

**Computer Networks**

**Company Name:**

***“****Futurenostics****”***

**Project Submission Report**

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Table of Contents

[1. Connectivity Testing 3](#_Toc218372212)

[Intra-VLAN Connectivity Tests (Layer 2 Switching): 3](#_Toc218372213)

[Inter-VLAN Connectivity Tests (Router Forwarding): 4](#_Toc218372214)

[VLAN and Inter VLAN testing via PDU: 7](#_Toc218372215)

[Cross-Branch Connectivity Tests ( OSPF, ACL): 7](#_Toc218372216)

[OSPF testing: 8](#_Toc218372217)

[HSRP Testing : 8](#_Toc218372218)

[2.Firewall testing : 9](#_Toc218372219)

[Zones: 9](#_Toc218372220)

[NAT: 11](#_Toc218372221)

[telnet timeout and ssh timeout : 11](#_Toc218372222)

[3. IDS/IPS Detection Testing 11](#_Toc218372223)

[Attack : ICMP Flood (Ping Storm) 12](#_Toc218372224)

[Test 1 12](#_Toc218372225)

[Test 2 12](#_Toc218372226)

[Test 3: 12](#_Toc218372227)

[IDS/IPS Summary: 12](#_Toc218372228)

[4. Client Server Connectivity Tests 12](#_Toc218372229)

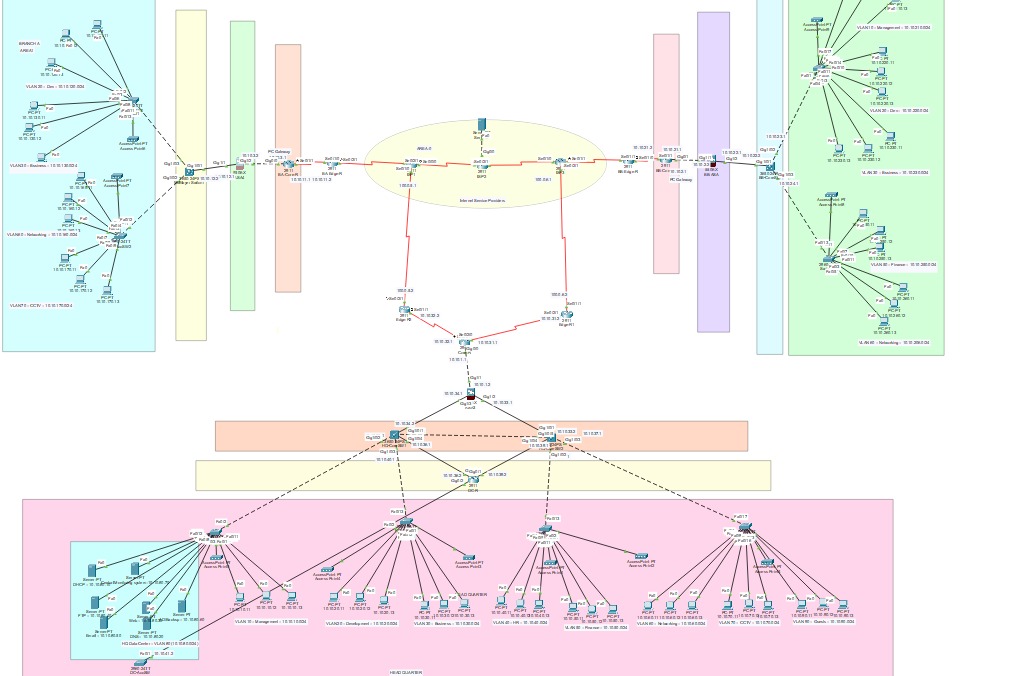
[DHCP: 13](#_Toc218372230)

[DNS: 13](#_Toc218372231)

[WEB: 14](#_Toc218372232)

[FTP: 15](#_Toc218372233)

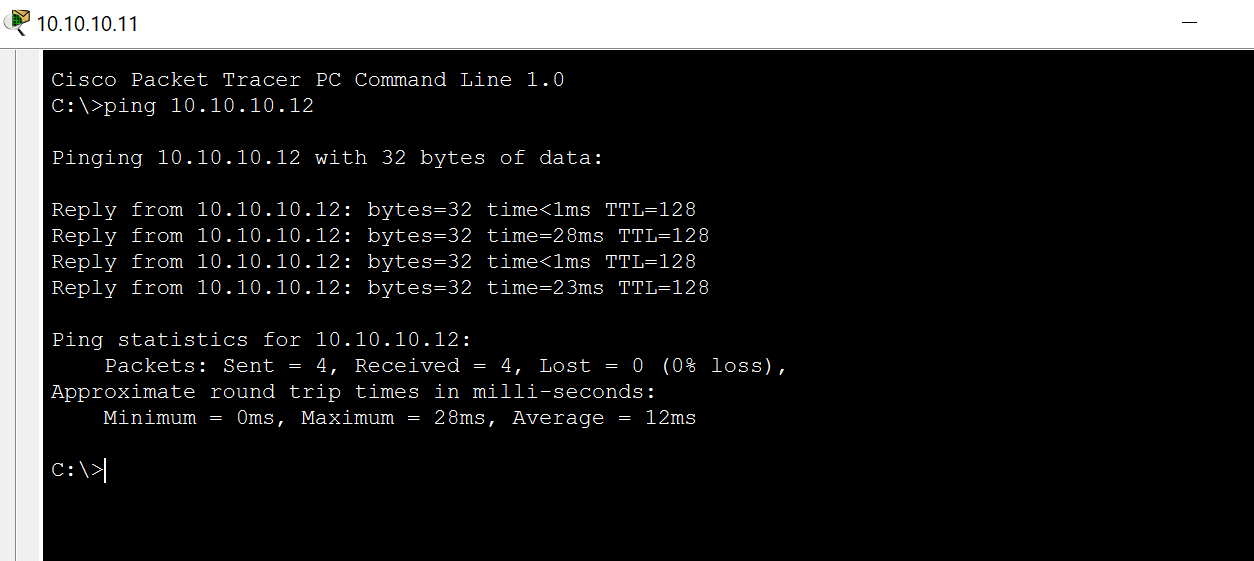
Testing Report :



