 - Certification (MTCNA, MTCRE, MTCIPv6E, MTCTCE, MTCUME, MTCWE, MTCINE), <https://mikrotik.com/training/about>
- Headquarter: Riga, Latvia, Europe

MikroTik History

- Created on 1995 by John Tully (CEO) & Arnis Riekstins (CTO)
- Established on 1996
- First Time Using Linux Kernel 2.2 by 5 – 15 Person
- Be Wireless ISP (WISP) Before Being MikroTik Company

MikroTik RouterOS

- RouterOS is MikroTik's stand-alone operating system based on linux v3.3.5 kernel.
- Can be installed on PC x86 and also Virtualization Environment x64 (CHR)

RouterOS Features



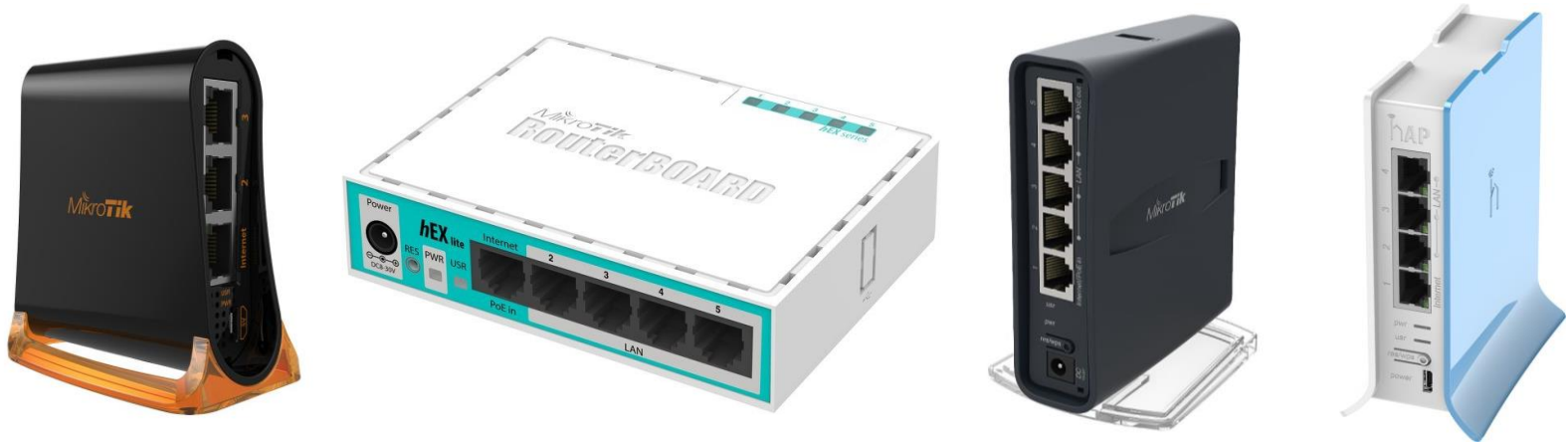
- Routing
- Firewall
- QoS / BW Management
- Switching
- VPN
- NAT

LOW COST
With Many Feature

**I L  W
COST**

Affordable SOHO Router (Small Office & Home Office)

- <https://www.youtube.com/watch?v=OuYif-1FHc0>



Wireless Solution

- <https://www.youtube.com/watch?v=2cym7j8BcJ0>



MikroTik User Meeting (Up to 3000 Participants & More)

- <https://www.youtube.com/watch?v=eKOwaxfotW8>



Upcoming MUM Events

<https://mum.mikrotik.com>

MikroTik User Meeting

Conference. Exhibition. Workshop.

