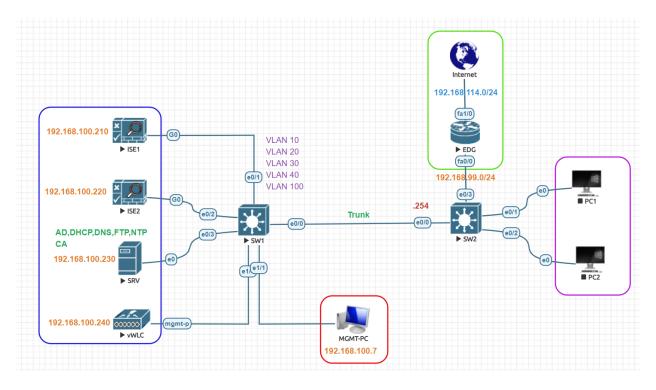
Central Web Authentication (CWA) Lab:



Cisco ISE Primary IP Address	192.168.100.210
Cisco ISE Secondary IP Address	192.168.100.220
AD and DNS IP Address	192.168.100.230
CA Server IP Address	192.168.100.230
Domain Name	test.local
Test User/Group	Guest
Test VLAN	VLAN 40
VLAN Subnet	192.168.40.0/24
VLAN 20 Gateway	192.168.40.1
Authenticator Device	vWLC
Default Route IP	192.168.100.254
Wireless LAN Controller IP	192.168.100.240
Computer	Window 10
Mobile Phone	Samsung Android
Wireless SSID	Guest
ACL Names	Web_Auth_Redirect and Guest_ACL
Guest Portal Name	Guest Portal

Configure RADIUS on WLC:

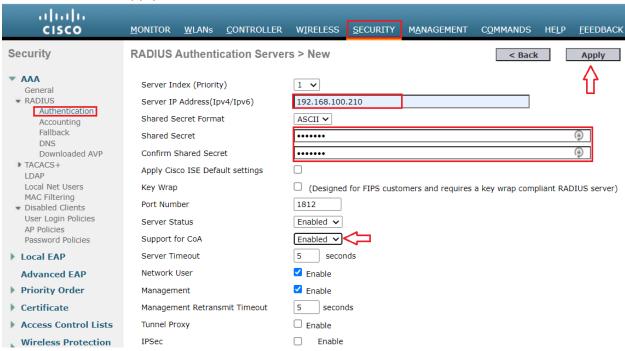
Log into the vWLC. Click the security tab at the top.



Click the New button to add a new AAA server.



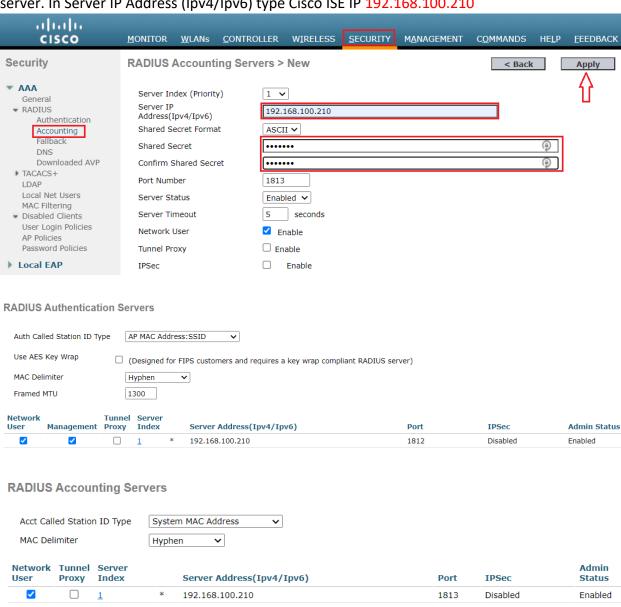
Enter IP address of the ISE server, port number is 1812, and that Support for COA is checked. Change of Authorization is a feature that allows a RADIUS server to adjust an active client session. Create a Shared Secret and make note of it as ISE will need to be configured with the same secret. Click Apply.



Configure RADIUS Accounting Go to Security -> RADIUS -> Accounting. The RADIUS Accounting servers page appears. To add a new RADIUS Server, click New.



