



## **COMPUTER NETWORKS**

### **ASSIGNMENT # 2**

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**SYNDICATE - B**

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**DEPARTMENT OF COMPUTER AND SOFTWARE ENGINEERING**

## Output from ipconfig/all command

ca. Command Prompt

```
Microsoft Windows [Version 10.0.19041.630]  
(c) 2020 Microsoft Corporation. All rights reserved.
```

```
C:\Users\Wajih>ipconfig/all
```

Windows IP Configuration

```
Host Name . . . . . : DESKTOP-TENC0KJ  
Primary Dns Suffix . . . . . :  
Node Type . . . . . : Hybrid  
IP Routing Enabled. . . . . : No  
WINS Proxy Enabled. . . . . : No  
DNS Suffix Search List. . . . . : Home
```

Ethernet adapter Ethernet:

```
Media State . . . . . : Media disconnected  
Connection-specific DNS Suffix . :  
Description . . . . . : Realtek PCIe FE Family Controller  
Physical Address. . . . . : 6C-C2-17-63-4A-CF  
DHCP Enabled. . . . . : Yes  
Autoconfiguration Enabled . . . . : Yes
```

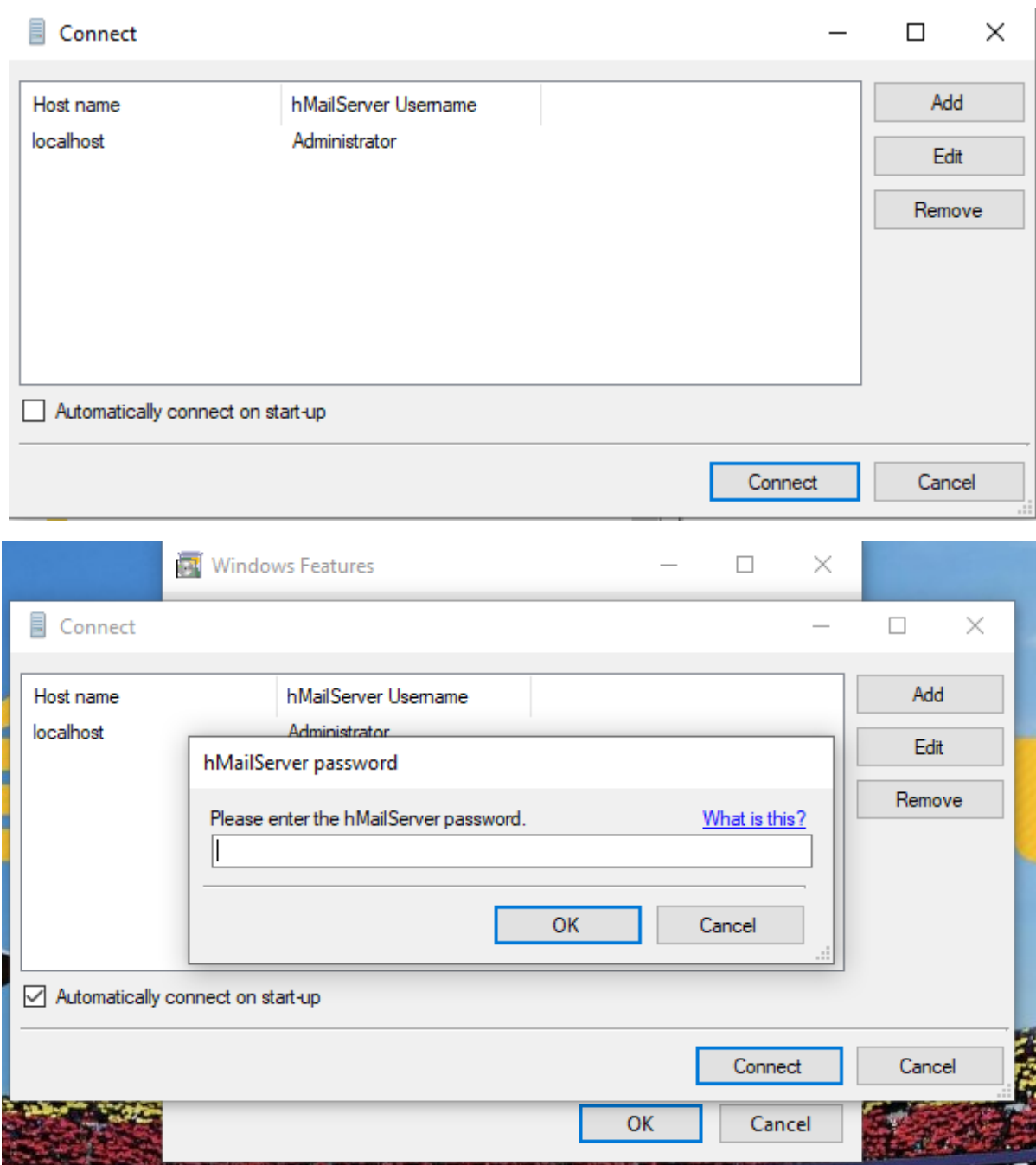
Wireless LAN adapter Local Area Connection\* 1:

```
Media State . . . . . : Media disconnected  
Connection-specific DNS Suffix . :  
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter  
Physical Address. . . . . : 16-2D-27-D6-4C-8D  
DHCP Enabled. . . . . : Yes  
Autoconfiguration Enabled . . . . : Yes
```

