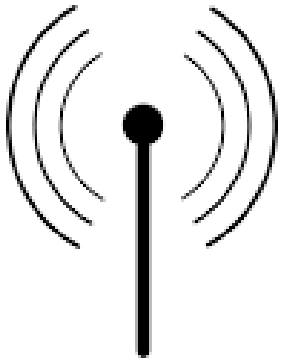
MikroTik

WIRELESS SINGLE SSID



Tokunbo Omolokun

tokunbo@globalconnection.com.ng

www.globalconnection.com.ng

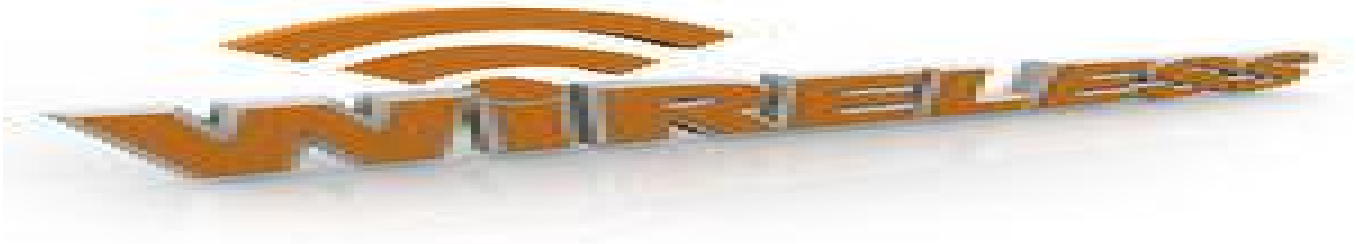
Who am I

- Tokunbo Omolokun
- MikroTik Certified Consultant
- MikroTik Certified Trainer
- Using MikroTik RouterOS since 2006
- Working in network architecture and deployment since 2002

Objective

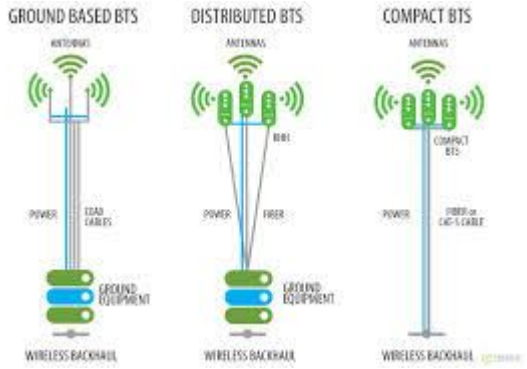
- **To have understanding of *using single ssid with Multiple Base Stations for user access in a wifi environment.***

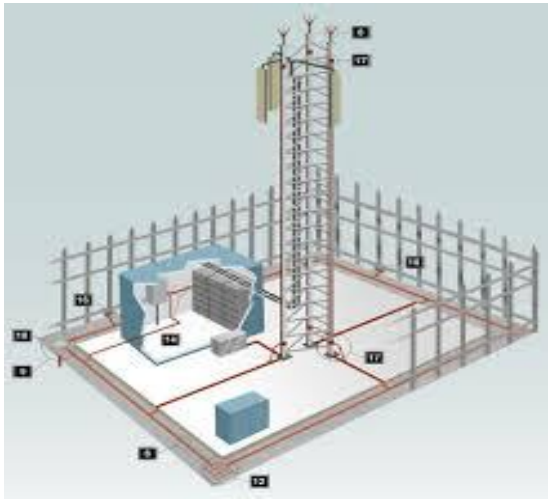
Definition of **Terms**



- ***SSID***

SSID stands for Service Set Identifier, which is a 32-character sequence that uniquely identifies a **wireless** LAN (WLAN). In other words, the **SSID** is the name of the **wireless** network.

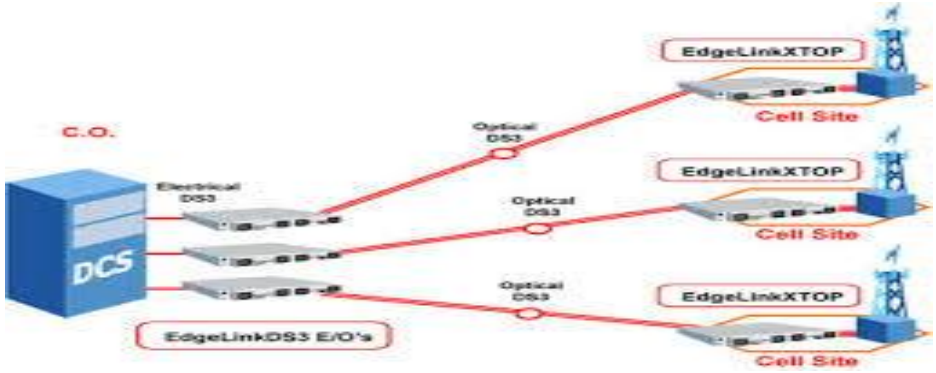




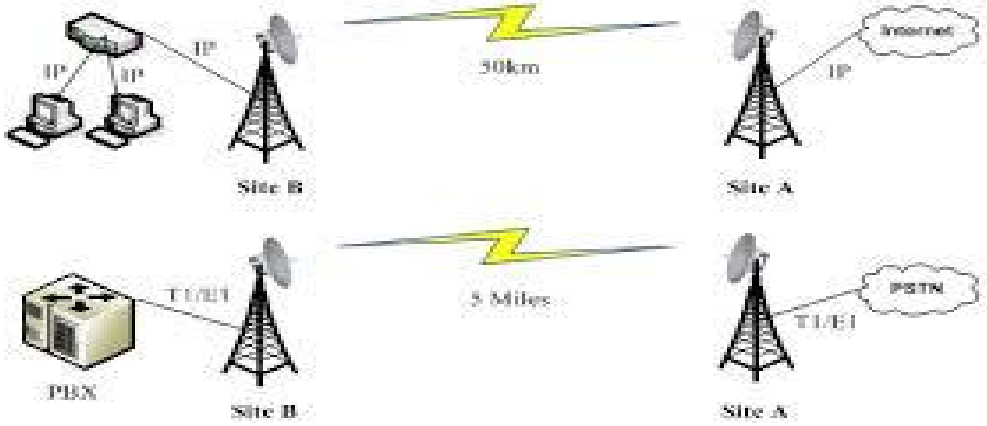
Base Station

Base Station is a short-range transceiver which connects a cordless phone, computer, or other wireless device to a central hub and allows connection to a network.

