

## PROJET PERSONNALISE ENCADRE N°3

NOM PRENOM

FILSKOV NIELS

N° CANDIDAT

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PARCOURS

SISR

## INTITULE DE LA MISSION

EPREUVE



Epreuve ponctuelle



Contrôle en cours de formation

MODALITES DE  
REALISATION

En Individuel



En groupe

PERIODE

Semestre 3

DUREE ESTIMEE

20 heures

CONTEXTE  
GENERAL

CONTEXTE BASE SUR LE CONTEXTE GENERAL DE LA :

M2L

MAISON DES LIGUES DE LORRAINE

DESCRIPTION DE  
LA MISSION

-

DESCRIPTION DES  
BESOINS

-

RESULTATS  
ATTENDU

Dans le cadre de la mise en place d'un réseau Wifi à la M2L sur borne Cisco WAP321, il vous est demandé de :

Prévoir **un premier réseau wifi** - SSID M2L - réservé au staff de la M2L pour lequel une **sécurité par clé** et un **filtrage par adresse Mac** autorisée seront prévus

Prévoir **un second réseau wifi** - SSID INVITE - réservé aux visiteurs de la M2L. Pour ce réseau, il conviendra de :

- Mettre en place un **portail captif** d'authentification.
- Que les invités reçoivent dynamiquement leur configuration IP par le **service DHCP**.
- Qu'une **redirection automatique** soit opérée vers le site Web de la M2L.

La présence de plusieurs points d'accès nécessitera **une mise en cluster des bornes**.

RESSOURCES  
MOBILISEES

- 2 Bornes Cisco WAP321

- 1 poste client

- Commutateur Cisco 3560-C séries

- Serveur Windows 2008 R2 avec rôle DHCP

PRINCIPAUX  
SAVOIR-FAIRE  
MOBILISES

A1.3.4 Déploiement d'un service

A3.1.3 Prise en compte du niveau de sécurité nécessaire à une infrastructure

A3.2.1 Installation et configuration d'éléments d'infrastructure

A3.3.1 Administration sur site ou à distance des éléments d'un réseau, de serveurs, ...

A3.3.3 Gestion des identités et des habilitations

PRODUCTION  
ASSOCIEES

1 rapport d'activité (au verso)

9 annexes techniques

MODALITES  
D'ACCES AUX  
PRODUCTIONS EN  
LIGNE
<https://nielsfilskov.github.io/>

# ELABORATION DE LA SOLUTION


## RAPPORT D'ACTIVITE EN 3 ETAPES

ETAPE 1		PARCOURS DES OPTIONS BORNE	
OBJECTIF(S)	- Compréhension des options possibles de la borne		
RESSOURCE(S) MOBILISEE(S)	- Borne Cisco WAP321 - Poste client Windows 7 pro - Commutateurs Catalyst Cisco		
CHRONOLOGIE DE REALISATION	- Connexion sur la borne par interface web - Visualisation des options de la borne	ANNEXE (S)	
ETAPE 2		CONFIGURATION DES POINTS D'ACCÈS	
OBJECTIF(S)	- Configuration des points d'accès « M2L » et « INVITES »		
RESSOURCE(S) MOBILISEE(S)	- Point d'accès Cisco WAP321 - Commutateurs Catalyst Cisco		
CHRONOLOGIE DE REALISATION	- <b>Configuration SSID M2L :</b> Sécurisation par clé. Filtrage par adresse Mac - <b>Configuration SSID INVITE :</b> <ul style="list-style-type: none"><li>· Mettre en place un portail captif d'authentification</li><li>· Que les invités reçoivent dynamiquement leur configuration IP par le service DHCP</li><li>· Qu'une redirection automatique soit opérée vers le site Web de la M2L</li></ul>	ANNEXE (S)	Annexe 1 Annexe 2 Annexe 3 Annexe 4 Annexe 5 Annexe 6 Annexe 7 Annexe 8
ETAPE 3		CONFIGURATION DU CLUSTER DES BORNES	
OBJECTIF(S)	- Connexion d'une seconde borne en relais sur une première borne		
RESSOURCE(S) MOBILISEE(S)	- 2 Bornes Cisco WAP321 - Commutateurs Catalyst Cisco		
CHRONOLOGIE DE REALISATION	- Donner un nom de cluster sur une borne - Donner le même nom de cluster sur la deuxième borne	ANNEXE (S)	Annexe 9

Getting Started  
Run Setup Wizard  
► Status and Statistics  
► Administration  
► LAN  
▼ Wireless

Radio  
Rogue AP Detection  
**Networks**  
Scheduler  
Scheduler Association  
Bandwidth Utilization  
MAC Filtering  
WDS Bridge  
WorkGroup Bridge  
QoS  
WPS Setup  
WPS Process  
► System Security  
► Client QoS  
► SNMP  
► Captive Portal  
► Single Point Setup

## Networks

 The wireless radio is currently disabled. Your wireless networks will not function until the wireless radio has been enabled.