# 1. Connectivity Testing

## Intra-VLAN Connectivity Tests (Layer 2 Switching):

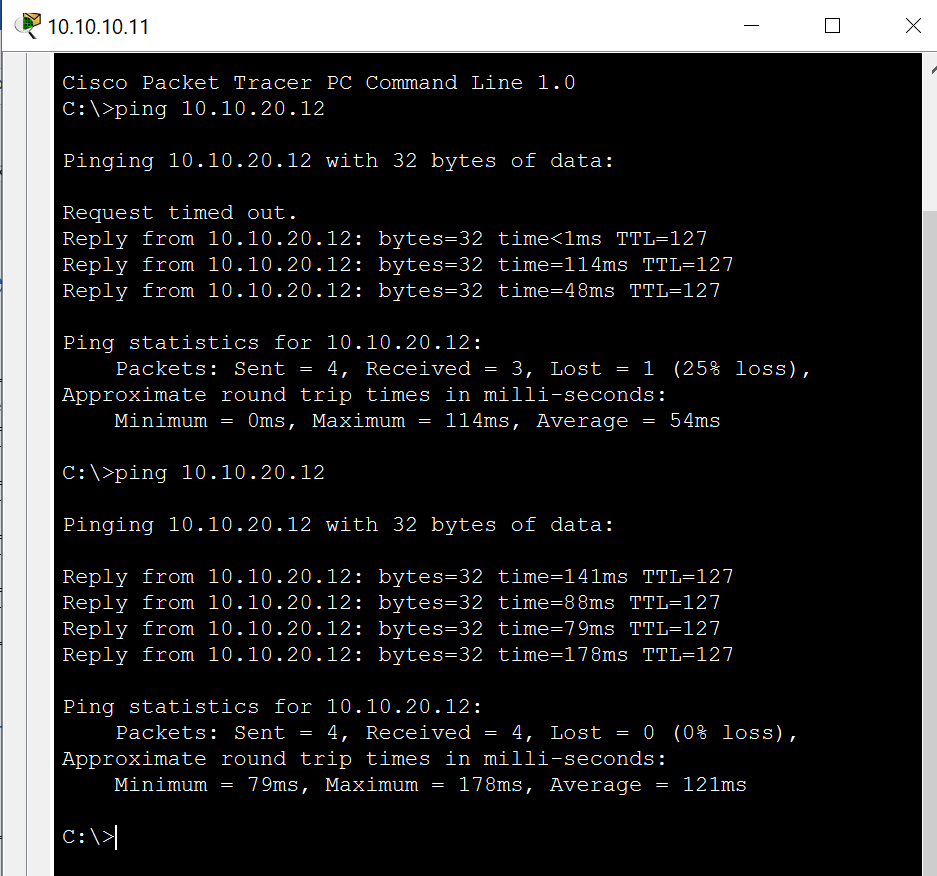
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Source | Destination | Latency | Status |
| VLAN 10 PC to VLAN 10 PC | 10.10.10.11 | 10.10.10.12 | <1ms | ✓ PASS |



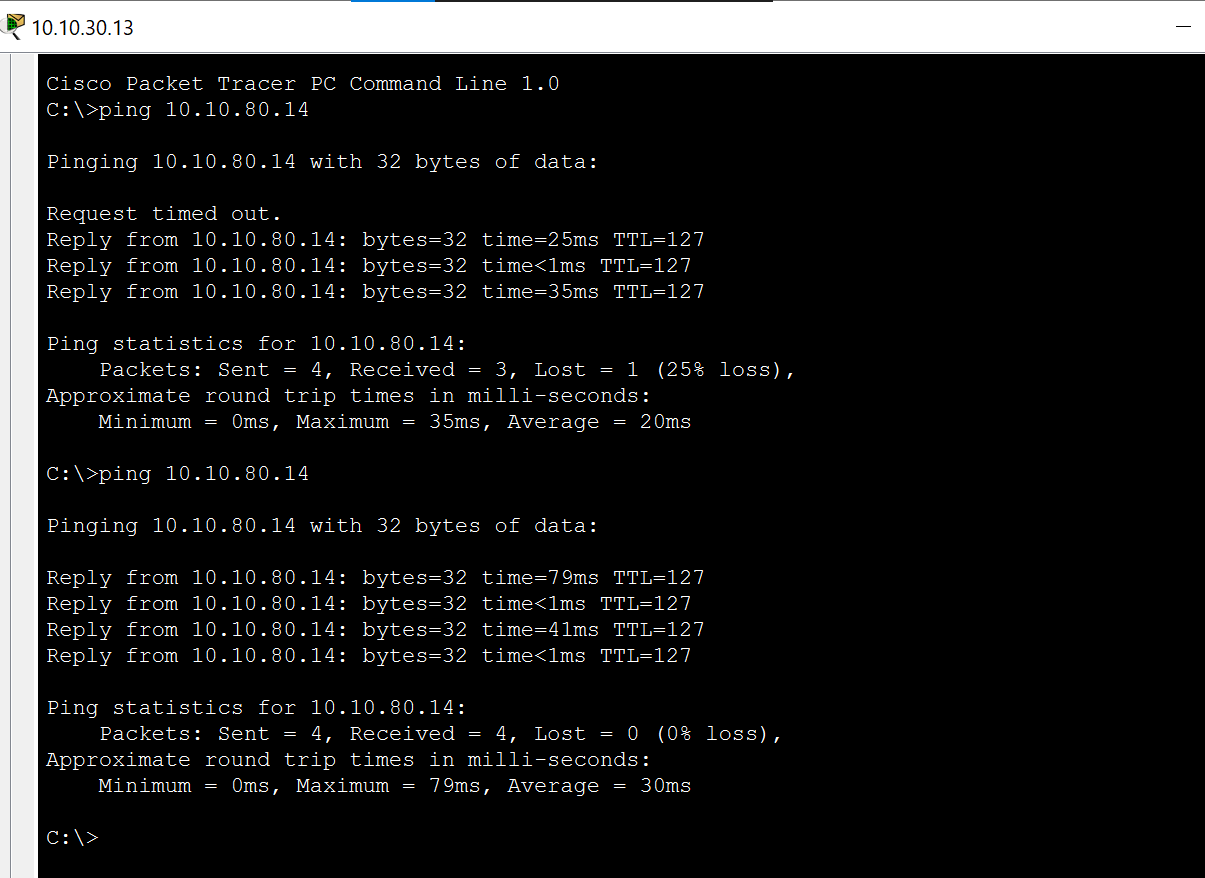
## Inter-VLAN Connectivity Tests (Router Forwarding):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Source VLAN | Destination VLAN | Latency | Status |
| Management to Development | VLAN 10 | VLAN 20 | <1ms | ✓ PASS |
| Business to Servers | VLAN 30 | VLAN 80 | <1ms | ✓ PASS |
| Development to Business | VLAN 20 | VLAN 30 | <1ms | ✓ PASS |
| Management to Servers | VLAN10 | VLAN 80 | <1ms | ✓ PASS |
| Development to Finance | VLAN 20 | VLAN 50 | <1ms | ✓ PASS |