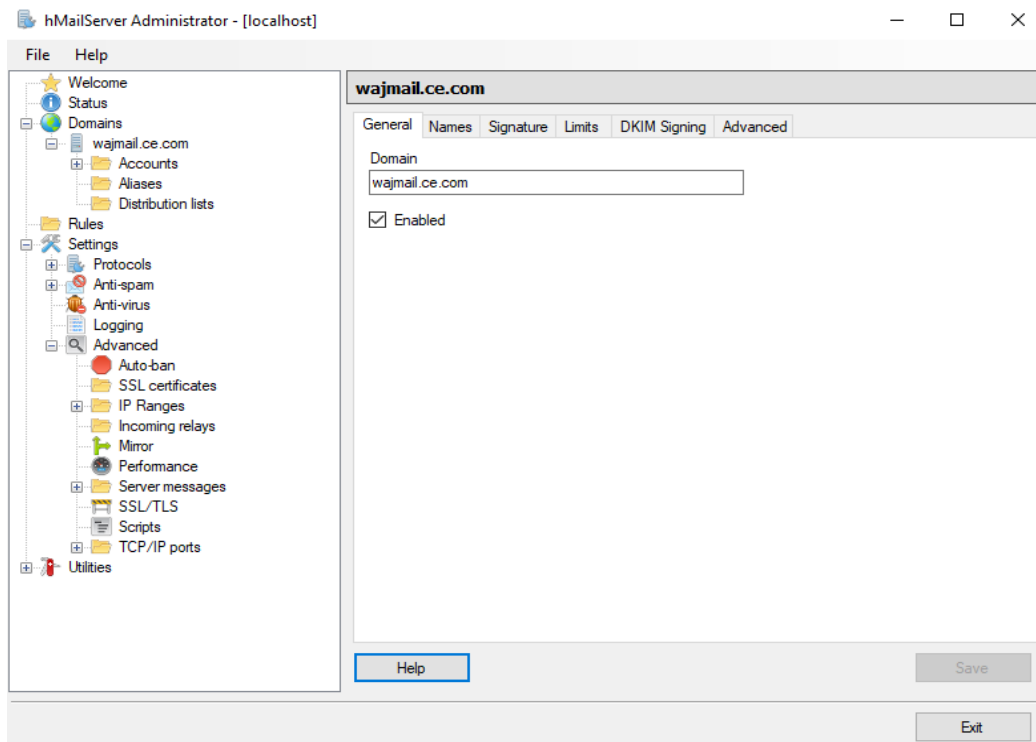
Wireless LAN adapter Wi-Fi:

```
Connection-specific DNS Suffix . : Home  
Description . . . . . : Broadcom BCM43142 802.11 bgn Wi-Fi Adapter  
Physical Address. . . . . : 14-2D-27-D6-4C-8D  
DHCP Enabled. . . . . : Yes  
Autoconfiguration Enabled . . . . : Yes  
Link-local IPv6 Address . . . . . : fe80::18da:ad00:3a62:2e88%17(Preferred)  
IPv4 Address. . . . . : 192.168.10.6(Preferred)  
Subnet Mask . . . . . : 255.255.255.0  
Lease Obtained. . . . . : Sunday, December 6, 2020 9:07:03 PM  
Lease Expires . . . . . : Monday, December 7, 2020 9:07:04 PM  
Default Gateway . . . . . : 192.168.10.1  
DHCP Server . . . . . : 192.168.10.1  
DHCPv6 IAID . . . . . : 85208359  
DHCPv6 Client DUID. . . . . : 00-01-00-01-25-E2-96-33-6C-C2-17-63-4A-CF  
DNS Servers . . . . . : 192.168.10.1  
NetBIOS over Tcpip. . . . . : Enabled
```