Virtual Access Points (SSIDs)								
	VAP No.	Enable	VLAN ID	SSID Name	SSID Broadcast	Security	MAC Filter	Channel Isolation
<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	1	ciscosb	<input checked="" type="checkbox"/>	None	Disabled	<input type="checkbox"/>


Add Edit Delete


Save

Getting Started  
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Radio  
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## Networks

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Virtual Access Points (SSIDs)								
	VAP No.	Enable	VLAN ID	SSID Name	SSID Broadcast	Security	MAC Filter	Channel Isolation
<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>	10	M2L_STAFF_1	<input checked="" type="checkbox"/>	WPA Personal	Local	<input type="checkbox"/>
<a href="#">Hide Details</a>								
						WPA Versions: <input checked="" type="checkbox"/> WPA <input checked="" type="checkbox"/> WPA2 Cipher Suites: <input checked="" type="checkbox"/> TKIP <input checked="" type="checkbox"/> CCMP (AES) Key: <input type="text" value="....."/> (Range: 8-63 Characters) Key Strength Meter:  Weak Broadcast Key Refresh Rate: <input type="text" value="300"/> (Range: 0-86400)		
<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	99	M2L_INVITES_1	<input checked="" type="checkbox"/>	None	Disabled	<input type="checkbox"/>

Add Edit Delete

Save

Getting Started  
Run Setup Wizard  
▶ Status and Statistics  
▶ Administration  
▶ LAN  
▶ Wireless  
▶ System Security  
▶ Client QoS  
▶ SNMP  
▼ **Captive Portal**  
    Local Groups  
    Local Users  
    Instance Configuration  
    Instance Association  
    Web Portal Customization  
    Global Configuration  
    Authenticated Clients  
    Failed Authentication Clients  
▶ Single Point Setup

## Local Groups

Captive Portal Groups:  ▼

---

### Captive Portal Group Parameters

Group Name:  (Range: 1 - 32 Characters)

Getting Started  
Run Setup Wizard  
▶ Status and Statistics  
▶ Administration  
▶ LAN  
▶ Wireless  
▶ System Security  
▶ Client QoS  
▶ SNMP  
▼ **Captive Portal**  
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    Instance Configuration  
    Instance Association  
    Web Portal Customization  
    Global Configuration  
    Authenticated Clients  
    Failed Authentication Clients  
▶ Single Point Setup

## Local Users

Captive Portal Users:  ▼

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### Captive Portal User Parameters

User Name:  (Range: 1 - 32 Characters)

Getting Started  
Run Setup Wizard  
▶ Status and Statistics  
▶ Administration  
▶ LAN  
▶ Wireless  
▶ System Security  
▶ Client QoS  
▶ SNMP  
▼ **Captive Portal**  
Local Groups  
**Local Users**  
Instance Configuration  
Instance Association  
Web Portal Customization  
Global Configuration  
Authenticated Clients  
Failed Authentication Client  
▶ Single Point Setup

## Local Users

Captive Portal Users:

### Captive Portal User Parameters

User Password:  (Range: 8 - 64 Alphanumeric & Special Characters)  
☒ Show Password as Clear Text

Away Timeout:  (Range: 0 - 1440 Min, Default: 60)

Group Name:

Maximum Bandwidth Upstream:  (Range: 0 - 300 Mbps, Default: 0)

Maximum Bandwidth Downstream:  (Range: 0 - 300 Mbps, Default: 0)

Delete User: ☐

Getting Started  
Run Setup Wizard  
▶ Status and Statistics  
▶ Administration  
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▶ Wireless  
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▶ SNMP  
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Local Groups  
Local Users  
**Instance Configuration**  
Instance Association  
Web Portal Customization  
Global Configuration  
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Failed Authentication Client  
▶ Single Point Setup

## Instance Configuration

Captive Portal Instances:

### Captive Portal Instance Parameters

Instance Name:  (Range: 1 - 32 Characters)

Getting Started	Captive Portal Instances: <span>M2L_2016</span>
Run Setup Wizard	
▶ Status and Statistics	
▶ Administration	
▶ LAN	
▶ Wireless	
▶ System Security	
▶ Client QoS	
▶ SNMP	
▼ <b>Captive Portal</b>	
Local Groups	
Local Users	
<b>Instance Configuration</b>	
Instance Association	
Web Portal Customization	
Global Configuration	
Authenticated Clients	
Failed Authentication Client	
▶ Single Point Setup	