Europe 2018

Berlin, April 5-6, 2018

United States

Baltimore MD, April 12-13, 2018

Mexico

Mexico City, April 16-17, 2018

Japan

Tokyo, May 8, 2018

Bangladesh
Dhaka, May 12,
2018

Australia
Melbourne, May 18,
2018

New Zealand
Auckland, May 21,
2018

Belarus
Minsk, Jun 5, 2018

Ukraine
Kiev, Jun 8, 2018

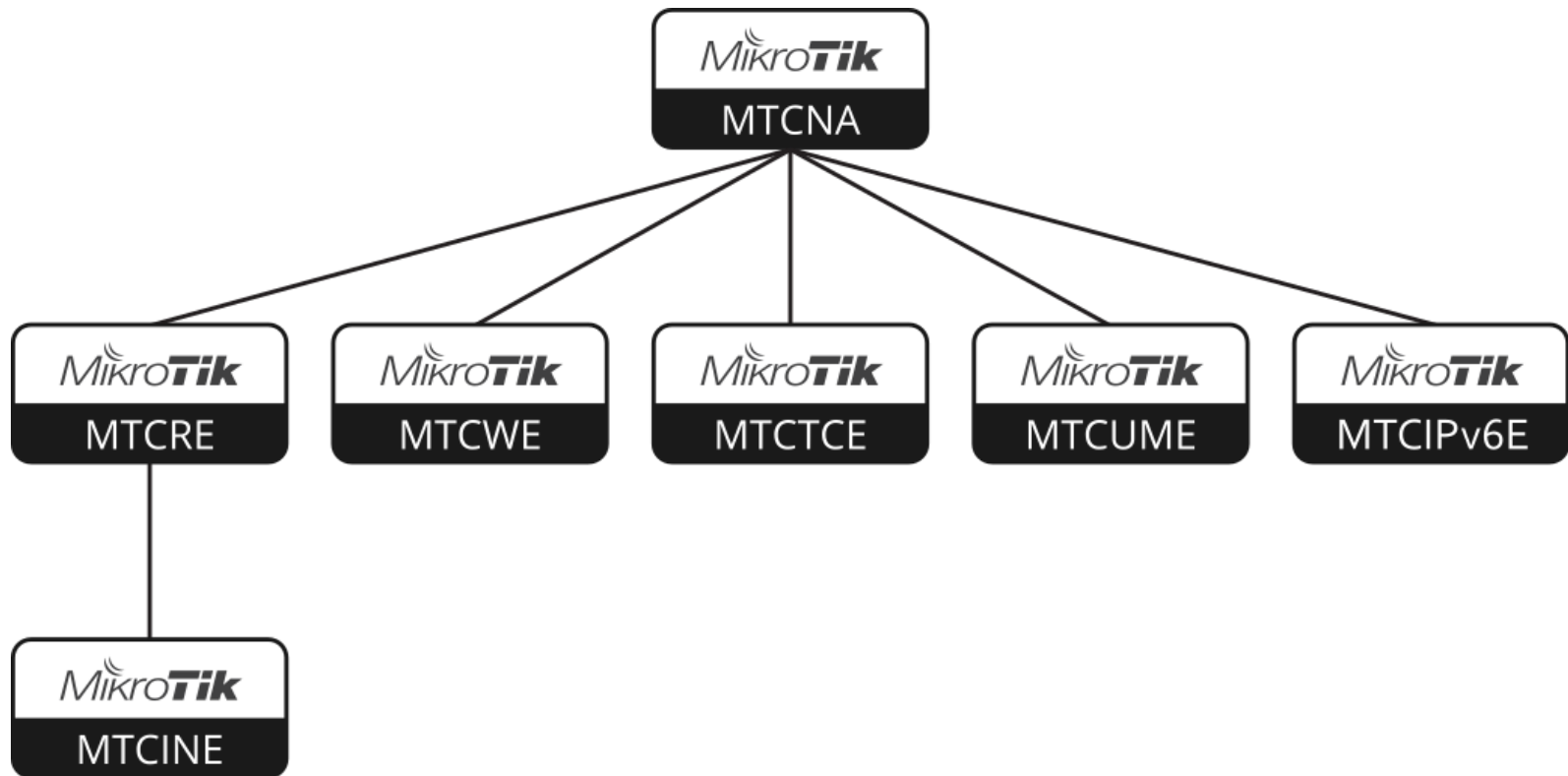
Turkey
Istanbul, Oct 15,
2018

Indonesia
Yogyakarta, Oct 19-
20, 2018

Forum MikroTik

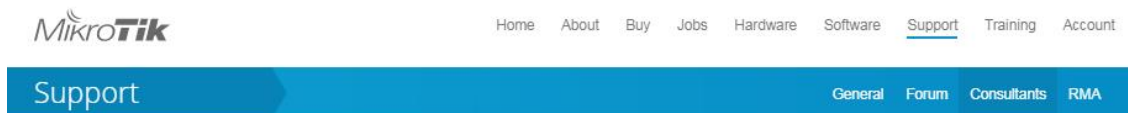
- Official MikroTik Forum: <https://forum.mikrotik.com>
- Lokal (Indonesia): <http://www.forummikrotik.com>

MikroTik Certification



MikroTik Consultant

- <https://www.mikrotik.com/consultants/>



List of MikroTik Certified Consultants



Hire a consultant

You may contact MikroTik Certified Consultants if you want to hire someone knowledgeable in networking with MikroTik RouterOS and receive personal training, help in designing network infrastructure, troubleshooting, specific setup of VPN, bandwidth shaping, and so on.