In the RADIUS Accounting Servers > New page, enter the parameters specific to the RADIUS server. In Server IP Address (Ipv4/Ipv6) type Cisco ISE IP 192.168.100.210

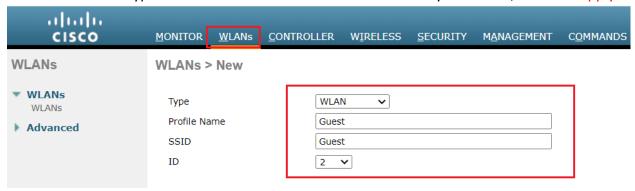


Configuring Guest SSID:

Log into WLC and click the WLANs tab. Choose Create New from drop down box and click Go.

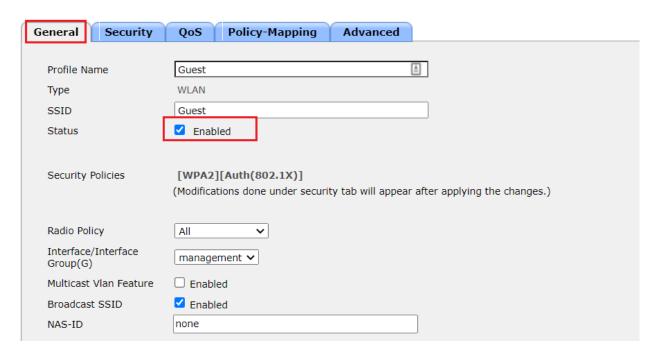


Choose WLAN for Type. Enter a Profile Name and a WLAN SSID of your choice, and click Apply.



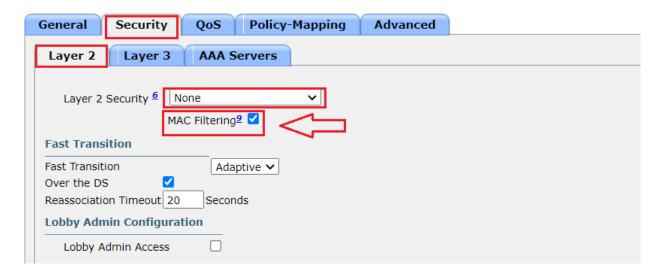
Select Status Enabled, and the correct interface for your guest traffic.

WLANs > Edit 'Guest'



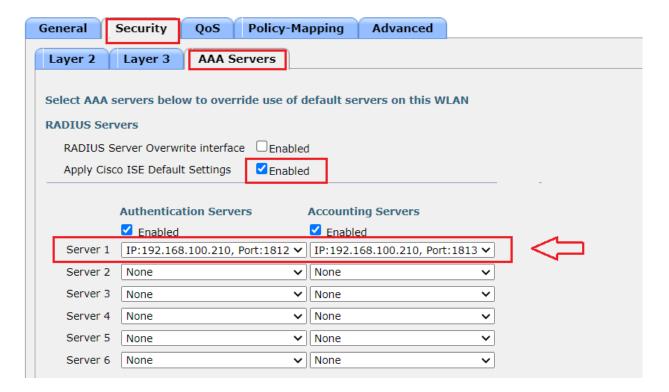
Next click the Security Tab. Change Layer 2 Security to None, and check MAC Filtering.

WLANs > Edit 'Guest'

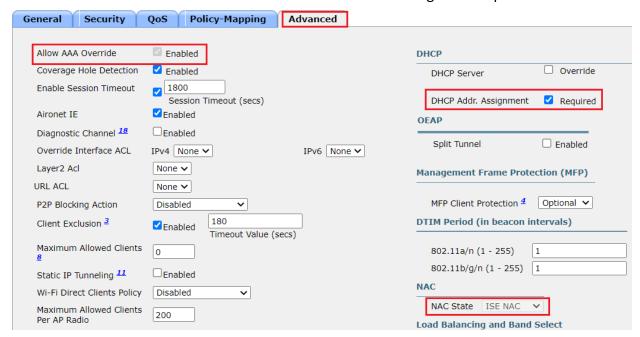


Click AAA Servers, and change the Authentication and Authorization servers to the ISE server via the drop down boxes and enabled Apply Cisco ISE Default Settings.

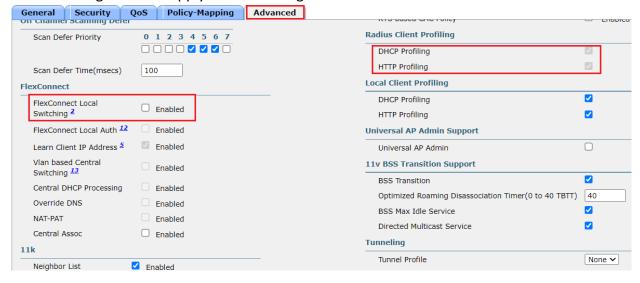
WLANs > Edit 'Guest'



Click Advanced Tab. Check Allow AAA Override. Under NAC change the drop down to ISE NAC.