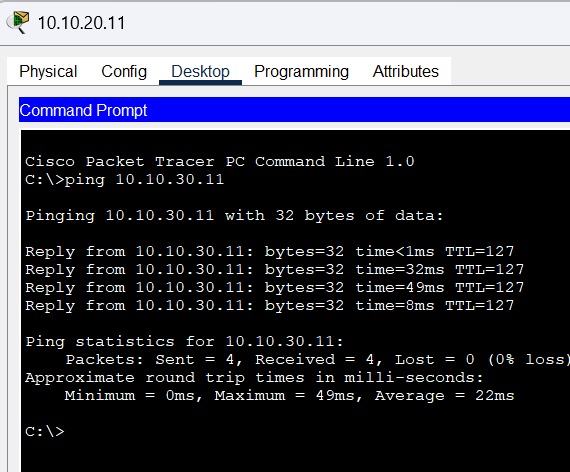
Management to Development:



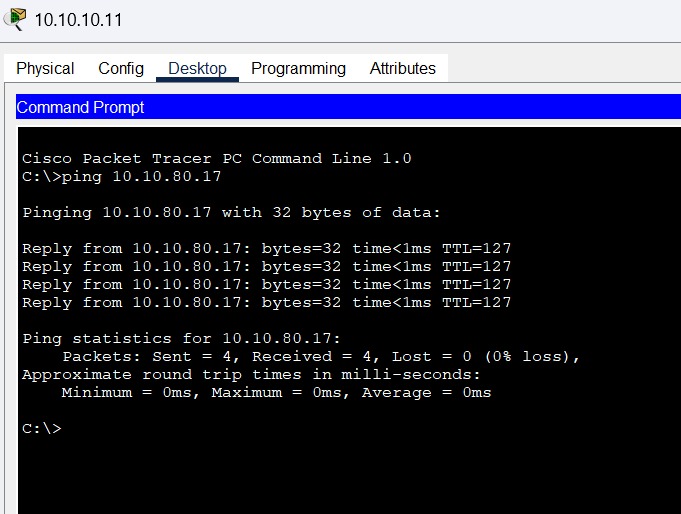
Business to Servers :



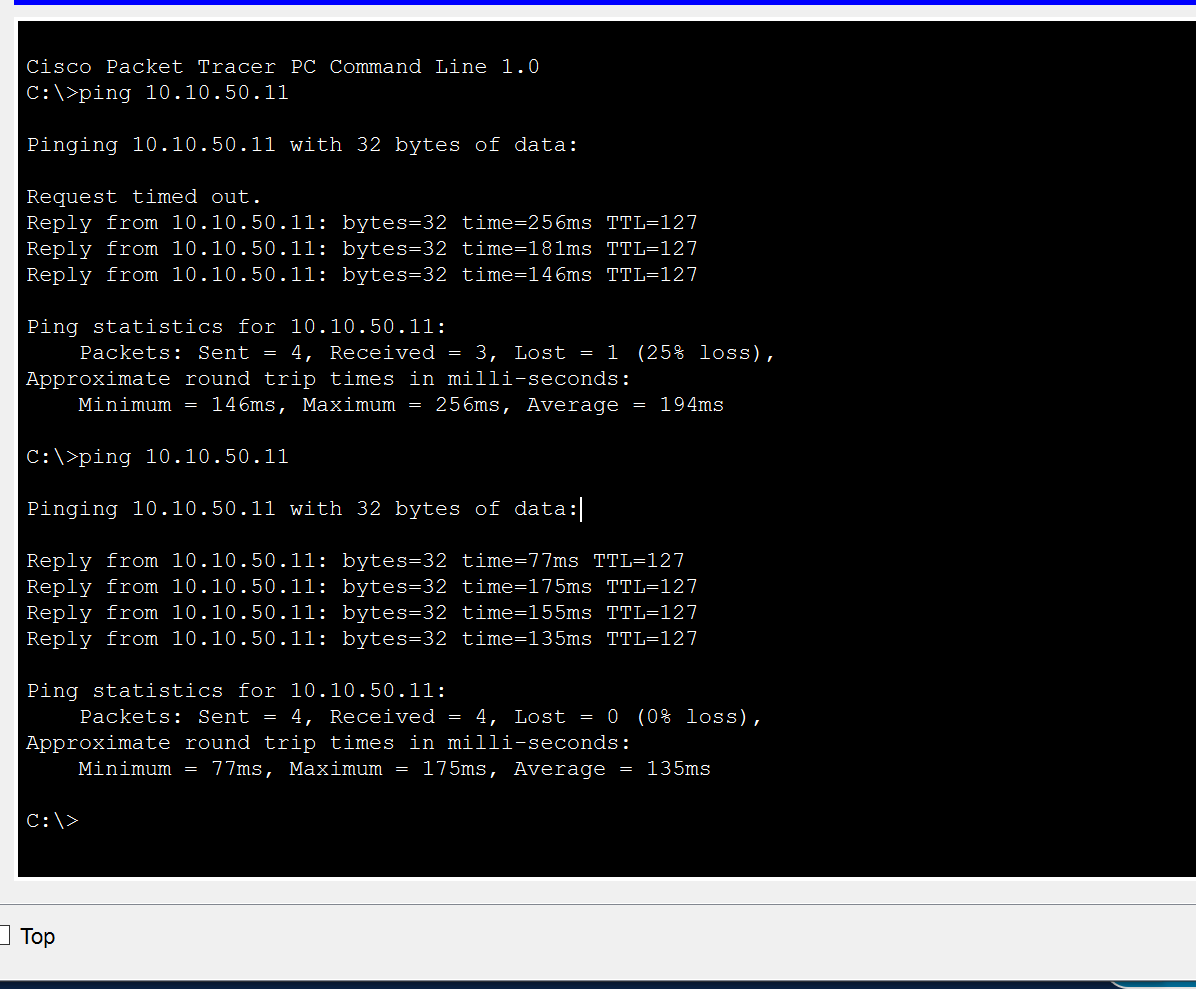
Bussiness to Development :



Management to servers:



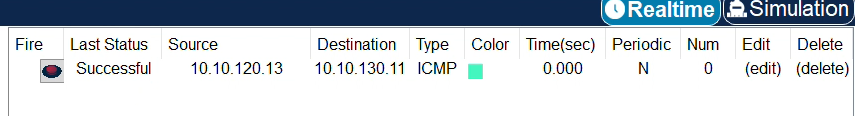
Development to Finance:



S

## VLAN and Inter VLAN testing via PDU:

Deveoplment to Bussiness :