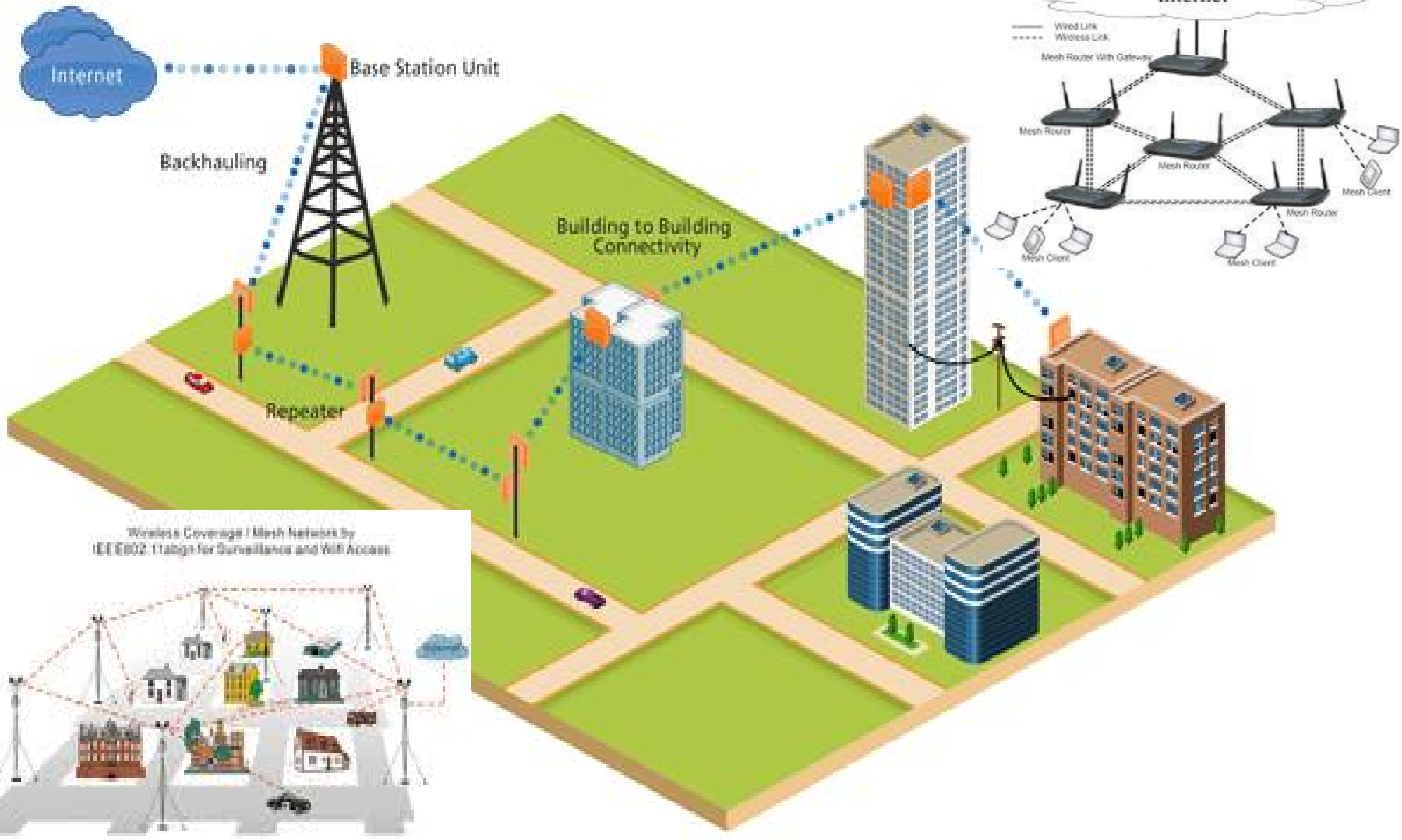
Backhaul



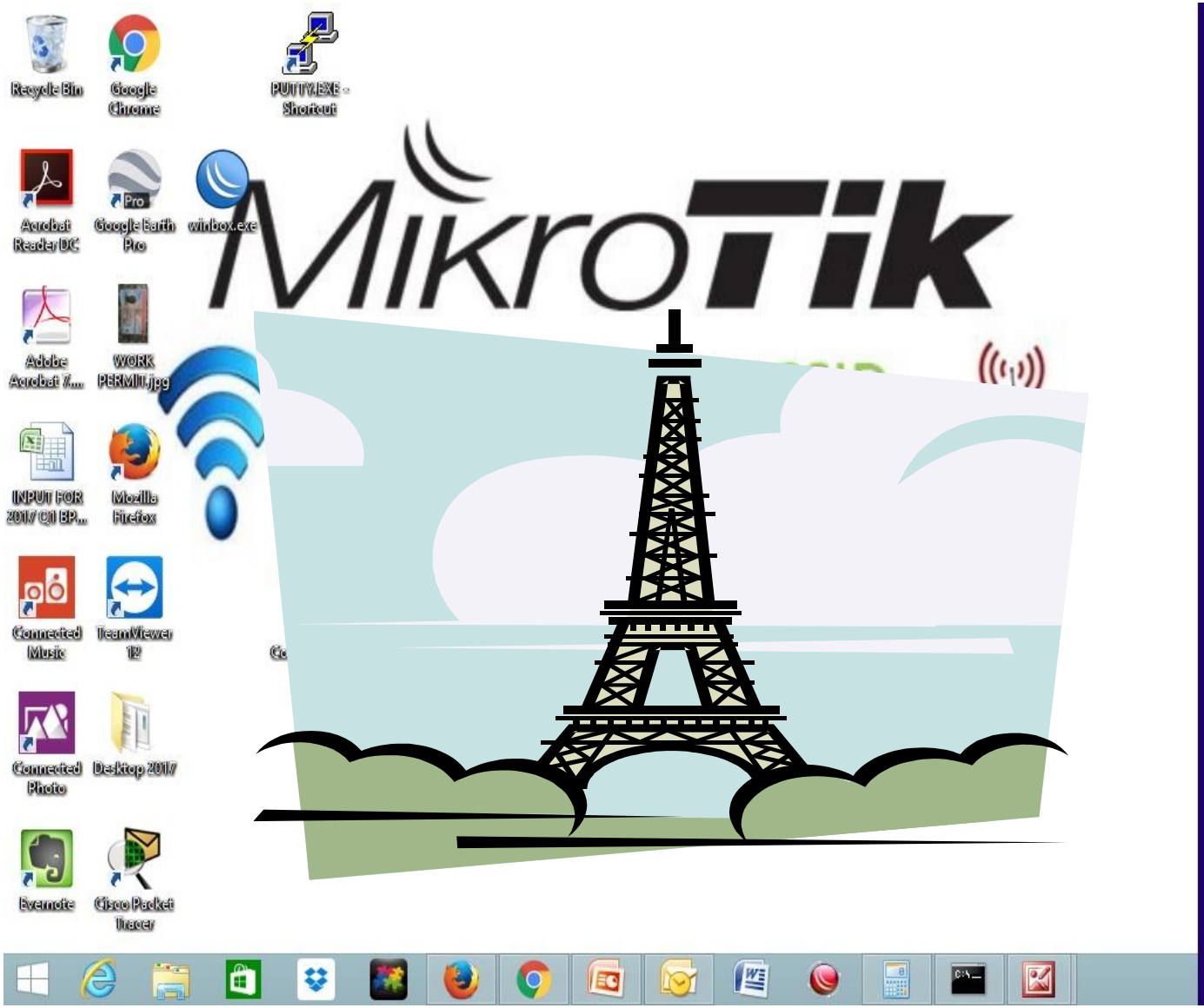
backhauling is sending network data over an out-of-the-way route (including taking it farther than its destination) in order to get the data there sooner or because it costs less.