Uncheck Flex Connect Local Switching if enabled. Check DHCP/HTTP profiling under Radius Client Profiling and Click Apply to save settings.

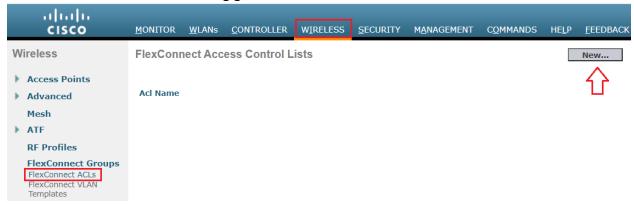


Finally, Guest SSID is configured.

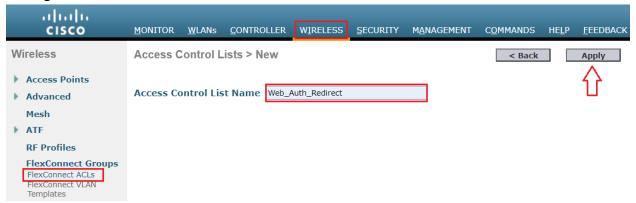


Configure ACLs:

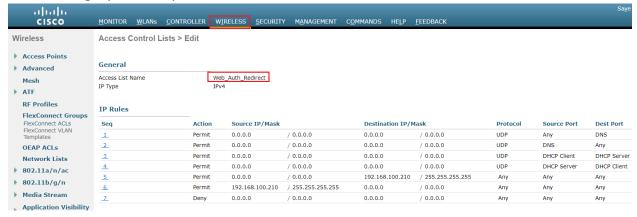
Next we have to create a few ACLs. One for Web Auth Redirect that will allow DNS and traffic to ISE and another ACL for restricting guest access. Go to Wireless>FlexConnect ACLs Click New.



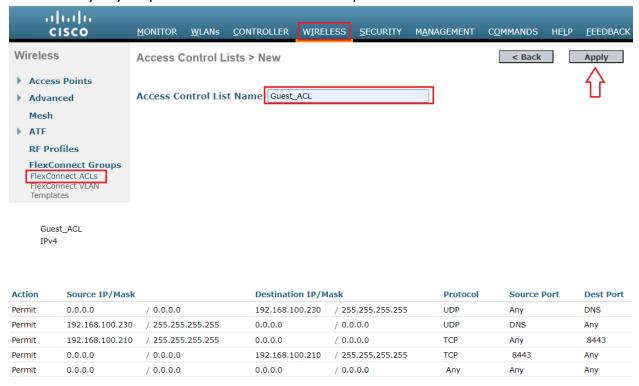
For the ACL name type Web_Auth_Redirect. Click Apply, then click the ACL name to start editing the access control list rules.



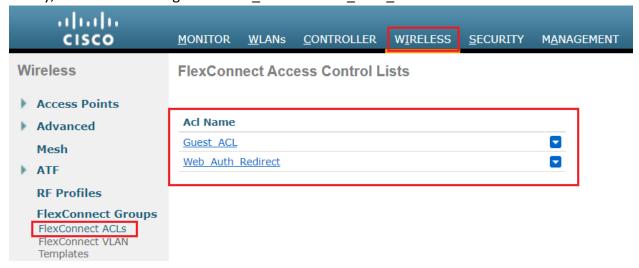
Click Add New Rule. Create a rule allowing destination DNS (udp/53) from any to any. Create a rule allowing source DNS from any to any. Create a rule allowing tcp from ISE to any. Create a rule allowing tcp from any to ISE.



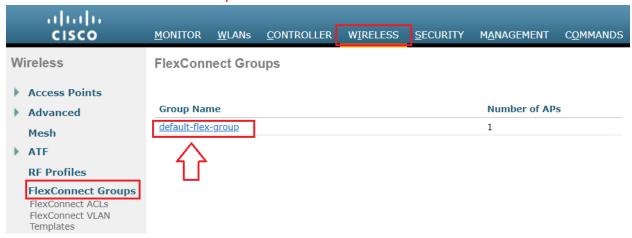
Create a new ACL if you'd like to place any restrictions on your guest network such as blocking access to any of your private IP or internal Network space.