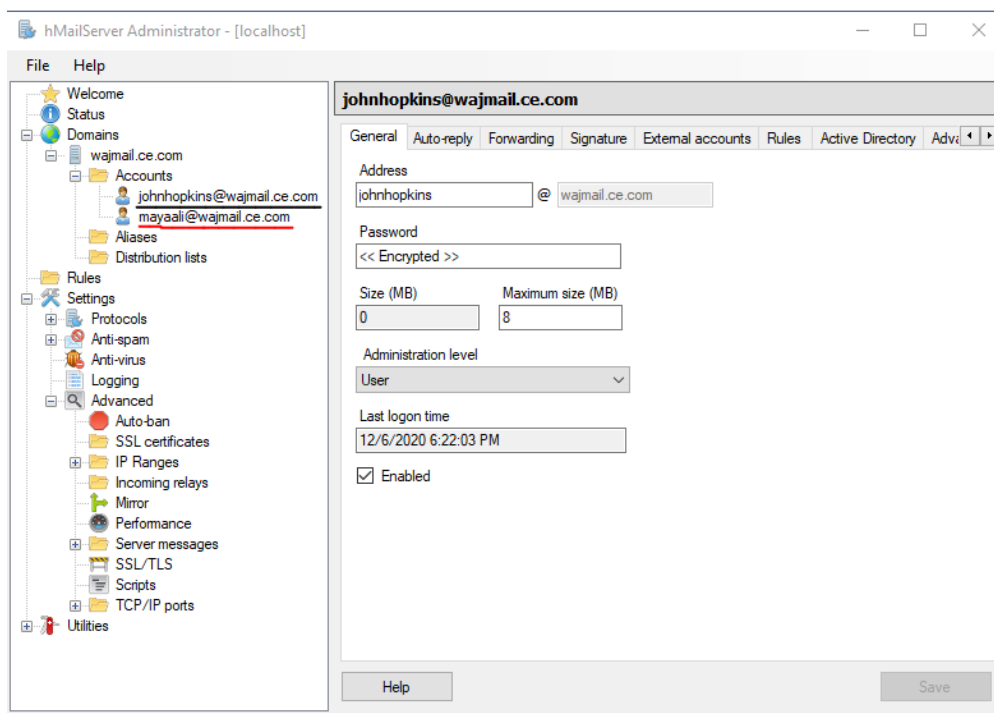
## Setting up of a Mail Server



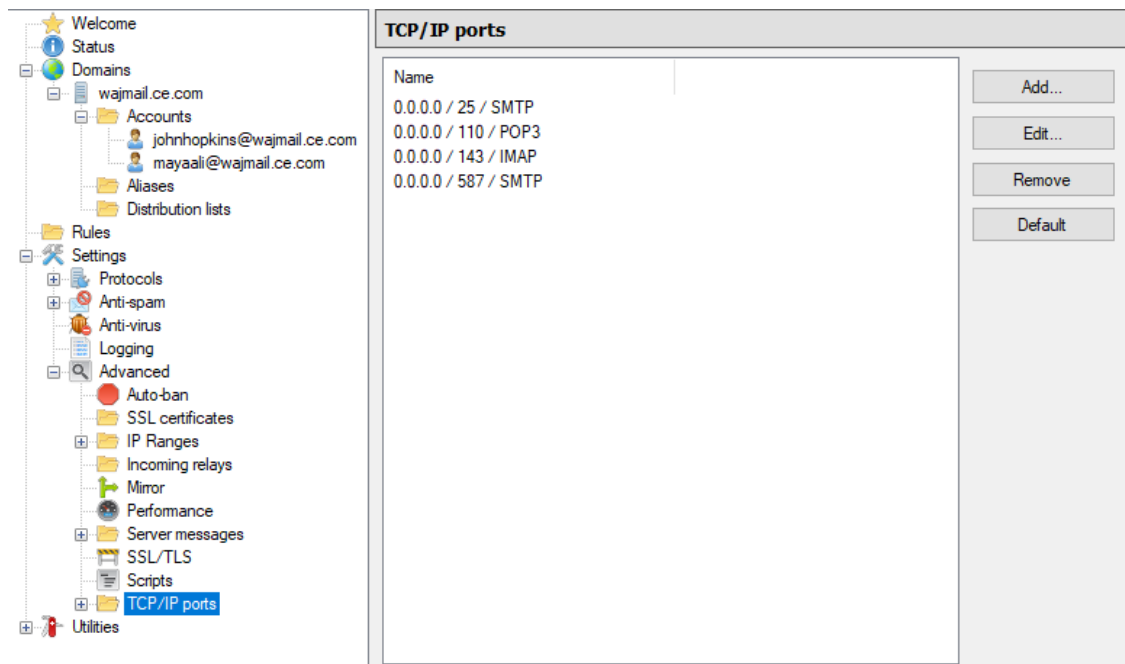
Firstly, we installed hmail server to set up mail server and connected it. After connecting as seen above we set up a password for hMailServer.