Multiple B S with Multiple SSIDs



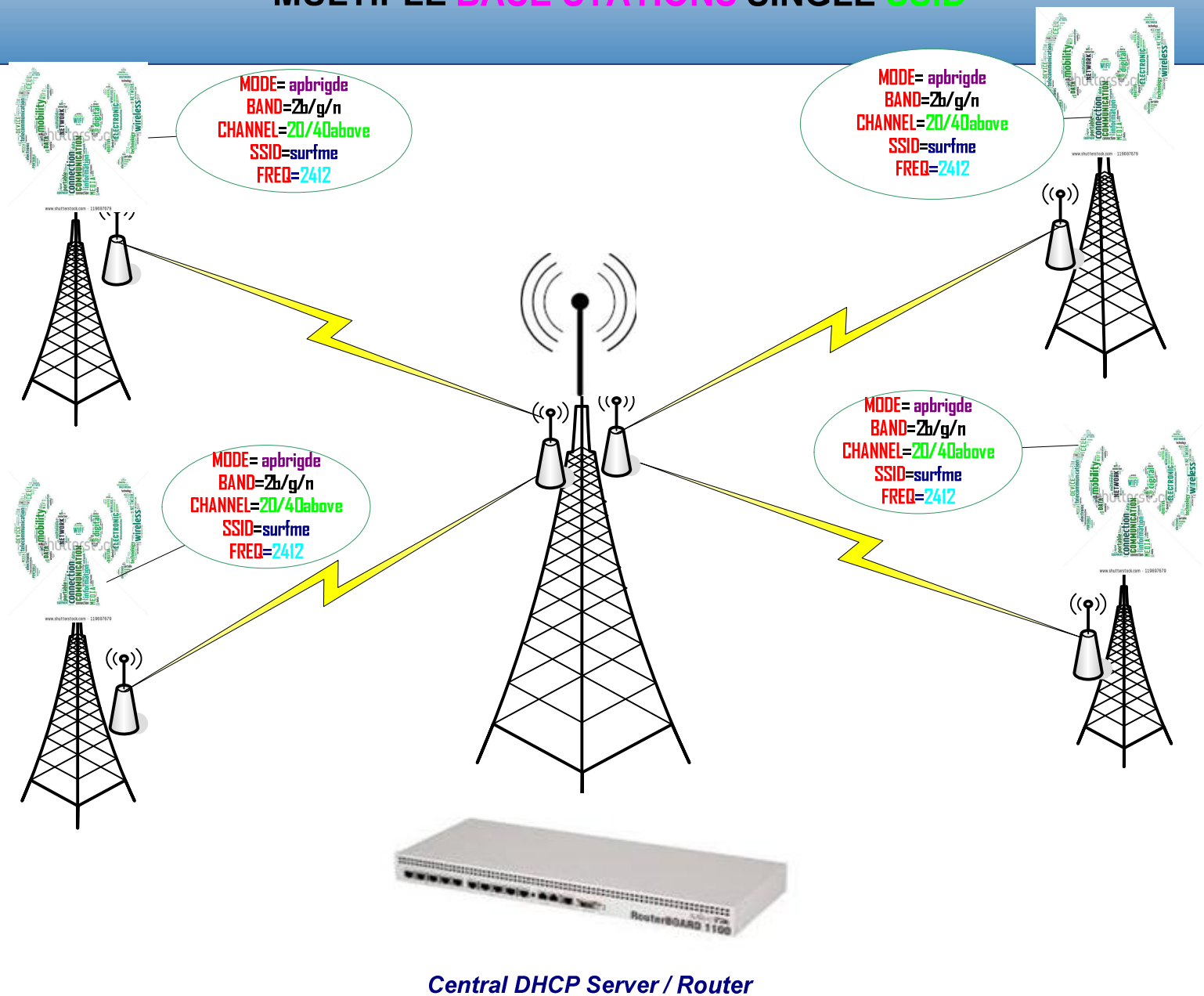
Multiple B S with Multiple SSIDs



Multiple B S with Multiple SSIDs

Multiple B S with Single SSID

MULTIPLE BASE STATIONS SINGLE SSID



Central DHCP Server / Router

Multiple B S with Single SSID

Why Single SSID

1. Throughput

One important reason is higher throughput Unlike a wds system where you tend to loss bandwidth when roaming across links .

2. One B S association

You only need to associate with one base station across your network.

3. Stable connectivity

Another reason of single ssid is connectivity consistency.

Golden Rules

1. Same ssid
2. Same channels
3. Same frequency
4. One Central DHCP server
5. Same Mode
6. Same security profile

DISADVANTAGES

1. Noise

There will be a bit of noise introduction across the wireless base stations .

2. Interfarence

This will be occasionally arise, but from my experience ; it has no serious effect on the seamless connectivity.

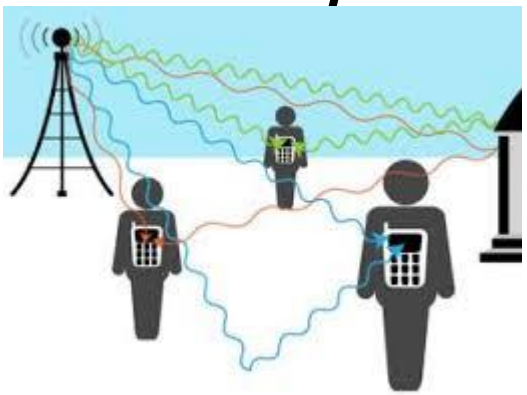
LAB WORK

BACKGROUND

- In this lab, I will walk you through the configuration of multiple Base stations with single SSID, I will position my antennas as different B S and you will use your laptops, phones, ipads etc to establish connectivity to me.
- We shall then start switching off one base station after the other to determine if our link will remain stable and with good throughput while moving across A Ps.