MikroTik Academy

- <https://www.youtube.com/watch?v=gVDubJTegV4>




Siapa dan Dimana Saja Yang Pakai MikroTik?

Small Office & Home Router (SOHO)

- Pembatasan Jam Konek Gadget
- Wireless Access Point
- Limit Bandwidth
- Blokir Akses
 - Streaming
 - Social Media
 - Website Porno



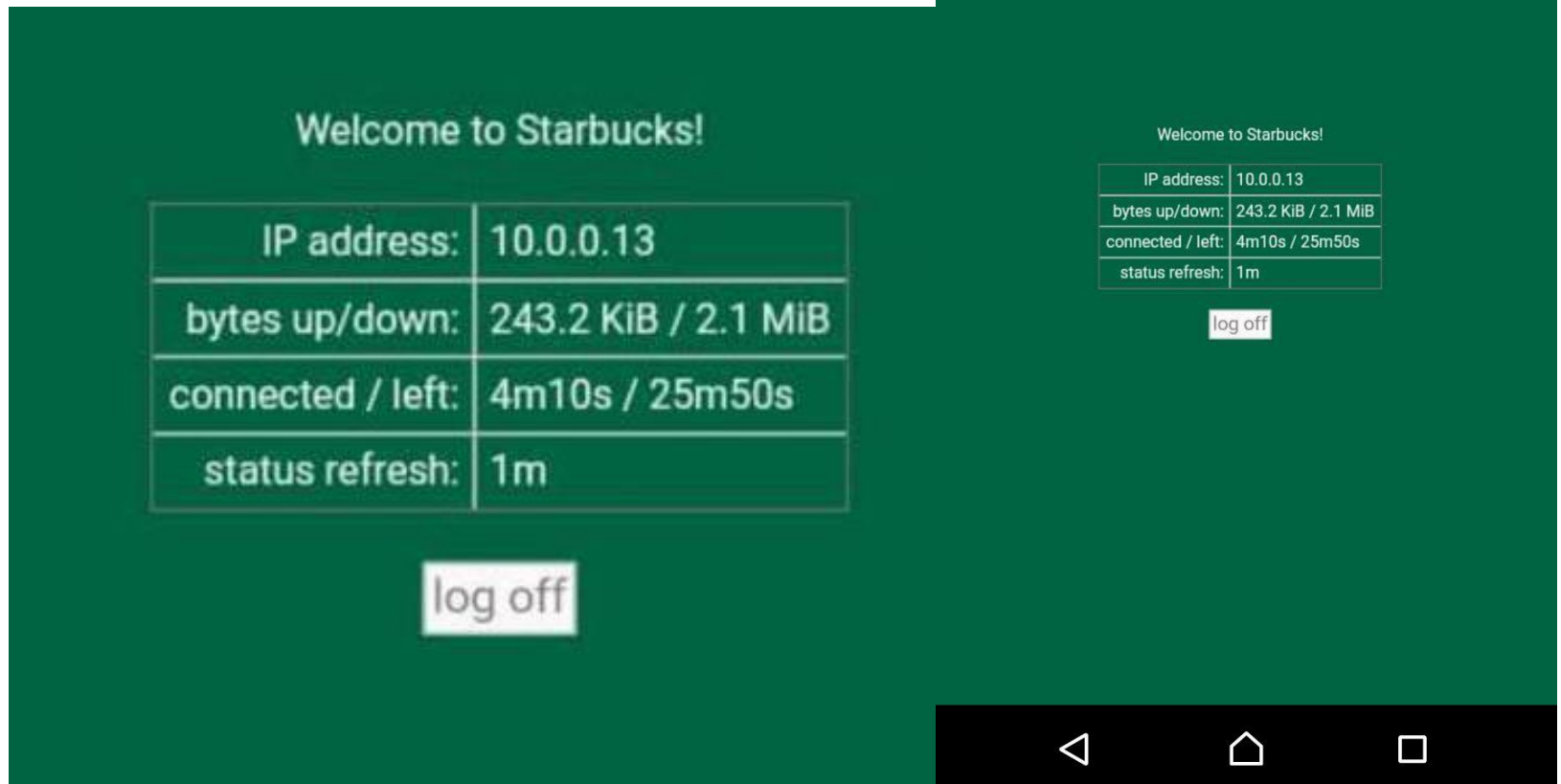
Hotel

Managed Neighbors					
 Refresh					
MAC Address	IP Address	Identity	Version	Board	
D4:CA:6D:78:C9:46	10.1.1.1	GW-SWISS	6.39.2 (stable)	RB450G	