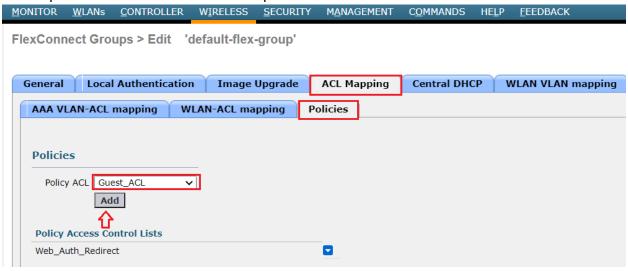
Finally, we ACLs are configured Guest_ACL and Web_Auth_Redirect ACL.



Go to Wireless>FlexConnect Groups click to edit.



Go to ACL Mapping>Policies in Policy ACL from drop down choose Web_Auth_Redirect ACL click Add to push the ACL to WLC and Access points.

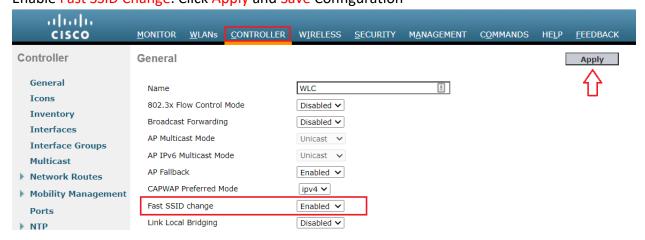


Let's verify the ACLs has been pushed to Access Point (AP).

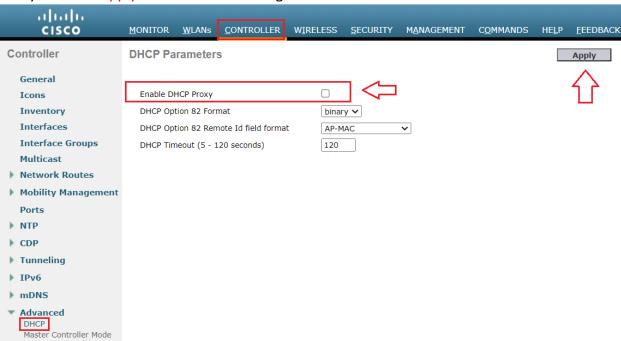
```
AP#show access-lists
Extended IP access list Web_Auth_Redirect

1 permit udp any range 0 65535 any eq domain
2 permit udp any eq domain any range 0 65535
3 permit udp any eq bootpc any eq bootps
4 permit udp any eq bootps any eq bootpc
5 permit ip any host 192.168.100.210
6 permit ip host 192.168.100.210 any
7 deny ip any any
AP#
```

Enabling Enable fast-SSID-change feature allows wireless clients to transition from Open SSID to Secured SSID without delay. Access the WLC GUI and navigate to Controller > General Enable Fast SSID Change. Click Apply and Save Configuration



Next navigate to Controller>Advanced>DHCP in DHCP Parameters unchecked Enable DHCP Proxy and click Apply button to save setting.

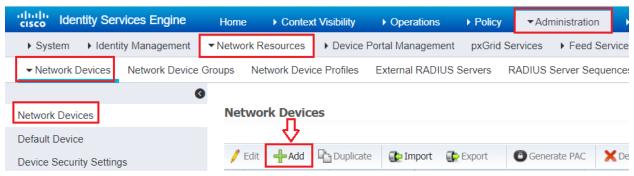


Add WLC Network Device:

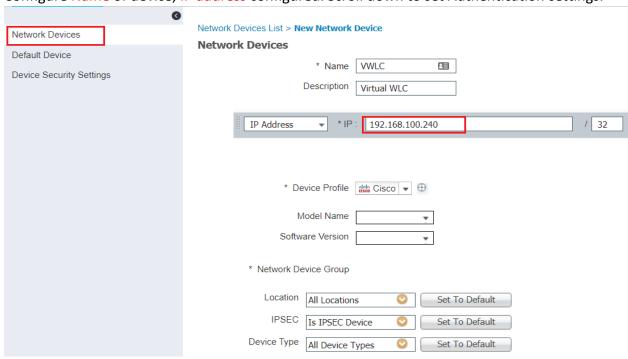
Next we will log into ISE and configure the WLC as a network device. Go to Administration > Network Resources > Network Devices to add the Device (vWLC).



Click on Add button to add Network Device like Cisco Wireless LAN Controller.