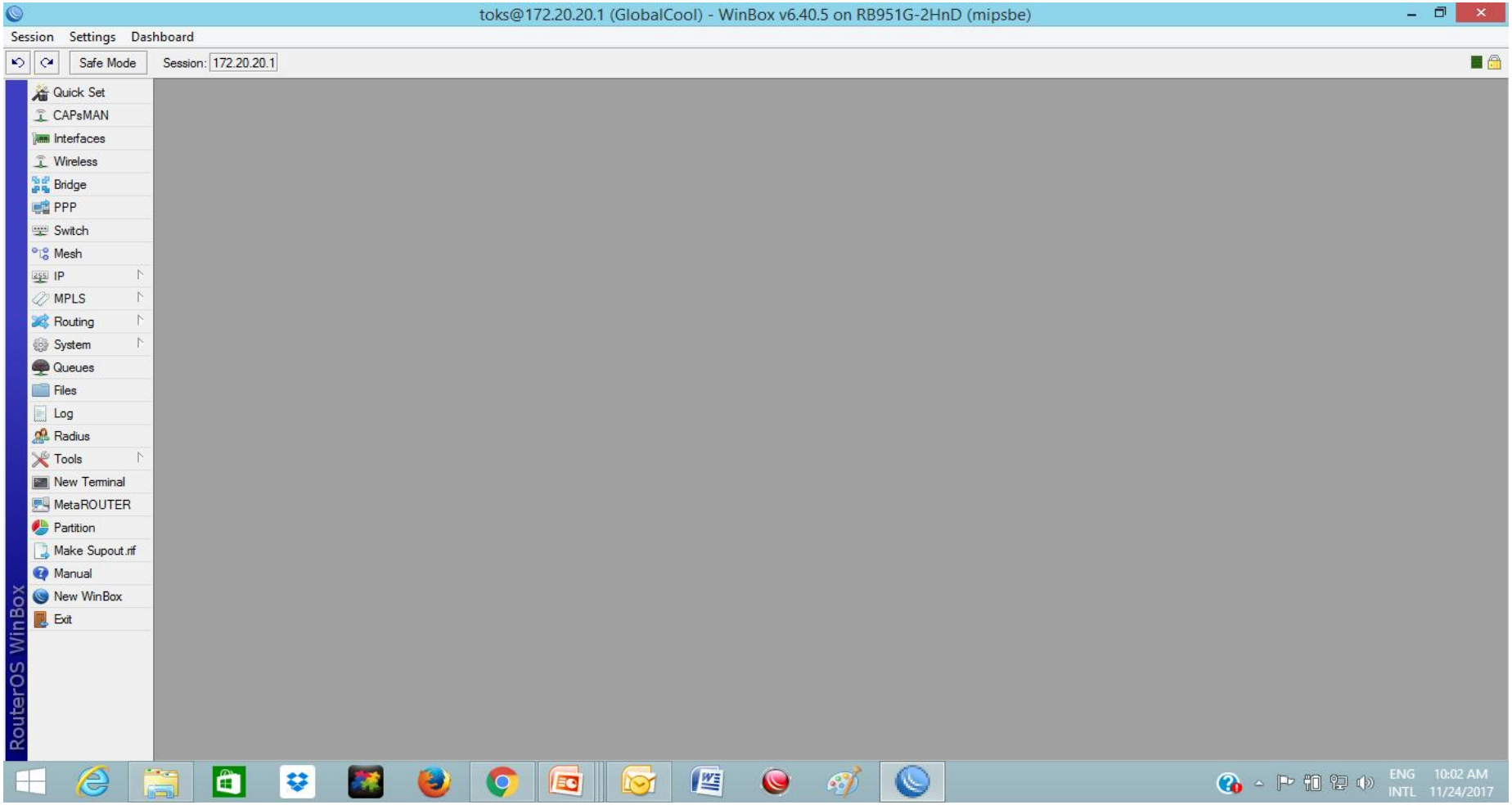
OBJECTIVE

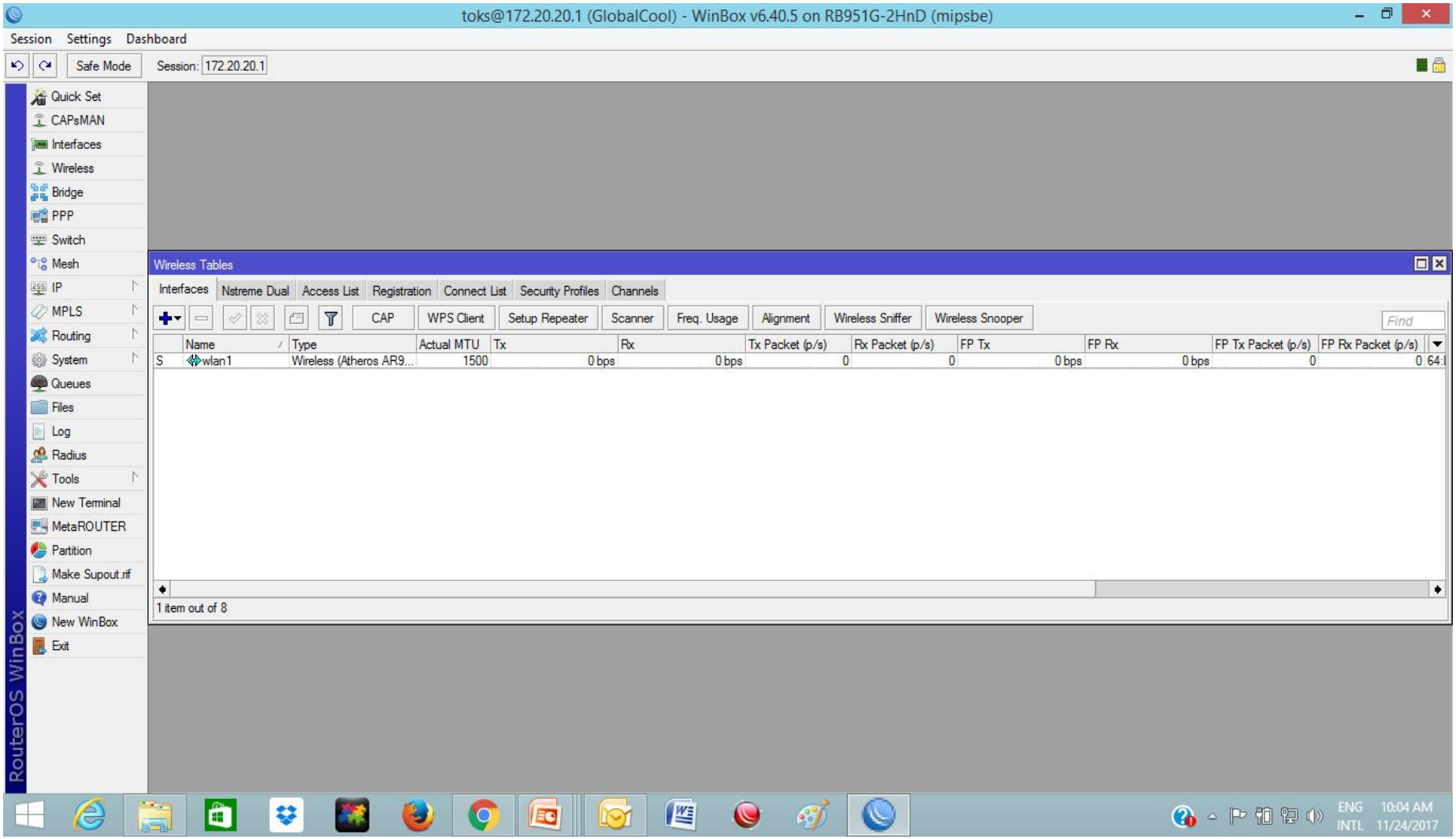
- The objective of this LAB is to configure Multiple Base Station and single ssid to determine throughput and link stability.