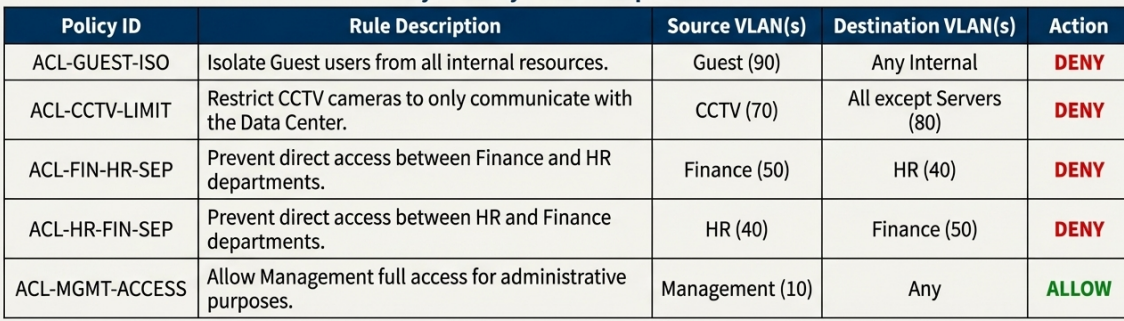


Networking to Bussiness:



## Cross-Branch Connectivity Tests ( OSPF, ACL):

ACL Rules:

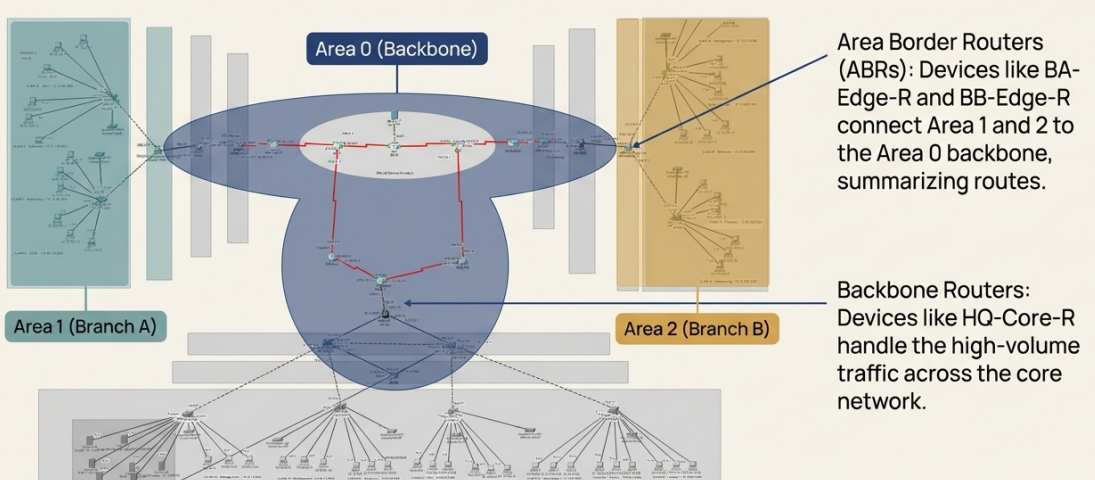


Testing:

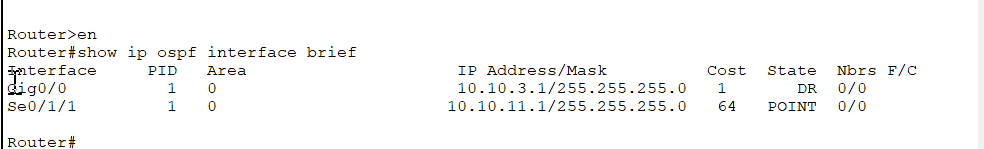
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Path | Source | Destination | Latency | Packet Loss | Status |
| HQ to BA | VLAN 10 (HQ) | VLAN 20 (BA) | <1ms | 2% | ✓ PASS |
| HQ to BB | VLAN 20 (HQ) | VLAN 30 (BB) | ~1ms | 0% | ✓ PASS |
| BA to BB | VLAN 20 (BA) | VLAN 20 (BB) | 2ms | 3% | ✓ PASS |
| BA to HQ Servers | VLAN 30 (BA) | VLAN 80 (HQ) | <1ms | 4% | ✓ PASS |

### OSPF testing:

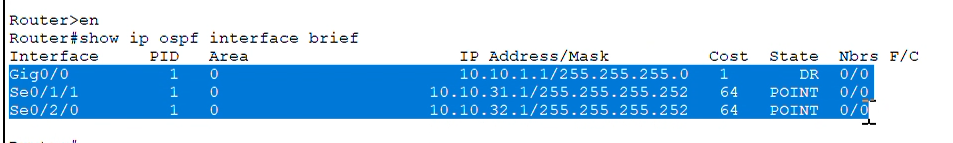
OSPF Areas



Branch B:

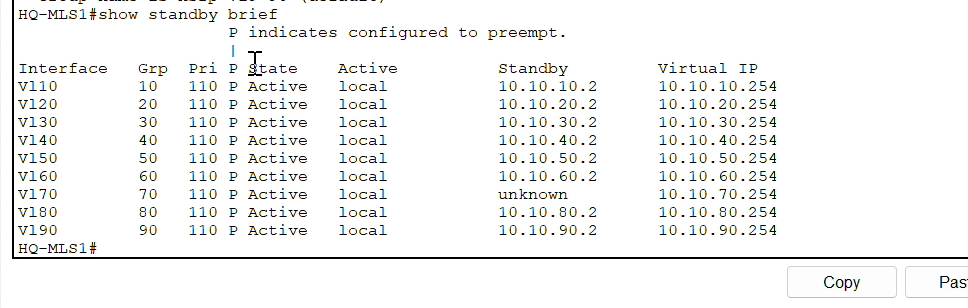


HQ:

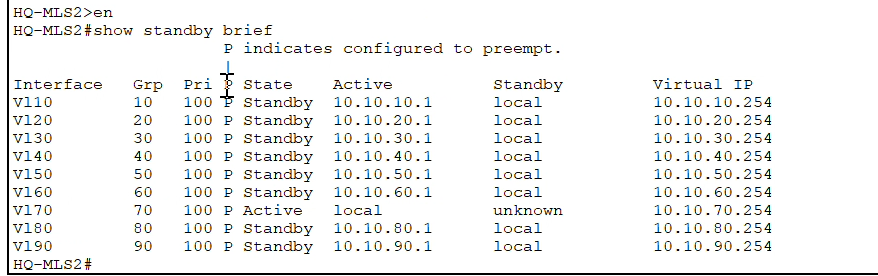


### HSRP Testing :

Head Quarter :

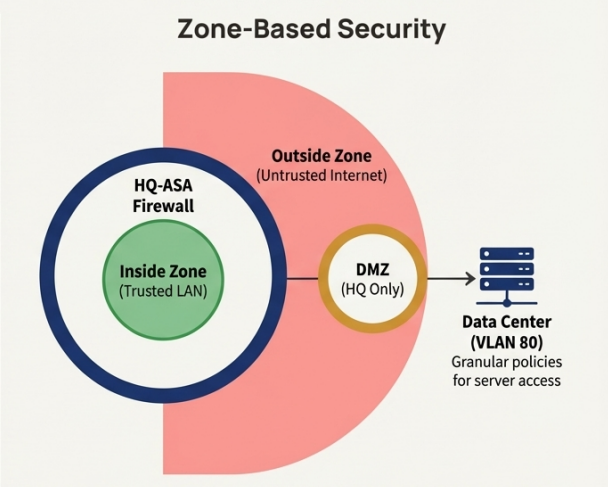
Switch 1: 