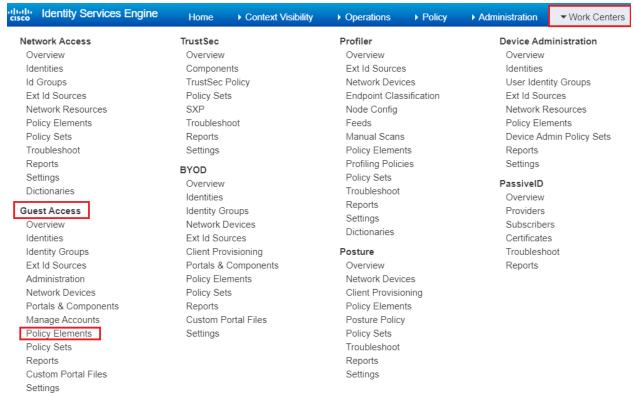


Configure Name of device, IP address configured. Scroll down to set Authentication settings.



Configure ISE Policies:

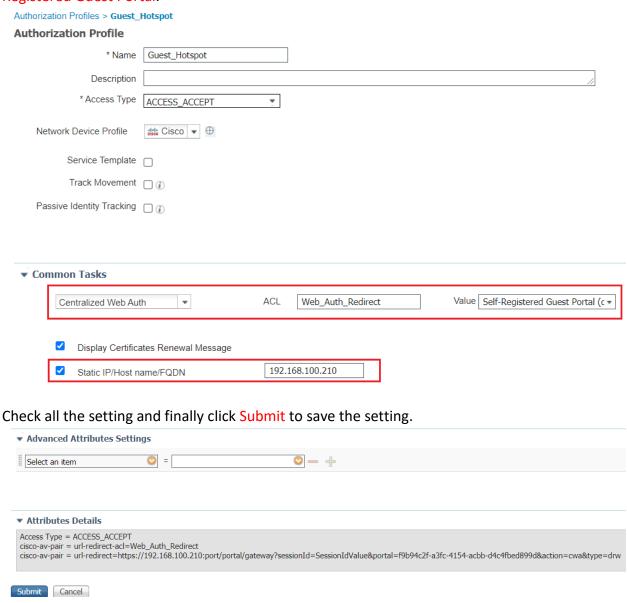
Our policy goals are redirect users who connect to the Guest network to a web portal. Once AUP has been accepted they will get new policy applied to them restricting their access to internet only via ACL we created earlier. Go to Work Centers>Guest Access>Policy Elements.



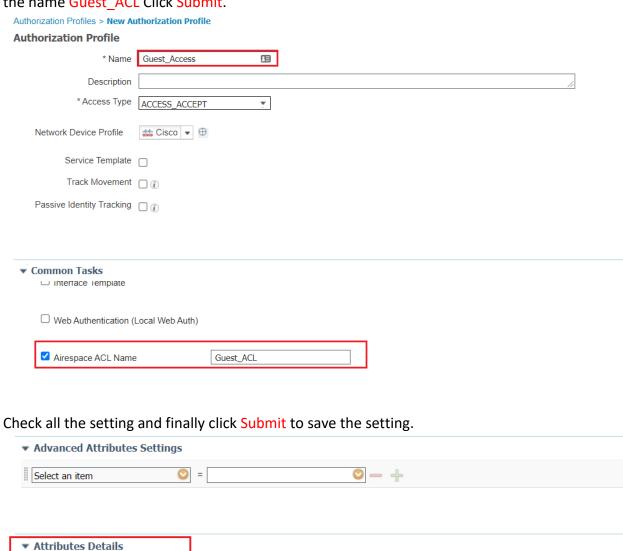
Click Results and go to Authorization Profiles. Click Add to create a new profile. Give the policy a descriptive name and description.



Scroll down to the Common Tasks and check Web Redirection. Select Centralized Web Auth from the drop down. Enter Web_Auth_Redirect as the ACL and the value will be the Self-Registered Guest Portal.



Click Add again, enter a new name and description. This policy will apply the guest restriction ACL we created on the WLC. Scroll down into the Common Tasks and find Airespace ACL, enter the name Guest ACL Click Submit.

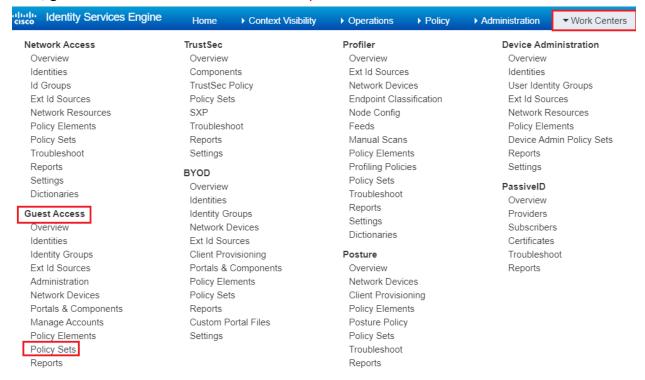


Access Type = ACCESS_ACCEPT Airespace-ACL-Name = Guest_ACL

Reset

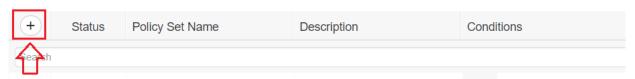
Create Policy Set:

Now, go to Work Centers>Guest Access>Policy Sets.