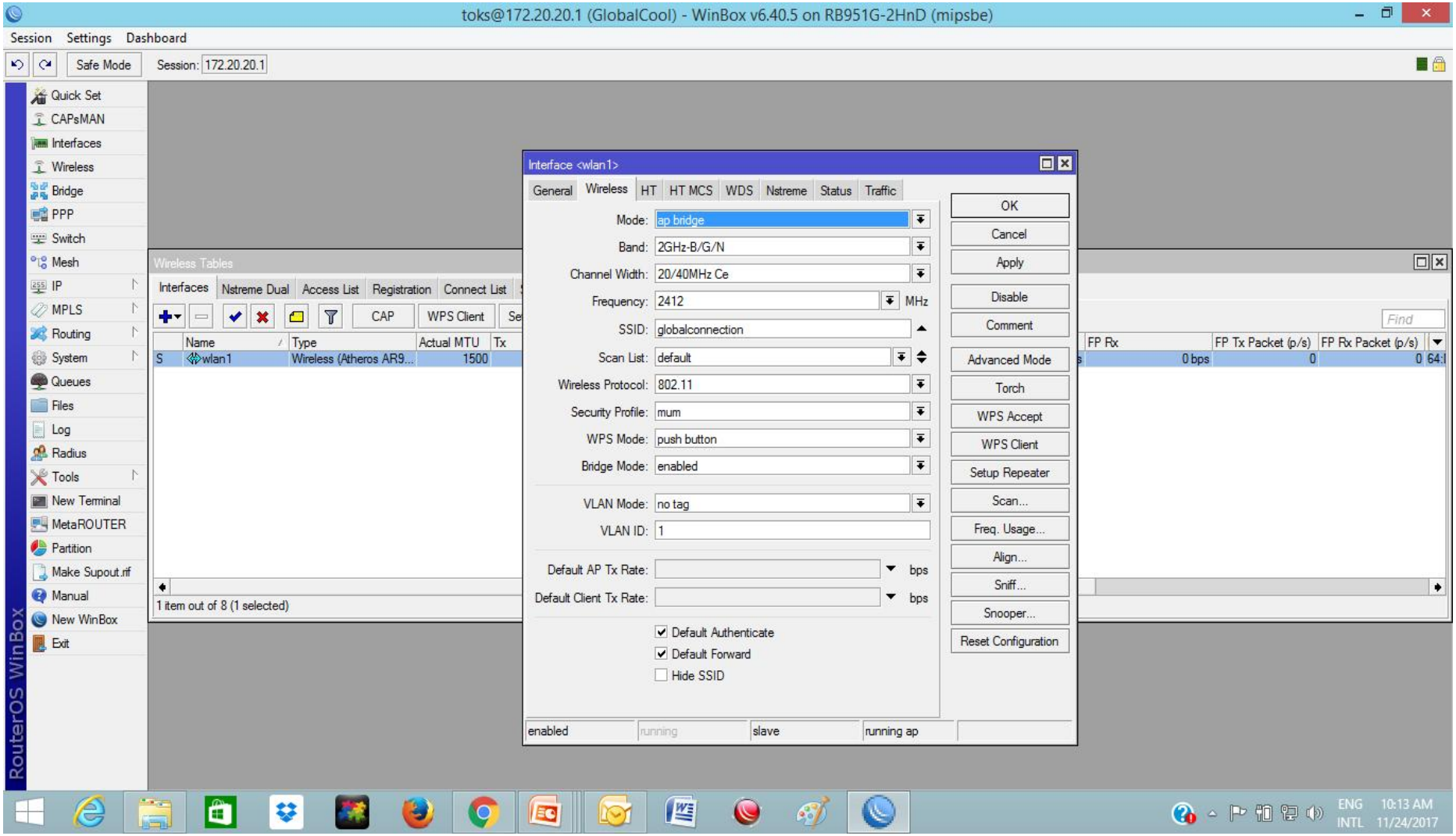


Configure All Base stations with same parameters

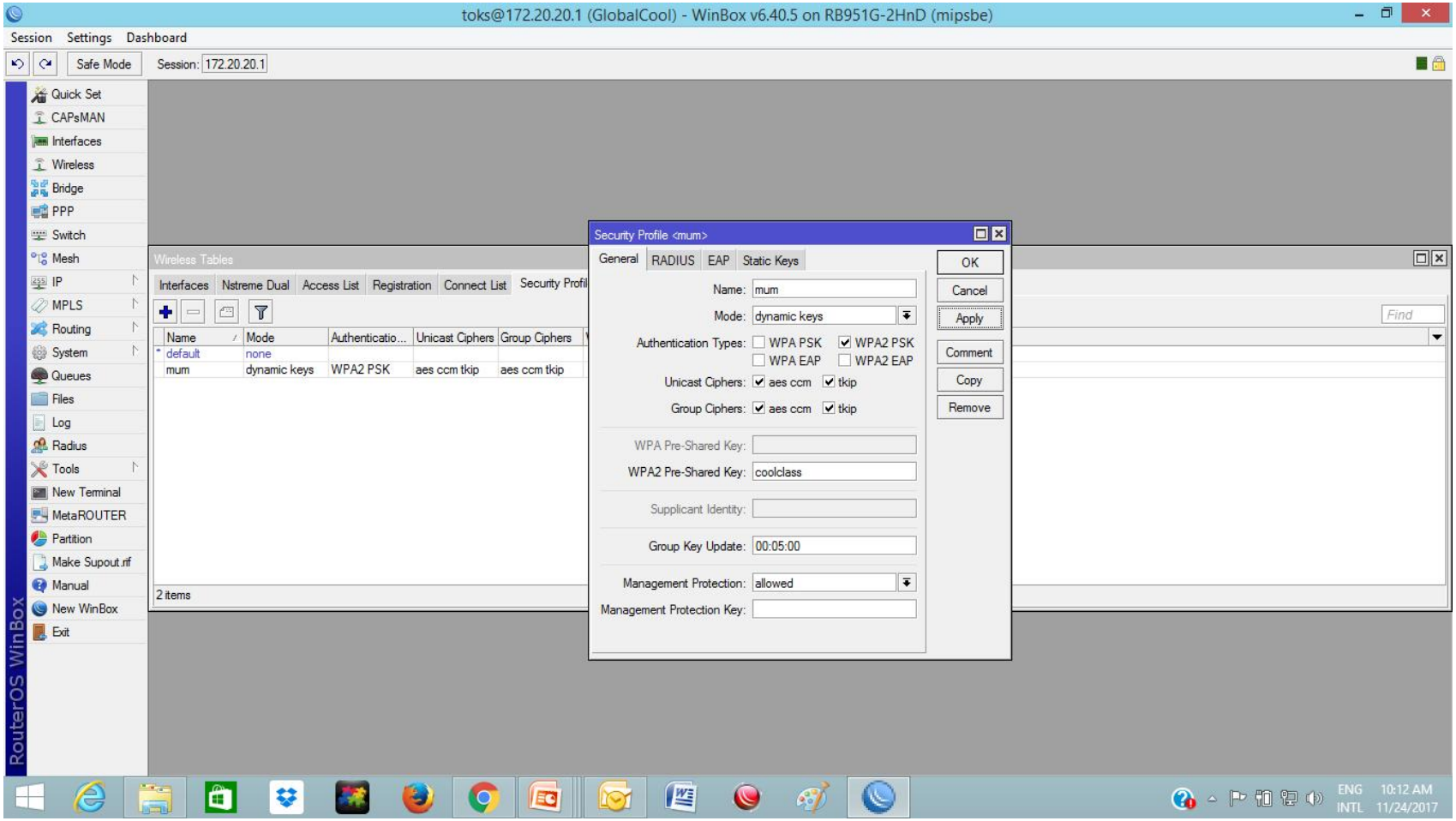
mode,band.channel,profile,frequency and ssid