Switch 2:

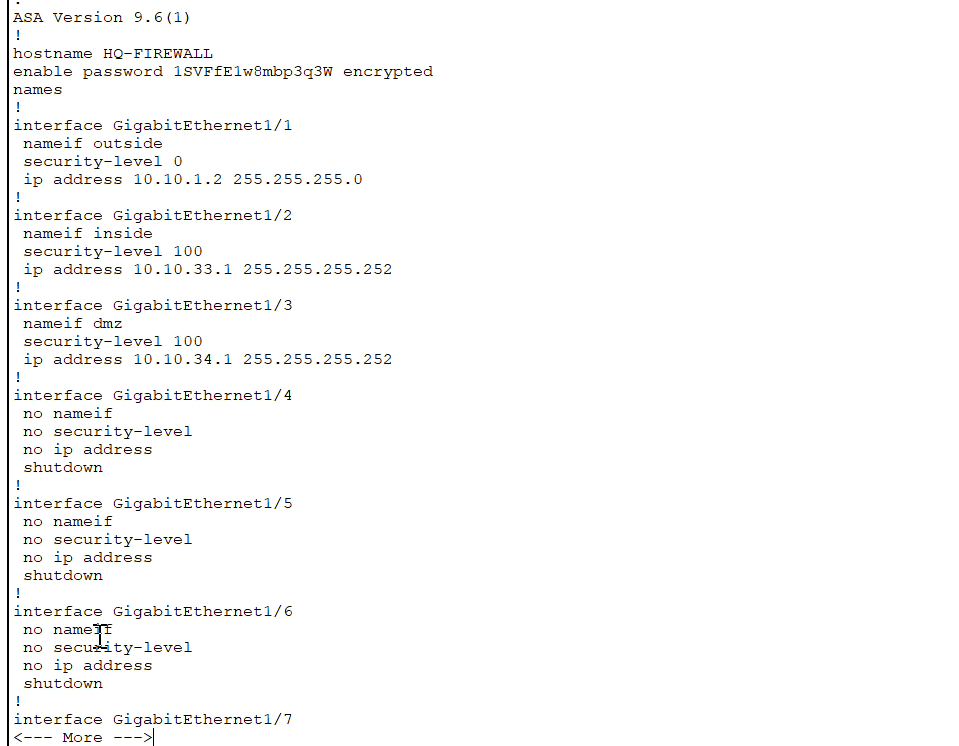
This second one is on stand by: 

# 2.Firewall testing :

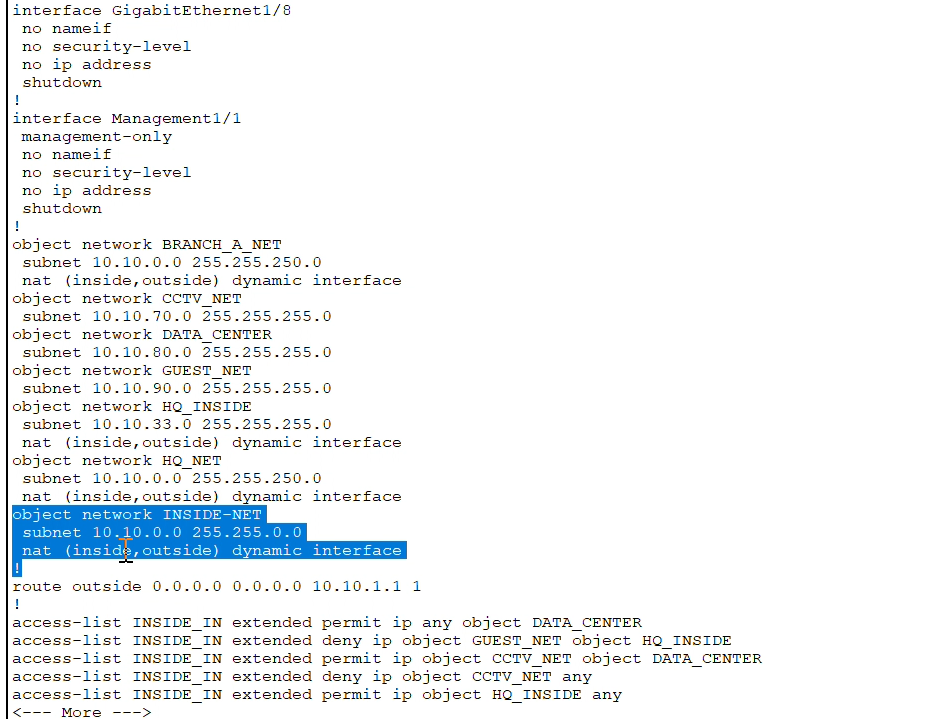
## Zones:



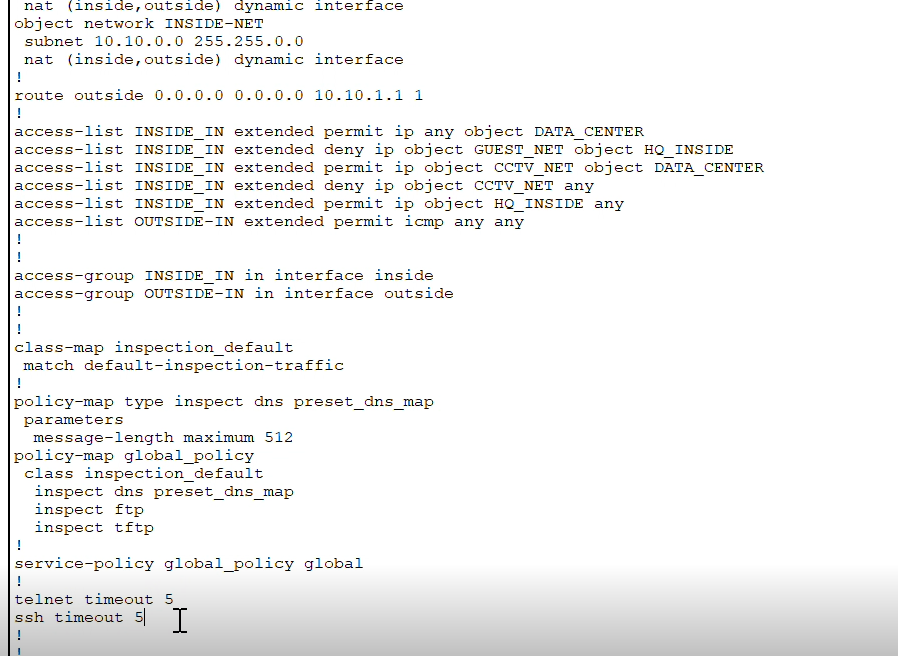
Outside , Inside , DMZ



## NAT:

v

## telnet timeout and ssh timeout :

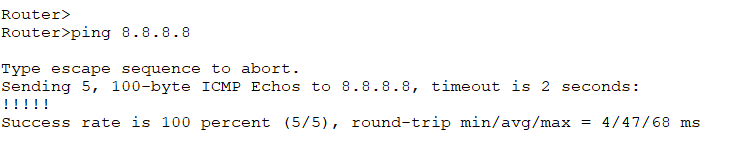


# 3. IDS/IPS Detection Testing

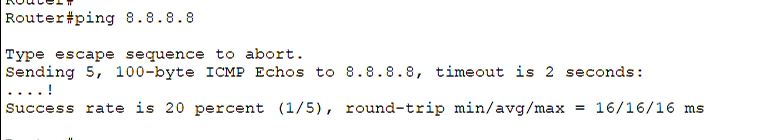
Attack Detection Scenarios Implemented:

## Attack : ICMP Flood (Ping Storm)

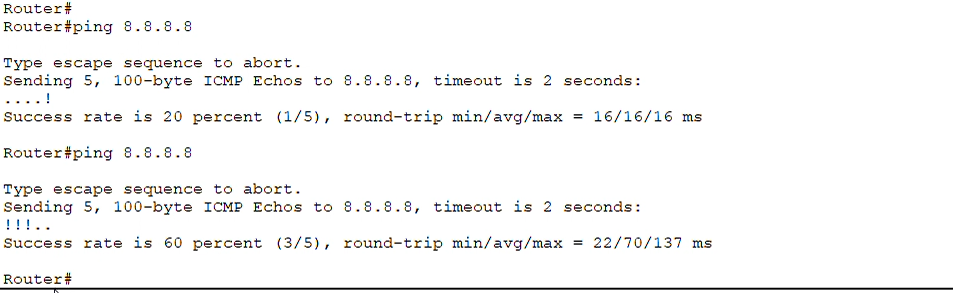
### Test 1

****

### Test 2



### Test 3:



While trying to access internet server via branch routers

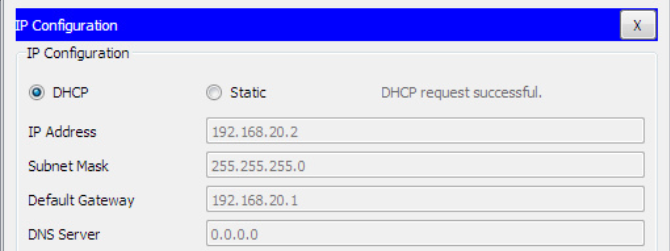
## IDS/IPS Summary:

|  |  |  |  |
| --- | --- | --- | --- |
| Attack Type | Detection Method | Alert Level | Response Action |
| ICMP Flood | Threshold crossing | MEDIUM | Throttle ICMP traffic |

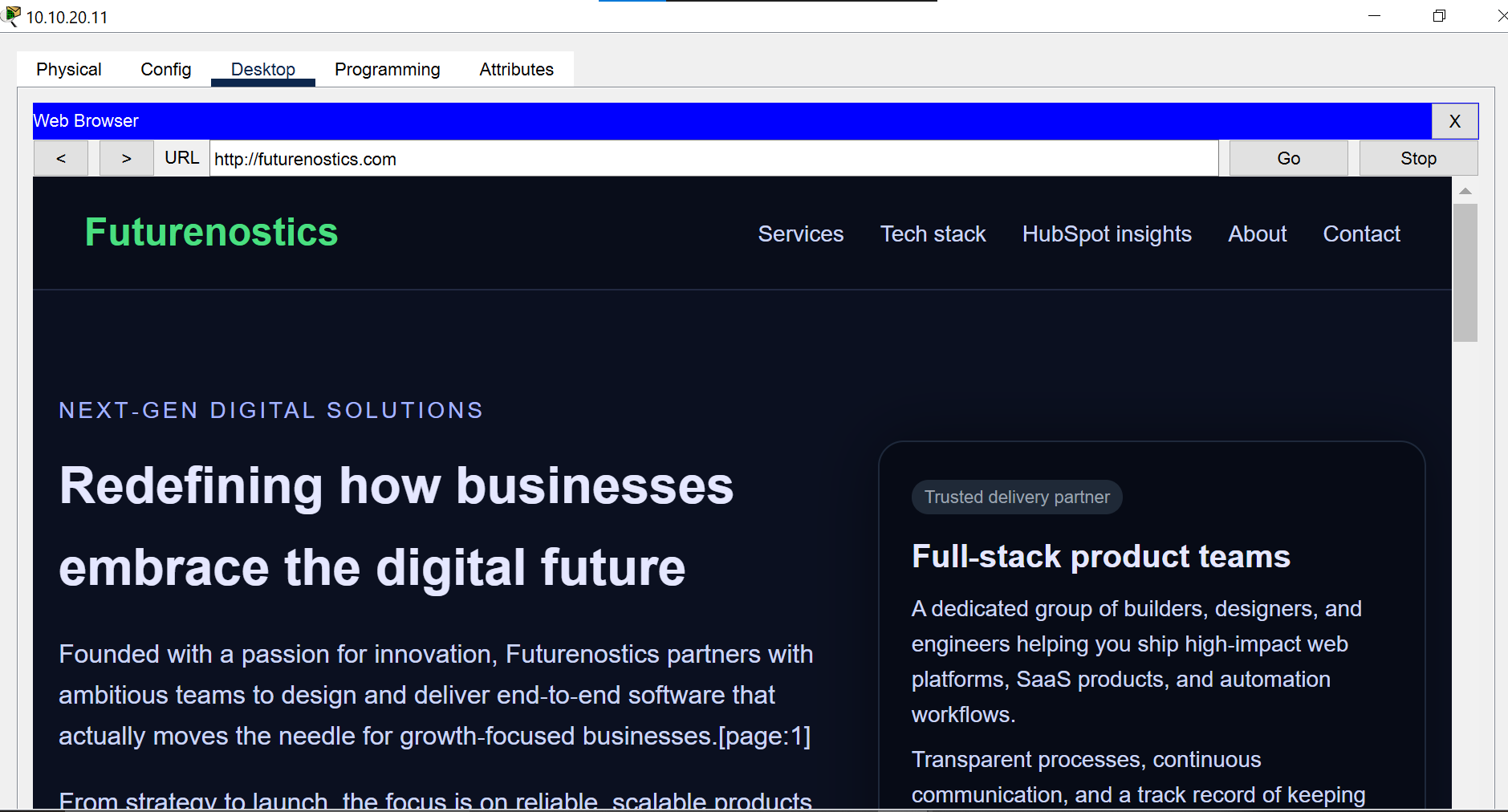
# 4. Client Server Connectivity Tests

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case | Client VLAN | Service | Result | Status |
| DHCP Assignment | VLAN 20 | DHCP Server | Dhcp pool ip | ✓ PASS |
| DNS Resolution | VLAN 10 | DNS Server | futurenostic website | ✓ PASS |
| Web Portal Access | VLAN 30 | HTTP 80 | futurenostic website | ✓ PASS |
| FTP Access | VLAN 20 | FTP 21 | Successfully uploaded and downloaded files from and to server | ✓ PASS |