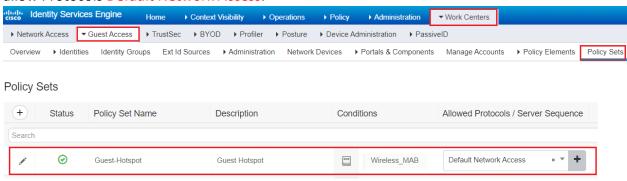


In order to create a Policy Set from ISE GUI, click on plus (+) icon on the upper-left corner.

Policy Sets

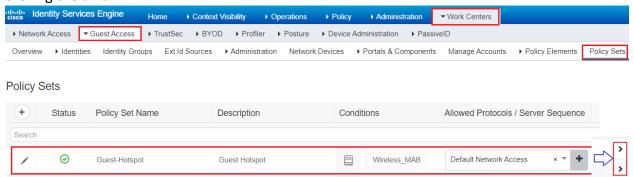


Enter a new policy Set name and description. Choose the Conditions Wireless_MAB and set allow Protocols Default Network Access.

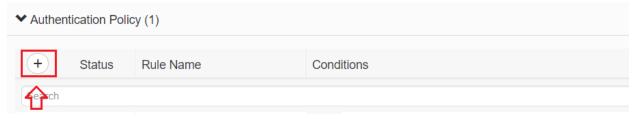


Authentication Policy:

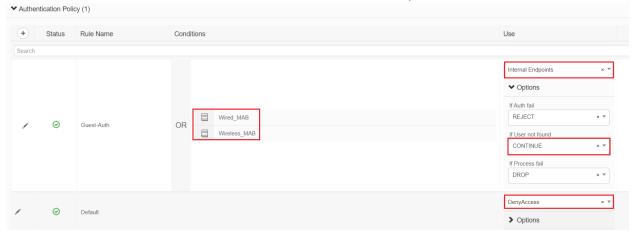
Expand the policy set by clicking the arrow on the right. Expand the Authentication Policy be clicking the arrow.



Create new Authentication policy click by plus circle name rule.



Set the condition Wireless_MAB and Database Internal Endpoints. Be sure the option for "If User not found" is set to Continue. Set the default rule to DenyAccess.

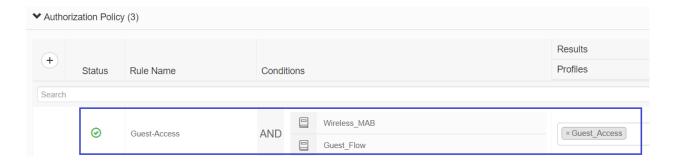


Authorization Policy:

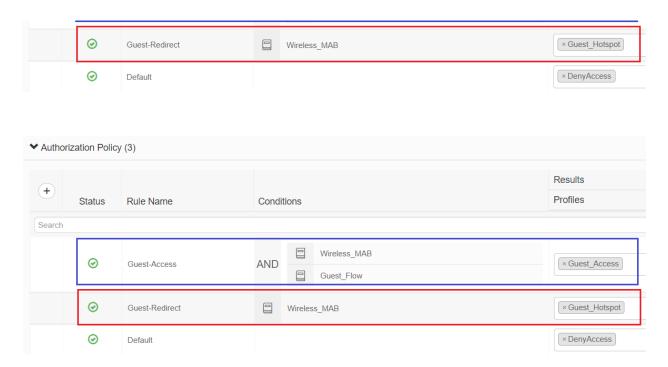
Next we'll create our new Authorization Polices for the Guest network. Expand Authorization Policy.



Add a new profile above the one we created. This will be for applying the Guest ACL for the user once going through the portal. Conditions will be Wireless_MAB, and Guest_Flow. Result will be the Guest_Access policy we created which applies the ACL we created on the WLC.