Then we had setup our domain as shown in the above screenshot.

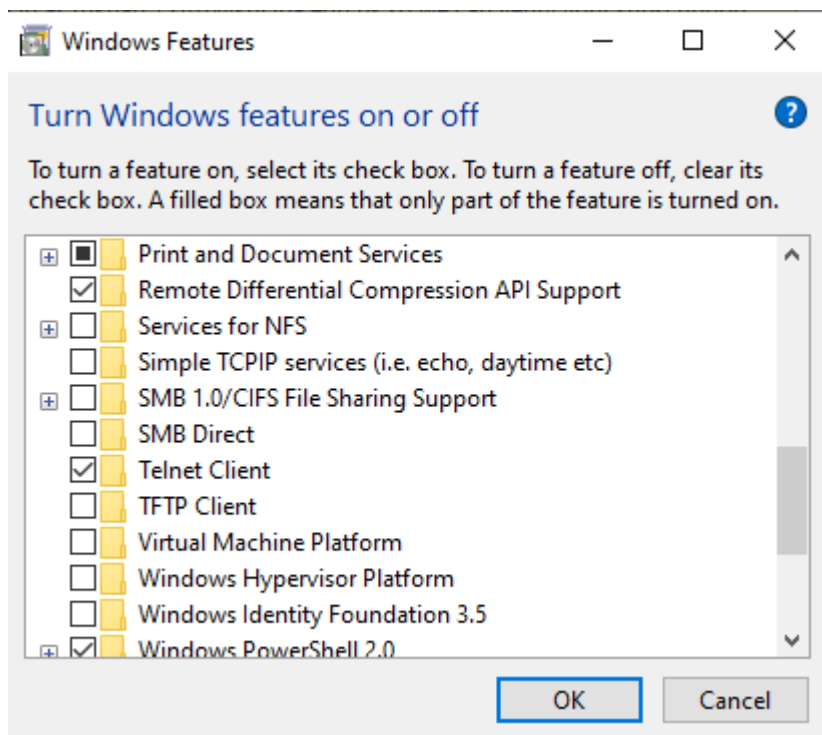


It can be seen that after setting up the domain we setup the accounts we would be using for sending and receiving the email with help of telnet for assignment. The emails we have made can be seen in the above screenshot underlined with black and red line.



Now we read the ports we would be using for sending and reading email. SMTP Port 25 would be used for sending and POP3 Port 110 would be used for receiving and reading the email.

### **Procedure to send and read email using Telnet**



Firstly, we turned telnet client on by ticking it by going on windows features. After that we searched telnet command which can be seen below to start the work needed.

C:\Windows\System32\telnet.exe

```
Welcome to Microsoft Telnet Client

Escape Character is 'CTRL+]'

Microsoft Telnet> open localhost 25
```

Now we will open localhost 25 port because it's a port of SMTP, simple mail transfer protocol which is the standard protocol for sending emails and port 25 is the default SMTP. It helped us go to another window which was connected too SMTP port.

Telnet localhost

```
220 DESKTOP-TENC0KJ ESMTP
helo johnhopkins
250 Hello.
mail from: johnhopkins@wajmail.ce.com
250 OK
rcpt to: mayaali@wajmail.ce.com
250 OK
data
354 OK, send.
Subject: This is my second email.
Hello Maya! I am writing this email to you for assignment 1 of CN, have a great day!
.
250 Queued (42.696 seconds)
quit
221 goodbye

Connection to host lost.
Press any key to continue...
```

Now we went through the procedure needed to send email from one email address to another using telnet. We have used port 25. It can be seen that after proper format which we used email has been queued.