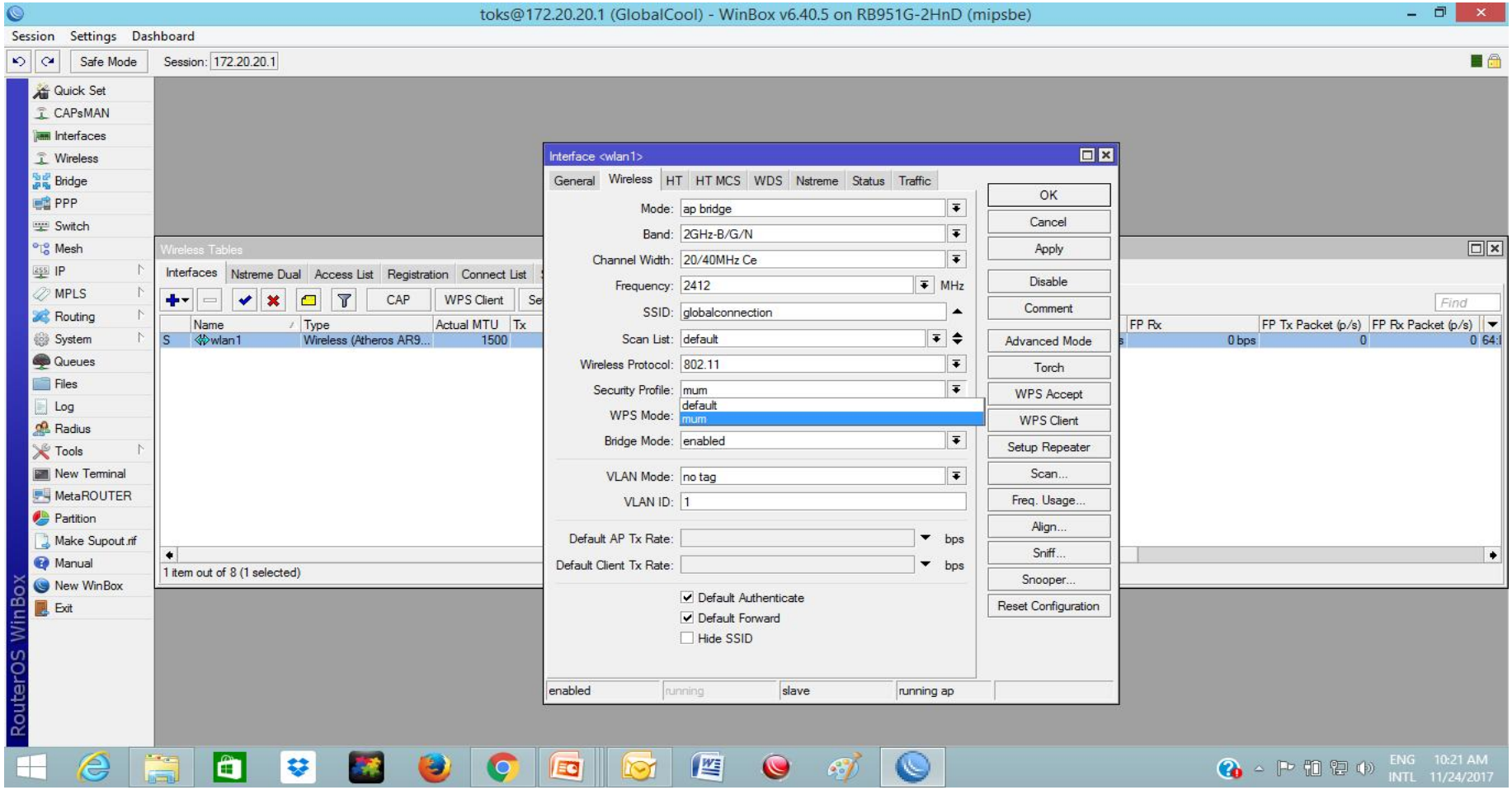

toks@172.20.20.1 (GlobalCool) - WinBox v6.40.5 on RB951G-2HnD (mipsbe)
Session Settings Dashboard
Safe Mode
Session: 172.20.20.1
Quick Set
CAPsMAN
Interfaces
Wireless
Bridge
PPP
Switch
Mesh
IP
MPLS
Routing
System
Queues
Files
Log
Radius
Tools
New Terminal
MetaROUTER
Partition
Make Supout.rif
Manual
New WinBox
Exit
RouterOS WinBox
Wireless Tables
Interfaces
Nstreme Dual
Access List
Registration
Connect List
Security Profiles
Channels
CAP
WPS Client
Setup Repeater
Scanner
Freq. Usage
Alignment
Wireless Sniffer
Wireless Snooper
Find
Name
Type
Actual MTU
Tx
Rx
Tx Packet (p/s)
Rx Packet (p/s)
FP Tx
FP Rx
FP Tx Packet (p/s)
FP Rx Packet (p/s)
S
wlan1
Wireless (Atheros AR9...
1500
0 bps
0 bps
0
0
0 bps
0 bps
0
0
1 item out of 8
ENG
INTL
10:04 AM
11/24/2017