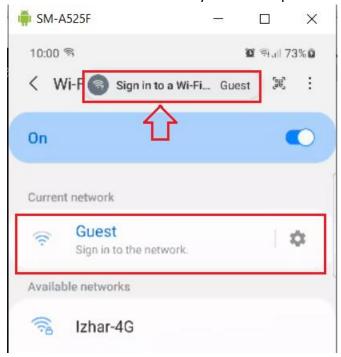


Enter a name for the policy. Select Wireless_MAB as the condition, and Guest_Hotspot as the Profile.

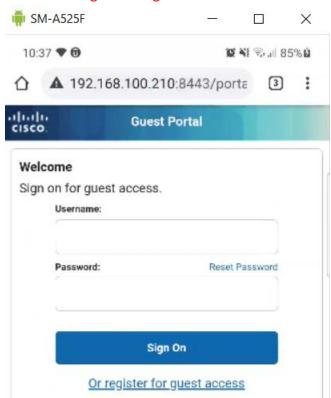


Testing and Verification:

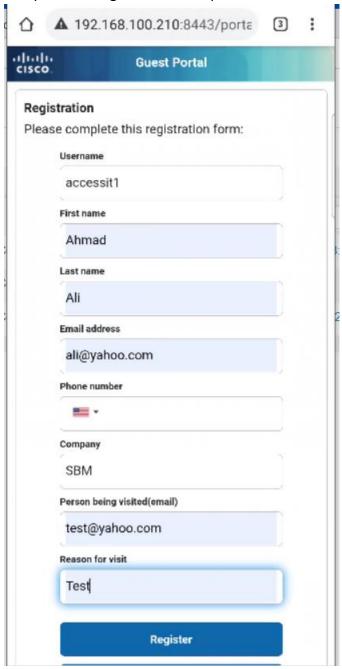
Connect to Guest Network in your mobile phone it will redirect to Self-Registered Guest Portal.



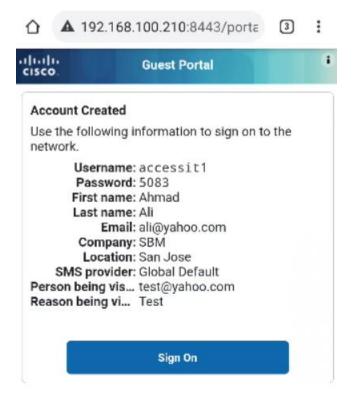
Click on or register for guest access



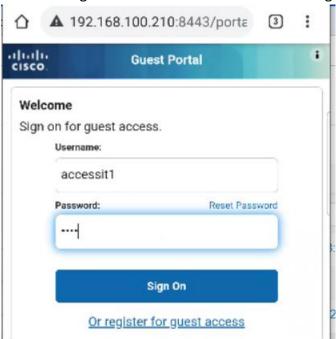
Complete the registration form provide the information and click Register.



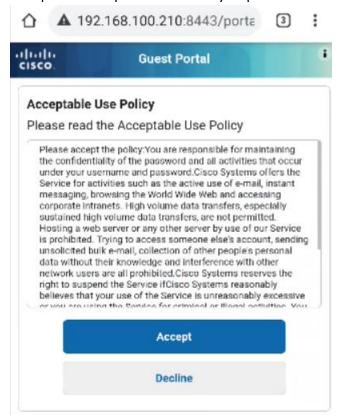
Guest Portal Account is created and will show Username and Password.



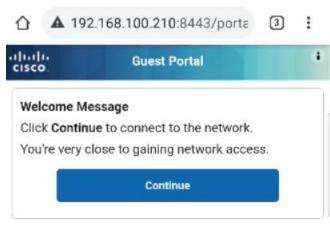
Provide the given Username and Password click Sign On to login.



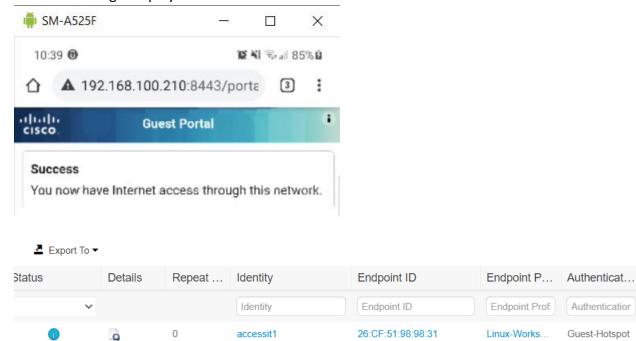
Accept the Acceptable Use Policy to proceed.



Welcome Message Display click Continue.