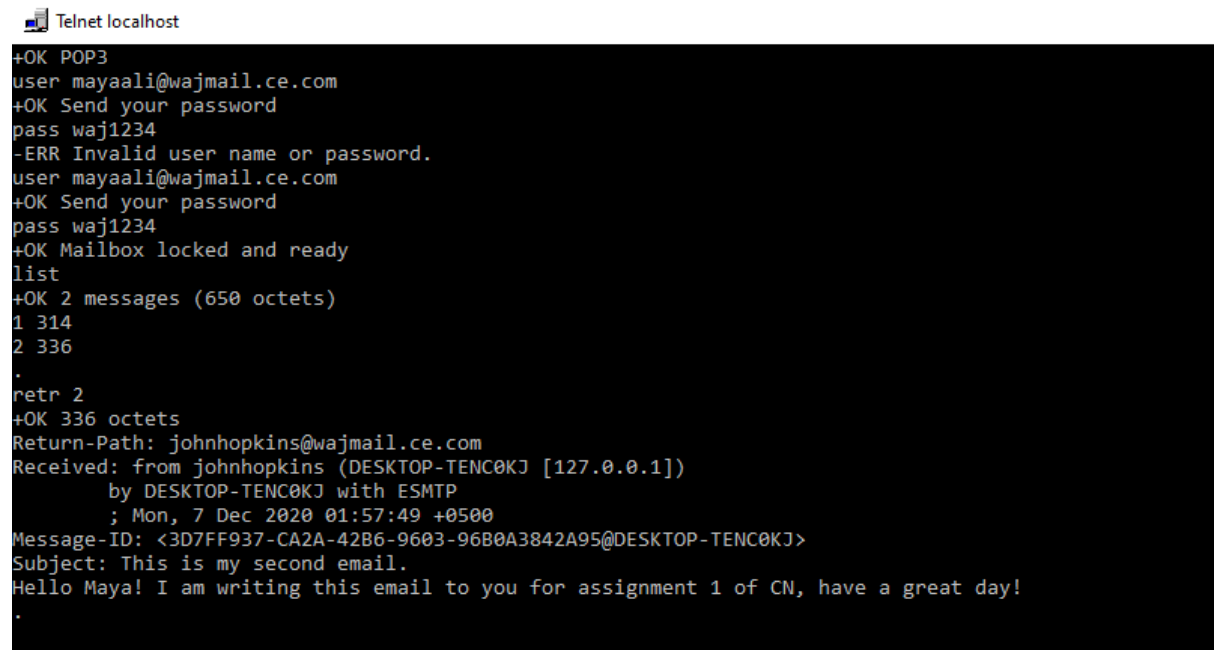
Telnet

```
Welcome to Microsoft Telnet Client

Escape Character is 'CTRL+]'

Microsoft Telnet> open localhost 25
Connecting To localhost...
Microsoft Telnet> open localhost 110
Connecting To localhost...
Microsoft Telnet> open localhost 110
```

After sending the email now to read that email using telnet, we would open localhost 110, which means port 110. Port 110 is the default POP3 port, POP3 is a standard main protocol used to receive the emails, hence this. This also directed us to another window

A screenshot of a Telnet session titled 'Telnet localhost'. The session shows a user logging into a POP3 mailbox. The user enters 'user mayaali@wajmail.ce.com' and 'pass waj1234'. After a failed login attempt, the user enters the correct password. The server responds with '+OK Mailbox locked and ready'. The user then enters 'list', and the server lists two messages. The user enters 'retr 2', and the server displays the content of the second message, which is an email from johnhopkins@wajmail.ce.com.

```
Telnet localhost
+OK POP3
user mayaali@wajmail.ce.com
+OK Send your password
pass waj1234
-ERR Invalid user name or password.
user mayaali@wajmail.ce.com
+OK Send your password
pass waj1234
+OK Mailbox locked and ready
list
+OK 2 messages (650 octets)
1 314
2 336
.
retr 2
+OK 336 octets
Return-Path: johnhopkins@wajmail.ce.com
Received: from johnhopkins (DESKTOP-TENC0KJ [127.0.0.1])
    by DESKTOP-TENC0KJ with ESMTP
    ; Mon, 7 Dec 2020 01:57:49 +0500
Message-ID: <3D7FF937-CA2A-42B6-9603-96B0A3842A95@DESKTOP-TENC0KJ>
Subject: This is my second email.
Hello Maya! I am writing this email to you for assignment 1 of CN, have a great day!
.
```

In the above screenshots if we see we can see that email address [mayaali@wajmail.ce.com](mailto:mayaali@wajmail.ce.com) is logged in and the email sent above to this address from [johnhopkins@wajmail.ce.com](mailto:johnhopkins@wajmail.ce.com) can be read. We can also see that she has 2 emails in her inbox which were made visible after giving command 'list' and 2<sup>nd</sup> email was read in the above screenshot. To read 1<sup>st</sup> email we would write 'retr 1' command.

**The entire process shown above is used to send and read emails needed to be done in Assignment 2.**