Resort



Restaurant & Caffe



Hospital

```
[████@████-Hospital-Alam-Sutra] > system identity print
name: █████-Hospital-Alam-Sutra
[████@████-Hospital-Alam-Sutra] > system resource print
    uptime: 2w1d4h34m18s
    version: 6.40.5 (stable)
    build-time: Oct/31/2017 13:05:15
factory-software: 6.35.3
    free-memory: 980.0MiB
    total-memory: 1011.0MiB
        cpu: ARMv7
    cpu-count: 2
    cpu-frequency: 1400MHz
    cpu-load: 2%
    free-hdd-space: 91.6MiB
    total-hdd-space: 128.3MiB
architecture-name: arm
    board-name: RB3011UiAS
    platform: MikroTik
```

Kampus/Sekolah

```
[■■■■@SMK-Taruna-Bhakti-Depok] > system identity print
  name: SMK-Taruna-Bhakti-Depok
[■■■■@SMK-Taruna-Bhakti-Depok] > system routerboard print
  routerboard: yes
             model: RouterBOARD 750G r2
```


Fitur Umum Yang Digunakan di Hotel, Caffe, Sekolah, Rumah Sakit


- Bandwidth Management
- Hotspot/Captive Portal
- Load Balancing
- Routing
- Firewall
- Switching

Data Center

Neighbor List

Neighbors

Discovery Interfaces



		Platform	Version	Board Name	IPv6	Age (s)	Uptime
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
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•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
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•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02
•	•	Mikro Tik	6.39.2 (stable)	CCR1036-12G-4S	no	26	57d 08:57:02

> ip neighbor print count-only

217

>

Data Center



Fitur Umum Yang Digunakan di Data Center

- Dynamic Routing (Border Gateway Protocol, BGP)
- VLAN
- Firewall
- Bandwidth Management

Konektivitas Antar Cabang & Kantoran

WinBox v6.40.5 on x86 (x86)

Session Settings Dashboard

Safe Mode Session: 43.245. [redacted]

Quick Set
Interfaces
Bridge
PPP
Mesh
IP
MPLS
Routing
System
Queues

Interface List

Interface Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel

+ - ✓ ✗ [icon] [icon]

	Name	Type	Actual MTU	L2 MTU
R	<sstp-ciputat>	SSTP Server Binding	1450	
R	<sstp-karawaci>	SSTP Server Binding	1450	
R	<sstp-semarang>	SSTP Server Binding	1450	
R	<sstp-serpong>	SSTP Server Binding	1450	
R	<sstp-solo>	SSTP Server Binding	1450	
R	ether1	Ethernet	1500	

Fitur Umum Yang Digunakan Pada Konektivitas Antar Cabang & Kantoran

- PPTP, L2TP, SSTP, IPSec, EoIP, GRE, OpenVPN (Tunnel) dkk.
- Dynamic Routing (OSPF, RIP, iBGP, dkk.)
- Firewall
- VLAN
- Bandwidth Management
- Hotspot Captive Portal
- Wireless Access Point
- TheDude Network Monitoring

Cukup Belajar MikroTik Aja?



PERNAH DENGAR?

- Alcatel-Lucent
- Allied Telesis
- Aruba
- Brocade
- Cambium
- Cisco
- EnGenius
- F5
- Fortinet
- Huawei
- Juniper
- Netgear
- Ruckus
- Ubiquiti

**Learn Concepts,
Don't Be a Fan Boy**

Discuss Group Reference

- <https://www.facebook.com/groups/ilmu jaringan/>
- [https://t.me/IT Networking](https://t.me/IT_Networking)
- <https://www.facebook.com/groups/mikrotik.id/>
- <https://www.facebook.com/groups/rtrwnetgratis/>
- <https://www.facebook.com/groups/ForumMikroTikIndonesia/>

**Feel So Hard To Implement
This Awesome Things?**

Let Me Help You!

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<https://www.linkedin.com/in/michael-takeuchi>

Any Question?



thank
you