toks@172.20.20.1 (GlobalCool) - WinBox v6.40.5 on RB951G-2HnD (mipsbe)
Session Settings Dashboard
Safe Mode
Session: 172.20.20.1
Quick Set
CAPsMAN
Interfaces
Wireless
Bridge
PPP
Switch
Mesh
IP
MPLS
Routing
System
Queues
Files
Log
Radius
Tools
New Terminal
MetaROUTER
Partition
Make Supout.rif
Manual
New WinBox
Exit
RouterOS WinBox
Wireless Tables
Interfaces
Nstreme Dual
Access List
Registration
Connect List
CAP
WPS Client
Name
Type
Actual MTU
Tx
S
wlan1
Wireless (Atheros AR9...
1500
1 item out of 8 (1 selected)
Find
FP Rx
FP Tx Packet (p/s)
FP Rx Packet (p/s)
0 bps
0
0
Interface <wlan1>
General
Wireless
HT
HT MCS
WDS
Nstreme
Status
Traffic
Mode: ap bridge
Band: 2GHz-B/G/N
Channel Width: 20/40MHz Ce
Frequency: 2412 MHz
SSID: globalconnection
Scan List: default
Wireless Protocol: 802.11
Security Profile: mum
WPS Mode: push button
Bridge Mode: enabled
VLAN Mode: no tag
VLAN ID: 1
Default AP Tx Rate: bps
Default Client Tx Rate: bps
Default Authenticate
Default Forward
Hide SSID
OK
Cancel
Apply
Disable
Comment
Advanced Mode
Torch
WPS Accept
WPS Client
Setup Repeater
Scan...
Freq. Usage...
Align...
Sniff...
Snooper...
Reset Configuration
enabled
running
slave
running ap
ENG
INTL
10:13 AM
11/24/2017

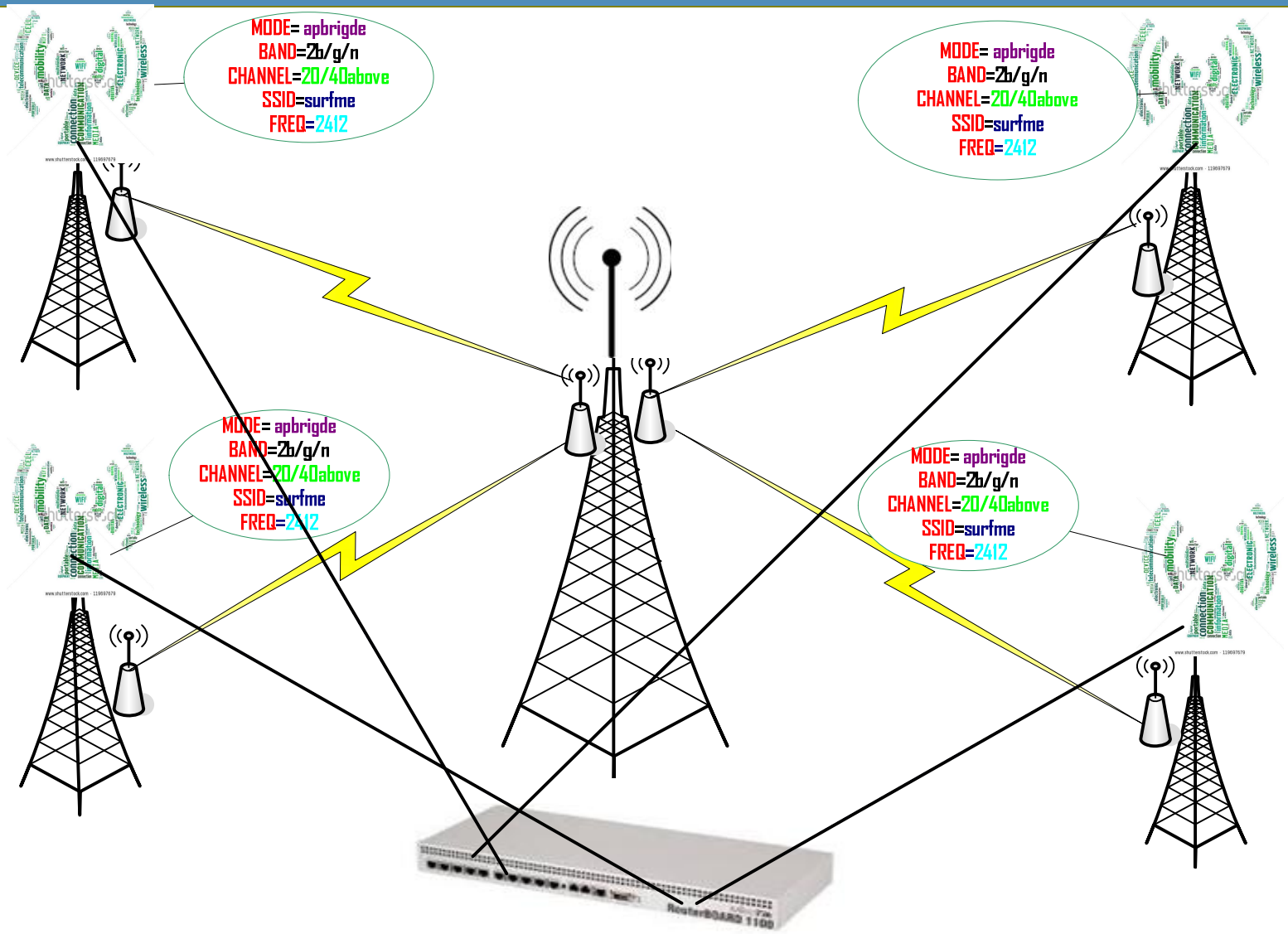
Create same security profile for all Access points



Input the security into the security profile under wireless interface



ALL BASE STATIONS CONNECTED TO ONE DHCP SERVER



Central DHCP Server / Router

Connect all base stations to central DHCP server

- In this design, Base stations are connected to DHCP via direct cable link or wireless backhaul link.

- The wireless interface of all base stations are bridged to the ethernet port that is used to interconnect to central DHCP server

ANY QUESTIONS ?

THANK YOU