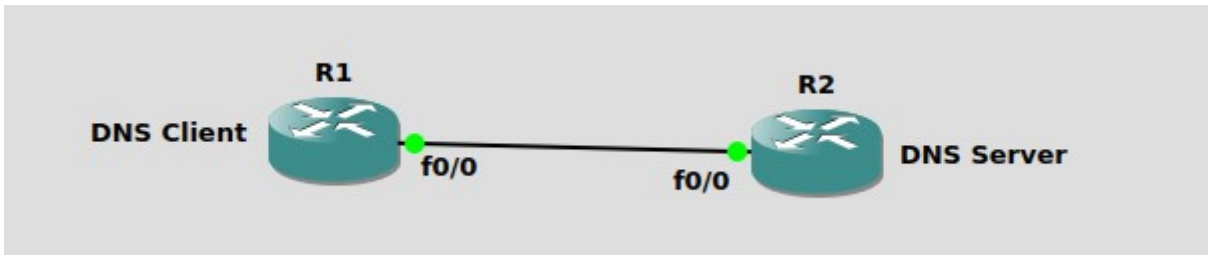


NAME: PRERNA MITTAL  
SECTION: CSE-D

### QUESTION-1 GNS3 DIAGRAM



R1 IP configurations:

```
r1#config t
Enter configuration commands, one per line. End with CNTL/Z.
r1(config)#hostname R1
R1(config)#inter f0/0
R1(config-if)#ip address 10.10.10.1 255.255.255.0
R1(config-if)#no shut
R1(config-if)#do wr
Building configuration...
[OK]
R1(config-if)#end
R1#
*Mar 1 00:03:11.615: %SYS-5-CONFIG_I: Configured from console by console
```

R2 IP and Hostname Configurations and Setting up R2 as DNS Server:

```
R2#enable
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#hostname R2
R2(config)#inter f0/0
R2(config-if)#ip address 10.10.10.2 255.255.255.0
R2(config-if)#no shut
R2(config-if)#
*Mar 1 00:06:39.303: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 1 00:06:40.303: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R2(config-if)#do wr
Building configuration...
[OK]
R2(config-if)#end
R2#
*Mar 1 00:06:57.415: %SYS-5-CONFIG_I: Configured from console by console
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#ip dns server
R2(config)#ip host loopback.R2.com 2.2.2.2
R2(config)#inter loopback 1
R2(config-if)#
*Mar 1 00:09:09.427: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up
R2(config-if)#ip address 2.2.2.2 255.255.255.255
R2(config-if)#end
R2#
*Mar 1 00:09:32.211: %SYS-5-CONFIG_I: Configured from console by console
R2#ping loopback.R2.com

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
```

setup R1 to resolve hostnames using R2.  
ip domain lookup  
ip name-server 10.10.10.2

```
ip route 0.0.0.0 0.0.0.0 10.10.10.2
end
```

```
R1#ping loopback.R2.com repeat 3

Translating "loopback.R2.com"...domain server (10.10.10.2) [OK]

Type escape sequence to abort.
Sending 3, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
!!!
Success rate is 100 percent (3/3), round-trip min/avg/max = 4/8/12 ms
```

## WIRESHARK OBSERVATION

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	c4:02:0a:6c:00:00	c4:02:0a:6c:00:00	LOOP	60	Reply
2	0.300288	c4:01:0a:27:00:00	c4:01:0a:27:00:00	LOOP	60	Reply
3	8.666344	10.10.10.1	10.10.10.2	DNS	75	Standard query 0xb225 A loopback.R2.com
4	8.676898	10.10.10.2	10.10.10.1	DNS	91	Standard query response 0xb225 A loopback.R2.com A 2.2.2.2
5	8.686534	10.10.10.1	2.2.2.2	ICMP	114	Echo (ping) request id=0x0001, seq=0/0, ttl=255 (reply in 6)
6	8.697110	2.2.2.2	10.10.10.1	ICMP	114	Echo (ping) reply id=0x0001, seq=0/0, ttl=255 (request in ...)
7	8.706752	10.10.10.1	2.2.2.2	ICMP	114	Echo (ping) request id=0x0001, seq=1/256, ttl=255 (reply in ...)
8	8.717230	2.2.2.2	10.10.10.1	ICMP	114	Echo (ping) reply id=0x0001, seq=1/256, ttl=255 (request in ...)
9	8.726929	10.10.10.1	2.2.2.2	ICMP	114	Echo (ping) request id=0x0001, seq=2/512, ttl=255 (reply in ...)

Authority RRs: 0
Additional RRs: 0
Queries
loopback.R2.com: type A, class IN
Name: loopback.R2.com
[Name Length: 15]
[Label Count: 3]
Type: A (Host Address) (1)
Class: IN (0x0001)
[Response In: 4]

0000	c4 02 0a 6c 00 00 c4 01 0a 27 00 00 08 00 45 00	...1....E.
0010	00 3d 00 00 00 00 ff 11 93 99 0a 0a 0a 01 0a 0a	..5....
0020	0a 02 f7 48 00 35 00 29 b1 3a b2 25 01 00 00 01	...H-5...%...
0030	00 00 00 00 00 00 08 0c 6f 6f 70 62 61 63 6b 02	.....loopback.
0040	52 32 03 63 6f 6d 00 00 01 00 01	R2.com...

## QUESTION-2

### GNS3 DIAGRAM