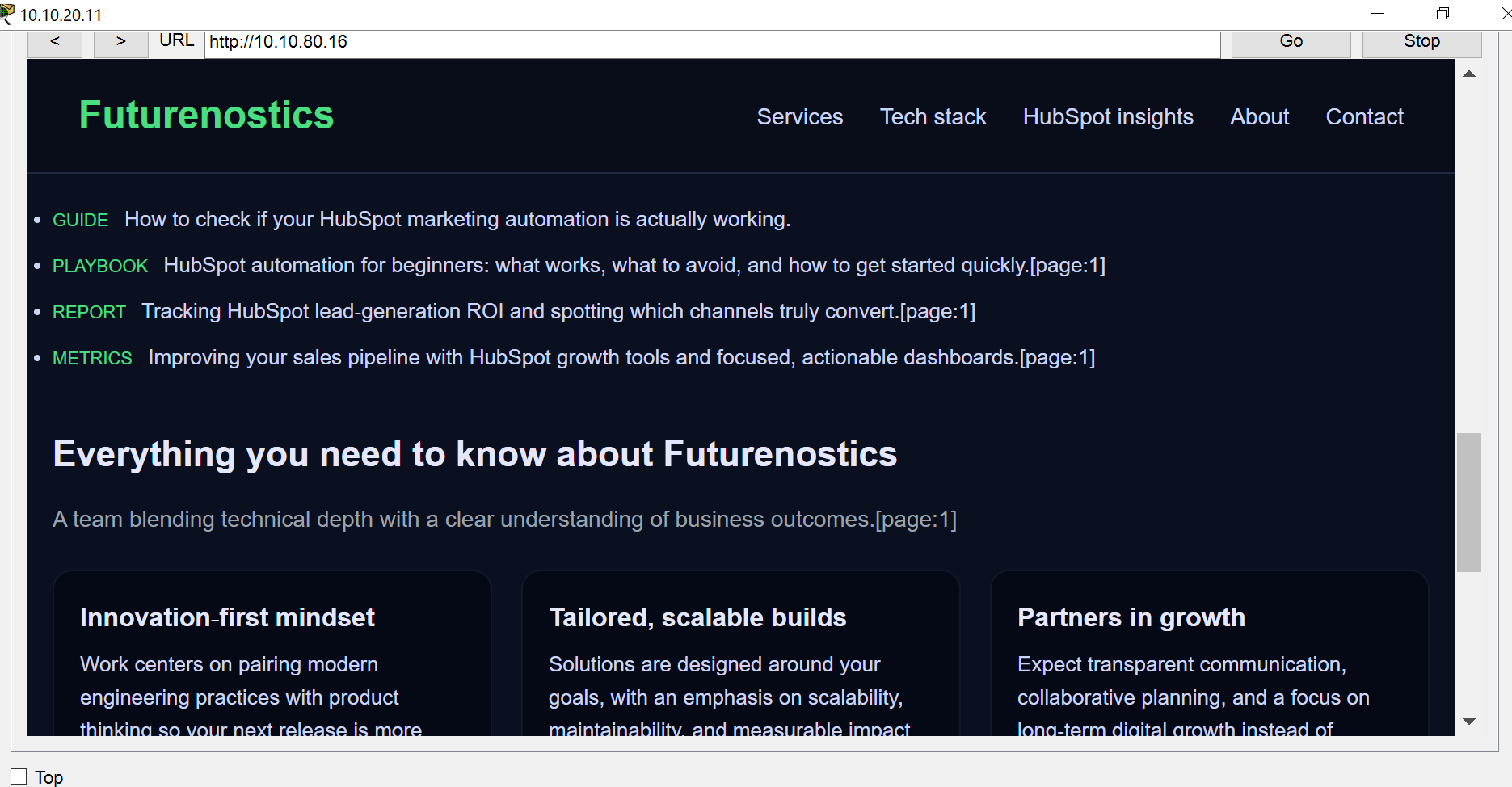
## DHCP:



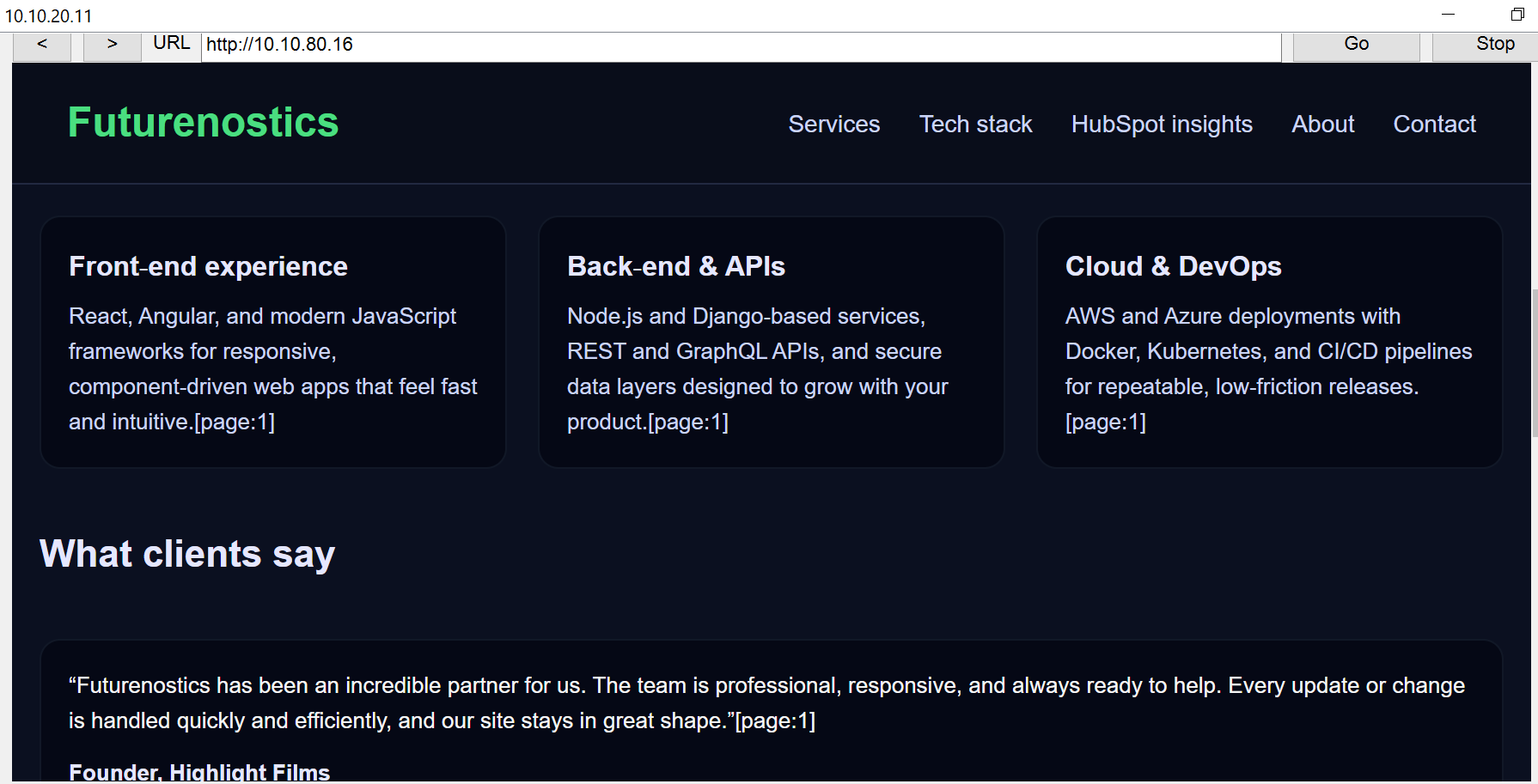
## DNS:



## WEB:

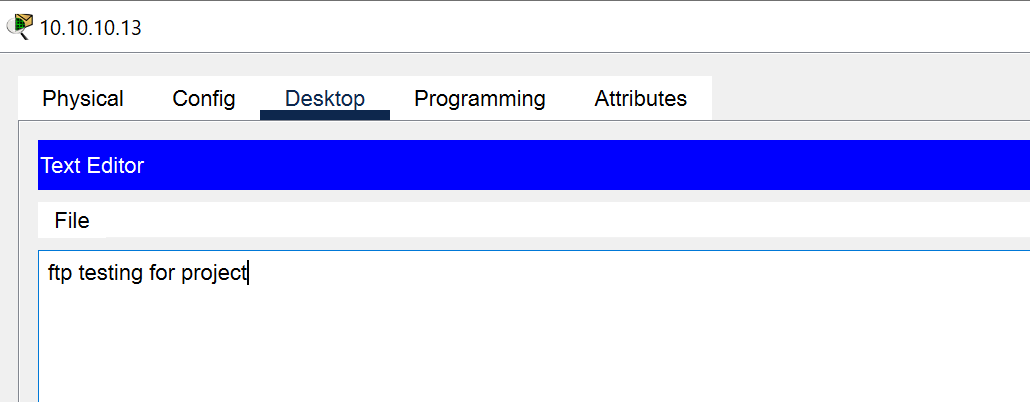


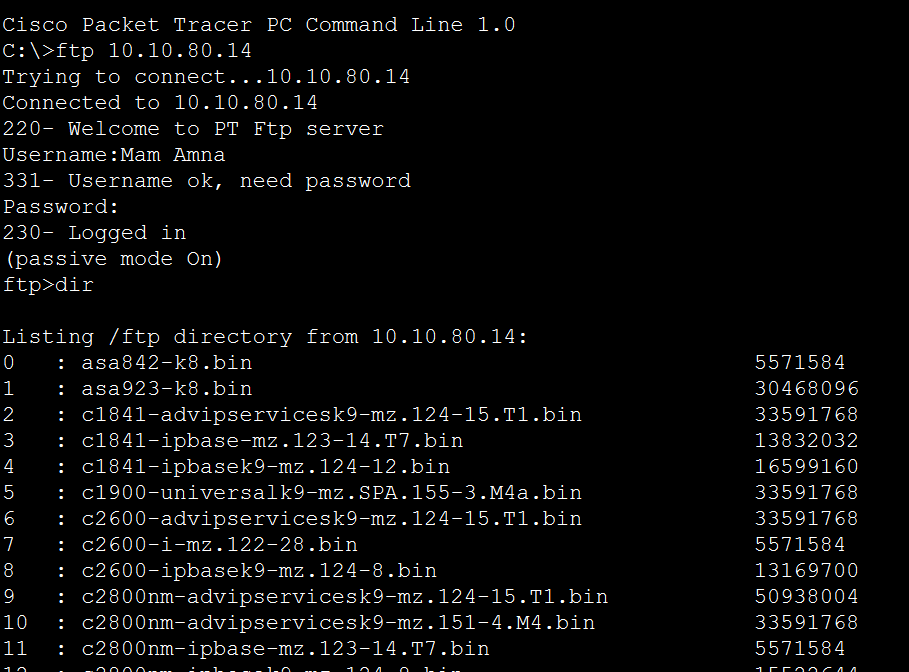
Services section :



And so on

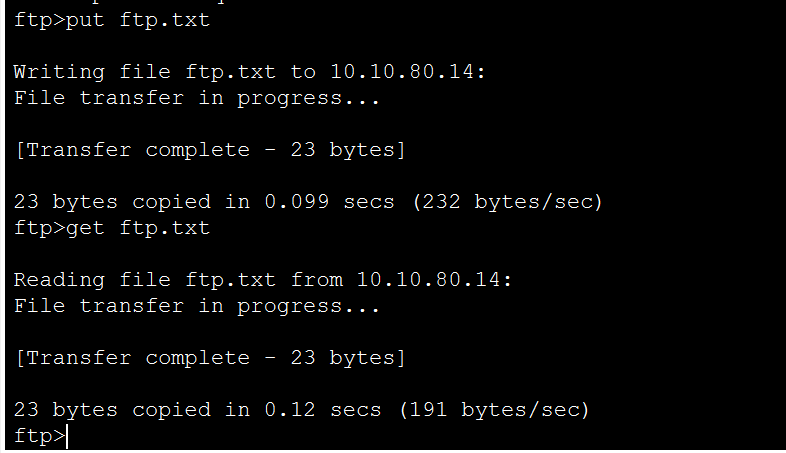
## FTP:





For [ftp.txt](ftp://ftp.txt):

Uploaded and downloaded for from server with following commands:



NOW IN THIS WAY EVERYHTING IS TESTED AND NETWORK IS READY:

