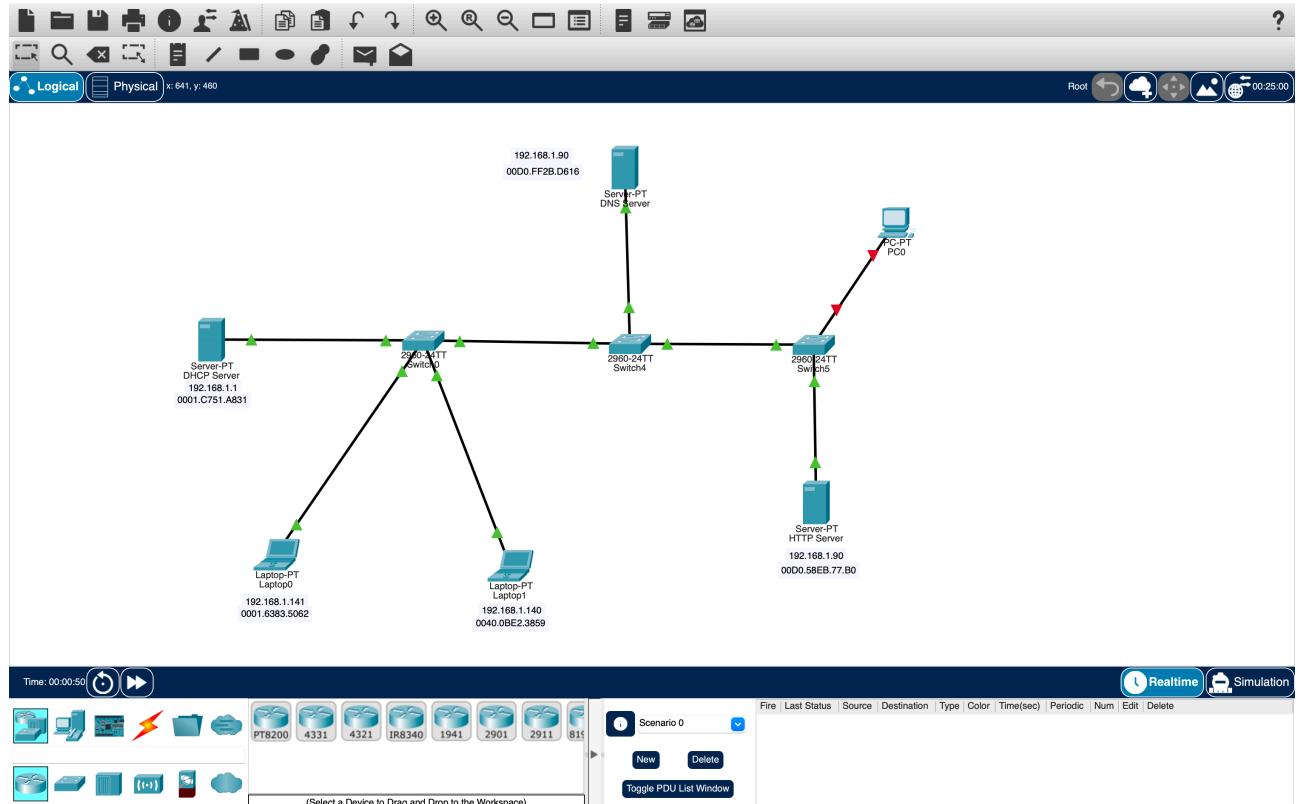
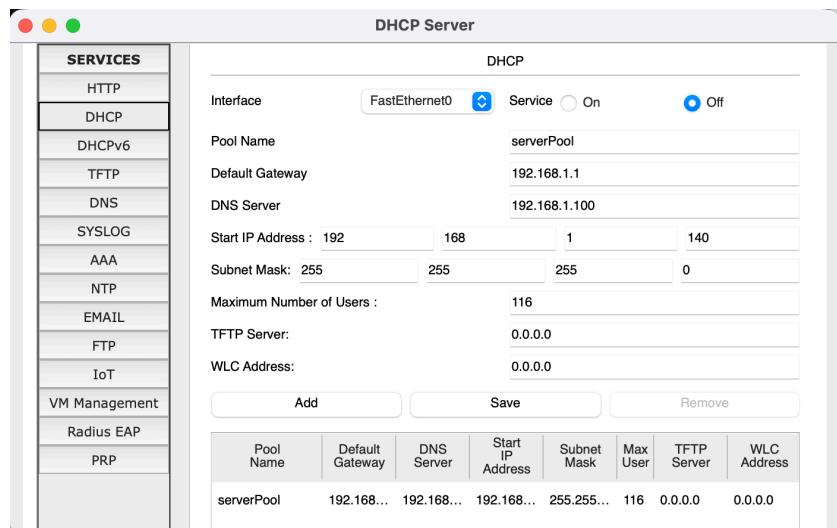


Simulazione dei servizi applicativi simulando i seguenti protocolli HTTP, DHCP, DNS.

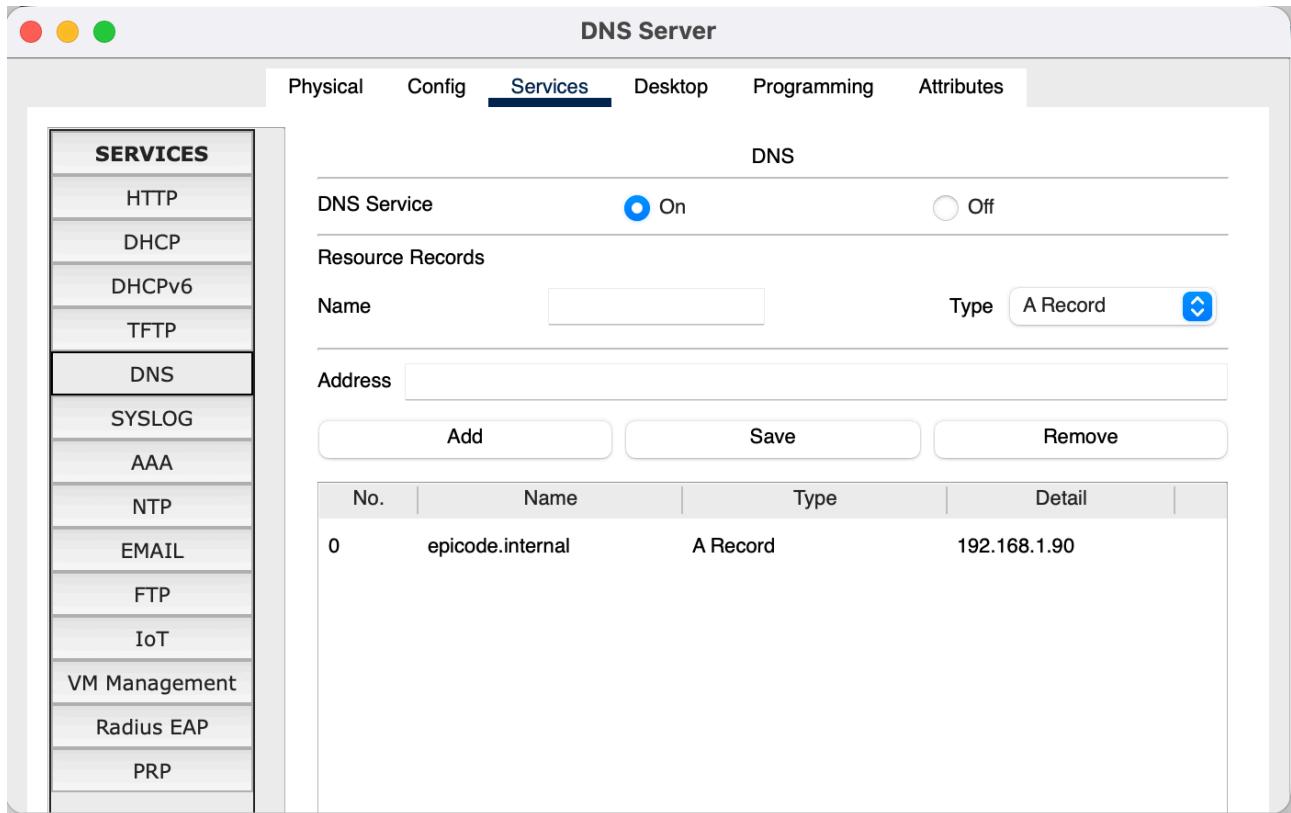
Riportato sottostante, una architettura tipo con le apposite configurazioni che verranno riportate dopo di essa. Configurati nella stessa rete e con l'indirizzo Gateway di default: 192.168.1.1 , DNS: 192.168.1.100



Configurazione del server DHCP:



Configurazione del server DNS con l'aggiunta della risorsa epicode.internal con il seguente indirizzo 192.168.1.90:

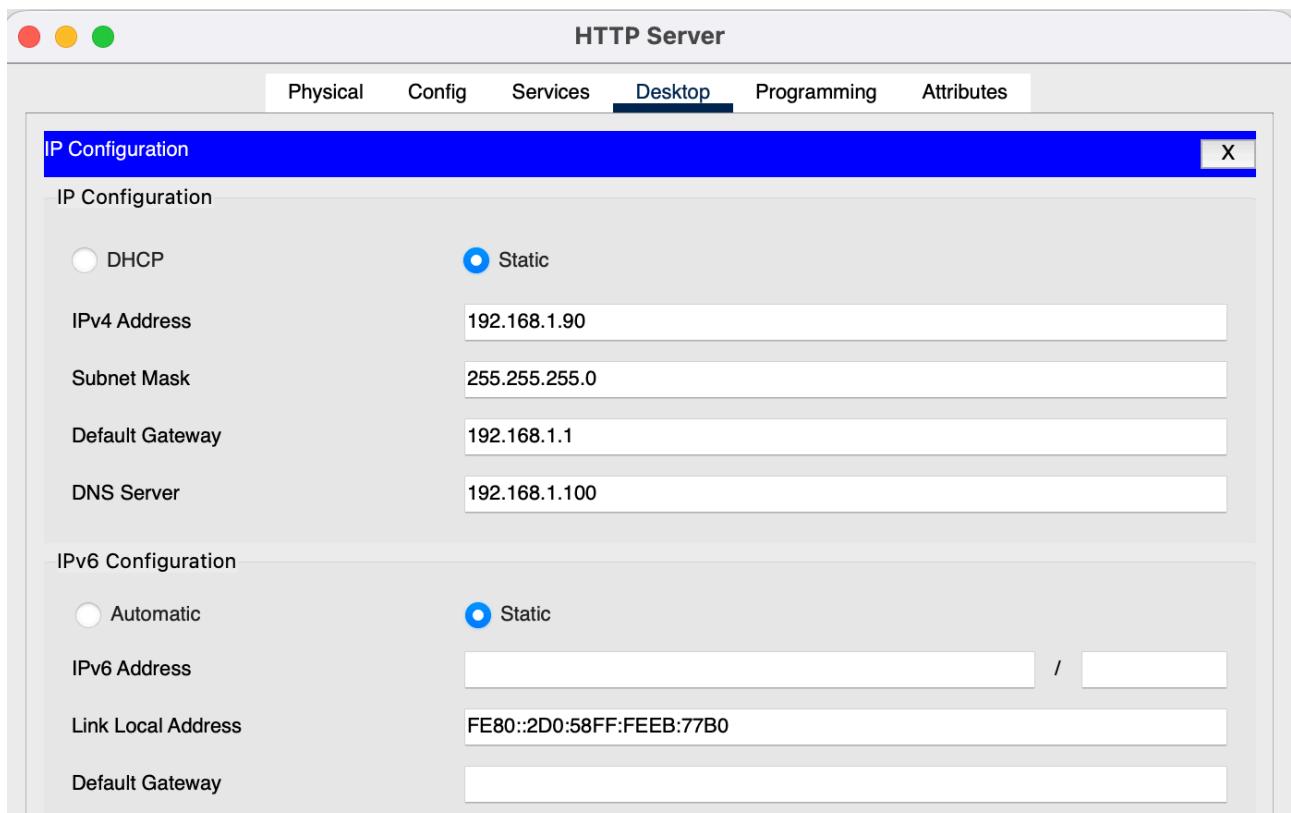


The screenshot shows the 'DNS Server' configuration interface. The 'Services' tab is selected. On the left, a sidebar lists various services: HTTP, DHCP, DHCPv6, TFTP, DNS (selected), SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, Radius EAP, and PRP. The main panel is titled 'DNS' and contains the following fields:

- DNS Service:** An labeled 'On' and an labeled 'Off'.
- Resource Records:** A table with columns: No., Name, Type, and Detail. It shows one entry:

No.	Name	Type	Detail
0	epicode.internal	A Record	192.168.1.90

Configurazione del server HTTP:



The screenshot shows the 'HTTP Server' configuration interface. The 'Desktop' tab is selected. A blue header bar reads 'IP Configuration'. The main panel contains the following fields:

- IP Configuration:**
 - DHCP and Static.
 - IPv4 Address:** 192.168.1.90
 - Subnet Mask:** 255.255.255.0
 - Default Gateway:** 192.168.1.1
 - DNS Server:** 192.168.1.100
- IPv6 Configuration:**
 - Automatic and Static.
 - IPv6 Address:** /
 - Link Local Address:** FE80::2D0:58FF:FE8B:77B0
 - Default Gateway:** (empty field)

A seguire in uscita dal laptop0 la richiesta HTTP al server HTTP con le relative informazioni del pacchetto.

PDU Information at Device: Laptop0

OSI Model **Outbound PDU Details**

At Device: Laptop0
Source: Laptop0
Destination: HTTP CLIENT

In Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3
- Layer2
- Layer1

Out Layers

- Layer 7: HTTP
- Layer6
- Layer5
- Layer 4: TCP Src Port: 1030, Dst Port: 80
- Layer 3: IP Header Src. IP: 192.168.1.141, Dest. IP: 192.168.1.90
- Layer 2: Ethernet II Header 0001.6383.5062 >> 00D0.58EB.77B0
- Layer 1: Port(s):

1. The HTTP client sends a HTTP request to the server.

Challenge Me **<< Previous Layer** **Next Layer >>**

PDU Information at Device: Laptop0

OSI Model **Outbound PDU Details**

PDU Formats

EthernetII

PREAMBLE: 101010..10	SFD	DEST ADDR:00D0.58EB.77B0	Bytes
SRC ADDR:0001.6383.5062	TYPE:0x0800	DATA (VARIABLE LENGTH)	FCS:0x00000000

IP

VER:4	IHL:5	DSCP:0x00	TL:125	Bits
ID:0x0036		FLAGS:0x2	FRAG OFFSET:0x000	
TTL:128	PRO:0x06			CHKSUM
SRC IP:192.168.1.141				
DST IP:192.168.1.90				
DATA (VARIABLE LENGTH)				