Success Message Display now can browse the Internet.



accessit1

accessit1

O

o



26:CF:51:98:98:31

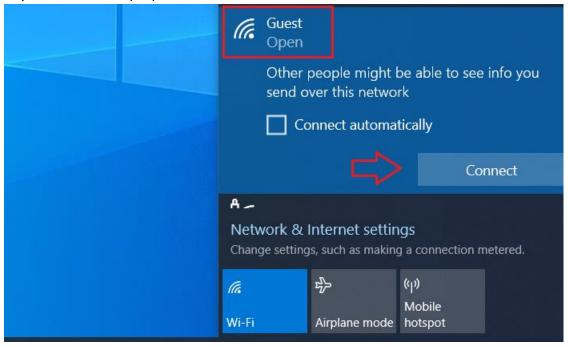
26:CF:51:98:98:31

26:CF:51:98:98:31

Android

Guest-Hotspot

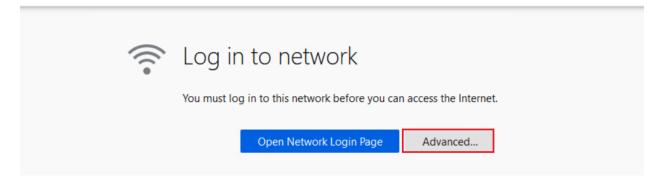
In your windows Laptop connect to Guest SSID.

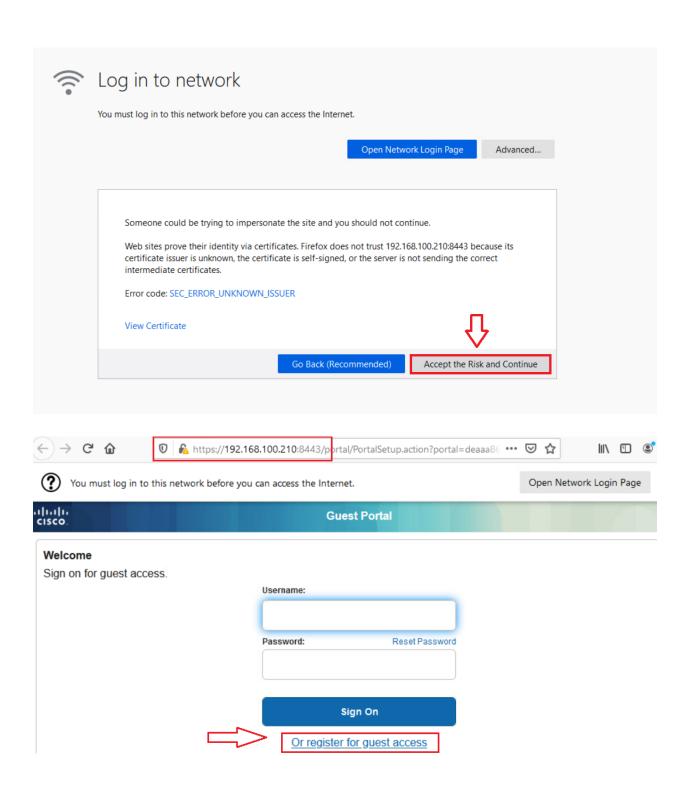


Click on Advanced button.

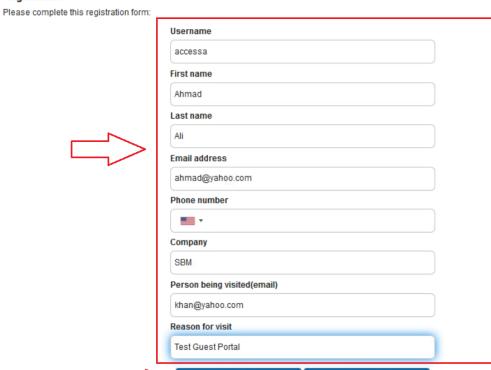


rk before you can access the Internet.

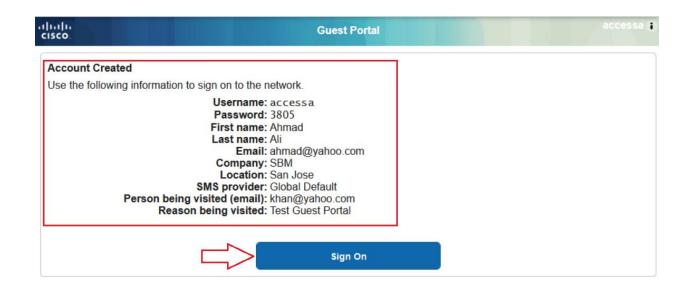




Registration



Register



Cancel