<b>Captive Portal Instance Parameters</b>	
Instance ID:	1
Administrative Mode:	<input checked="" type="checkbox"/> Enable
Protocol:	<span>HTTP</span>
Verification:	<span>Guest</span>
Redirect:	<input checked="" type="checkbox"/> Enable
Redirect URL:	<span>http://www.google.fr</span> (Range: 0 - 256 Characters)
Away Timeout:	<span>60</span> (Range: 0 - 1440 Min, Default: 60)
Session Timeout:	<span>0</span> (Range: 0 - 1440 Min, Default: 0)
Maximum Bandwidth Upstream:	<span>0</span> (Range: 0 - 300 Mbps, Default: 0)
Maximum Bandwidth Downstream:	<span>0</span> (Range: 0 - 300 Mbps, Default: 0)
User Group Name:	<span>M2L_INVITES</span>

Getting Started	<h2>Instance Association</h2> <table border="1"> <tr> <th colspan="2">Instance Association</th> </tr> <tr> <th>Network Interface</th> <th>Instance Name</th> </tr> <tr> <td>VAP 0 (M2L_STAFF_1)</td> <td><span></span></td> </tr> <tr> <td>VAP 1 (M2L_INVITES_1)</td> <td><span>M2L_2016</span></td> </tr> <tr> <td>VAP 2 (Virtual Access Point 3)</td> <td><span></span></td> </tr> <tr> <td>VAP 3 (Virtual Access Point 4)</td> <td><span></span></td> </tr> <tr> <td>VAP 4 (Virtual Access Point 5)</td> <td><span></span></td> </tr> <tr> <td>VAP 5 (Virtual Access Point 6)</td> <td><span></span></td> </tr> <tr> <td>VAP 6 (Virtual Access Point 7)</td> <td><span></span></td> </tr> <tr> <td>VAP 7 (Virtual Access Point 8)</td> <td><span></span></td> </tr> </table> <div>Save</div>	Instance Association		Network Interface	Instance Name	VAP 0 (M2L_STAFF_1)	<span></span>	VAP 1 (M2L_INVITES_1)	<span>M2L_2016</span>	VAP 2 (Virtual Access Point 3)	<span></span>	VAP 3 (Virtual Access Point 4)	<span></span>	VAP 4 (Virtual Access Point 5)	<span></span>	VAP 5 (Virtual Access Point 6)	<span></span>	VAP 6 (Virtual Access Point 7)	<span></span>	VAP 7 (Virtual Access Point 8)	<span></span>
Instance Association																					
Network Interface		Instance Name																			
VAP 0 (M2L_STAFF_1)		<span></span>																			
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```
interface Vlan1
 ip address 172.16.3.254 255.255.252.0
!
interface Vlan10
 ip address 172.16.7.254 255.255.252.0
 ip helper-address 172.16.12.1
!
interface Vlan20
 ip address 172.16.11.254 255.255.252.0
!
interface Vlan30
 ip address 172.16.15.254 255.255.252.0
!
interface Vlan99
 ip address 172.16.19.254 255.255.252.0
 ip helper-address 172.16.12.1
!
interface Vlan110
 ip address 172.16.21.254 255.255.254.0
!
interface Vlan111
 ip address 172.16.23.254 255.255.254.0
 ip helper-address 172.16.12.1
```

## Annexe 9 : Cluster

The screenshot shows the Cisco WAP321 configuration interface. The left sidebar contains a navigation menu with options like 'Getting Started', 'Run Setup Wizard', 'Status and Statistics', 'Administration', 'LAN', 'Wireless', 'System Security', 'Client QoS', 'SNMP', 'Captive Portal', 'Single Point Setup', 'Access Points', 'Sessions', 'Channel Management', and 'Wireless Neighborhood'. The 'Access Points' section is currently selected.

The main content area is titled 'Access Points' and includes the following information:

- Single Point Setup allows WAP321-E-K9 access points to propagate settings.
- Single Point Setup: **Enabled**
- Access Points detected in Cluster: cluster-bul

Location	MAC Address	IP Address
No Default	04:62:73:36:A3:30	172.16.36.246
No Default	D8:67:D9:C4:9A:60	172.16.36.245

To change your clustering options, click 'Disable Single Point Setup'.

Enter the location of this AP.  
Location:  (Range: 1-64 Characters)

Enter the name of the cluster for this AP to join.  
Cluster Name:  (Range: 1-64 Characters)

Clustering IP Version: ☐ IPv6 ☒ IPv4

On the right side, there are two buttons: 'Clustered' (with a cluster icon) and '2 Access Points' (with a group of people icon).

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