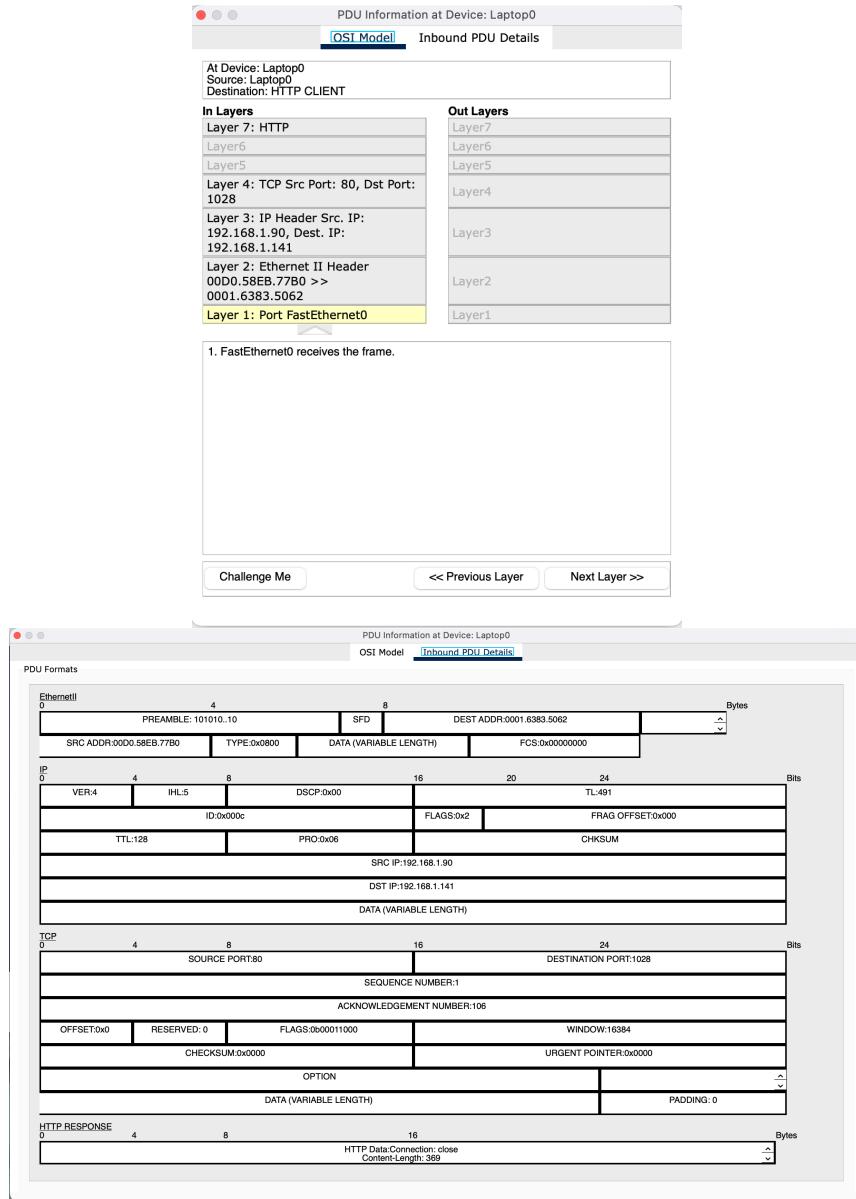
TCP

SOURCE PORT:1030	DESTINATION PORT:80	Bits	
SEQUENCE NUMBER:1			
ACKNOWLEDGEMENT NUMBER:1			
OFFSET:0x0	RESERVED: 0	FLAGS:0b00011000	WINDOW:65535
CHECKSUM:0x0000		URGENT POINTER:0x0000	
OPTION		PADDING: 0	
DATA (VARIABLE LENGTH)			

HTTP REQUEST

HTTP Data:Accept-Language: en-us	Accept: */*	Bytes
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Per finire la risposta del server HTTP al laptop0:



Conclusioni:

Tramite il server DHCP configuriamo in automatico il Gateway predefinito e l'indirizzo del server DNS ai clienti.

Uno dei client fa una richiesta web cercando l'indirizzo `epicode.learn` contattando il server DNS per ottenere l'indirizzo ip del nome del server, infine il client invia una richiesta HTTP al server web utilizzando la porta 80 ed ottenendo la schermata della pagina web di `epicode.learn`.