

A
REPORT ON INDUSTRIAL TRAINING

Taken At

POORNIMA UNIVERSITY

From X/XX/2017 to X/XX/2018

Submitted in partial fulfilment of the requirements
For the award of the Degree of

Bachelor of Technology
Of
Poornima University, Jaipur



Session: 2017-18

Submitted By:

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Submitted To:

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ACKNOWLEDGEMENT

It is our privilege to express our sincerest regards to our project coordinator, Mr ABC XYZ, for his valuable inputs, able guidance, encouragement, whole-hearted cooperation and constructive criticism throughout the duration of our project. Many thanks go to our project guide, Mr ABC XYZ, who has given his full effort in guiding the team in achieving the goal as well as his encouragement to maintain our progress in track.

We are thankful to **Dr Manoj XYZ**, Dean, and SET for providing me a platform to carry out the project work.

We deeply express our sincere thanks to our **Head of Department, Mrs Shalini XYZ** for encouraging and allowing us to make the project on the topic **Network Configuration** at our department premises.

We would like to express my hearts felt appreciation to all faculty members whose direct or indirect suggestions helped us to develop this project. We pay our respects and love to our parents and all other family members and friends for their love and encouragement throughout our career.

Mukesh Kumar Rao

DECLARATION

I hereby declare that the project work entitled Network Configuration is an authentic record of my own work carried out at Poornima University as requirements of Industry Internship project for the award of Bachelor of Technology Degree, Poornima University, Jaipur, under the guidance of Mr ABC XYZ and Mr ABC XYZ, from X/XX/2017 to X/XX/2018.

Mukesh Kumar Rao

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Certified that the above statement made by the student is correct to the best of our knowledge and belief

About Industry/ Organization

Poornima Foundation (PF) has emerged as the finest & largest group imparting professional education in Rajasthan. Today it boasts of four campuses, five institutions, 11000 + students and 1100 faculty and staff members. Poornima foundation was established under the affluent intellect of Shanti Education Society in 2000.

PF believes that the main objective of education is to produce employable professionals, industrious and spiritual human being for the society with outstanding knowledge in their field of specialization

PF incorporates Poornima group of Colleges which includes three Engineering colleges namely, Poornima College of Engineering (PCE), Poornima Institute of Engineering and Technology (PIET) and Poornima Group of Institutions (PGI) and one management Institution Poornima school of Management (PSOM), all these institutions are approved by AICTE and affiliated to Rajasthan Technical University (RTU), Kota.

Chapter – 1

1. AIMS

Here, we got a Case Study on Electric Power Plant Company which make River Dams. They have four Sites Idduki, Bansagar, Nagarjuna and Sadar.

All what we have to do is make a Network Architecture on Cisco Packet Tracer. To show a simulation process of Networking and Communication between their different sites.

So, what we decided that we have group of four people name as follow:

1. Mukesh Kumar Rao
2. Aditya Abhishek
3. Ankit Gupta
4. Umang Tyagi

We decide to make a pilot program on Cisco Packet Tracer to test the Network Environment and analyse the condition and architectural issues.

2. Scope

It is industry relevant case study, in which we do hands on real scenario based Network Simulation in Cisco Packet Tracer which is also widely used by the Industry for their Pilot Projects

Chapter – 2

1. Introduction

Poornima University, Jaipur, has been born from a strong parentage. Poornima, as the name implies stands for full moon, which symbolizes “Perfection”. We want our students to be like full moon, as perfect as they can be. PU by virtue of being a University, provides students a wide perspective, a melting pot for varied interests, diverse cultures and a multidisciplinary cosmos, where an architect can interact with a commerce research scholar, a physics scholar can interact with an engineering student. Diversity of different cultures, disciplines and educational backgrounds enrich the fabric of our University. PU has a dynamic process of syllabus and pedagogy development in tune with the growing industry needs and globalization. Holistic development of each student and inculcation of values and ethics is emphasized. The aim is to:

- Infuse a sense of personal pride, honesty and integrity.
- Develop global citizens, who can withstand the trials of time and adversity.
- Create leaders who can make a place for themselves where ever they go.
- Encourage students to partake in social welfare activities and to inculcate responsibility towards society and environment.

The University takes pride in recruiting distinguished faculty from reputed universities and best institutes. They bring to the classroom, passion and enthusiasm for teaching, providing an intimate, interactive personalized approach to learning. The University has also introduced number of innovations in its teaching – learning methodologies. In addition to the traditional lecture method, the dialectic method of asking questions to seek answers is an important part of the teaching methodology. Practical training in all streams is being given due importance. Assessment and evaluation of students is through a continuous process rather than through an end semester written examination only. The system of education is itself very dynamic and University has to be in the forefront of the process of change. We, at Poornima are aware of the fast evolving needs of the market and the work opportunities that exist. Our aim is to keep our students abreast of these opportunities. At the same time, our approach is to help them to acquire life skills and attitudes that will enable them to be successful in whatever they might do in life.

2. Vision, Mission, Quality Policy

Our vision is to create knowledge based society with scientific temper, team spirit and dignity of labor to face global competitive challenges.

Our mission is to evolve and develop skill based systems for effective delivery of knowledge so as to equip young professionals with dedication and commitment to excellence in all spheres of life.

We believe in providing quality education through faculty development, updating of facilities and continual improvement for meeting norms laid down by AICTE, keeping the stakeholders satisfied.

To show our gratitude and faith in Maa Saraswati, we, at Poornima dedicate our efforts in the form of Poornima Gaan, which has become part and parcel of our day-to-day life. It reminds us of our objectives and also the responsibilities towards society and humanity. Poornima Gaan must be recited at the beginning of every public function (that involves persons from outside Poornima) right after the Ganesh Vandana & Traditional Lamp Lighting Ceremony.

At POORNIMA, the academic atmosphere is a rare blend of modern day technical as well as soft skills and the traditional systems of learning processes, which is displayed in the knowledge wheel below:



Inner circle denotes essential skills that are developed by the yearlong activities mentioned in the outer circle. All Poornima'ists follow the practices of Poornima Knowledge Wheel for better careers. All teaching techniques, methodologies and innovations are based on Poornima knowledge Wheel. Management of Poornima Foundation ensures that faculty members transform philosophy into action.

Over the years, students have been immensely benefitted by it in their personal endeavours', skills and while facing placement interviews. Tutor system, Internet use and talks by experts have provided edge to students as well as faculty members in problem solving and global awareness. In addition, there is improvement in communication skills and ethical behaviour. Orientation programs have made Poornima family more disciplined and integrated to work as a team, a team member and a leader.

3. Background of Organization

Poornima Group of Colleges (PGC) started its journey about 2 decades ago with the setting up of Poornima College of Engineering in year 2000. PGC came into existence with the aim of promoting quality professional & technical education and today it is the most reputed group engaged in higher and technical education in Jaipur, Rajasthan.

Poornima Foundation is promoted by Shanti Education Society (SES) which came into existence in year 1999 by registering under Rajasthan Societies Act. The founder chairman of SES is Shri. Manohar Lal Singhi & founder vice chairman is Late Shri Arun Chandra Singhi. The main objective of SES is to promote Technical & Professional Education in state of Rajasthan with state of art infrastructure and strong academic philosophy. Its secretary, Ar. Shashikant Singhi, who has been a noted practitioner of Architecture and technocrat of repute, presently manages Society and its constituent institutions. Other members of the society are well known professionals.

Poornima has emerged as one of the most preferred engineering colleges among all the colleges in Jaipur and admission seekers in Rajasthan. This has been evident from the choices exercised by students choosing between a variety of top colleges and institutes in Jaipur, year-after-year.

Replete with modern education infrastructure, the institutions of Poornima Group of Colleges are spread over 1 million square meter of constructed area. Currently about 10000 students are enrolled here and over 3000 students reside on the campuses.

The institutions of the Poornima Group of Colleges have a very strong research orientation and culture. The group has a research portfolio of over Rs. 10 million of government funded projects.

What sets apart Poornima Group of Colleges from other colleges in Jaipur is its commitment to high quality, industry recognized delivery of education. Ensuring cultural and social

enrichment of its students, Poornima institutes successfully tops the list of the top institutes in Jaipur.

Poornima brand symbolizes excellence through initiative, reliability, transparency and professionalism of highest order and instills faith and confidence among all concerned in India and abroad.

Chapter – 3

1. Training Attended or Learned

- ➔ Cisco Packet Tracer
- ➔ VLAN
- ➔ VSLM
- ➔ Sub-netting
- ➔ Windows Server 2012 R2

Chapter – 4

PROCEDURE

STEP: 1

Now we decided No. of Network devices we wanted to make a Network Framework

Here are the details of it.

NO.	DEVICE NAME	TOTAL NO. OF DEVICES	SERIES OF DEVICE
1.	ROUTER	10	2811
2.	SWITCH	32	2950
3.	IP Phones	10	7960
4.	SYSTEMS	61	PCs
5.	SERVER	5	-

STEP: 2

After that, we decided to plan IP Addressing and Sub-networking.

We have 750 hosts only in Home Office or local office. And in other four sites we have 150 hosts in each departments.

And we have plan as per Hosts required and one condition was there in Case Study that is in every 10% of host increment was for next 10 year.

And we have 7 department on Home site and 5 department on different Sites.

So, we plan to take IP address of Class B private range.

That is, 172.16.1.1 to 172.31.255.255

1. Home site IP addressing, we take a sub-netting network with Netmask Is 255.255.255.128

NO.	DEPARTMENT	IP ADDRESSS
1.	Administrator	172.16.1.1/25
2.	Sales	172.16.1.129/25
3.	Finance	172.16.2.3/25
4.	HR	172.16.2.131/25
5.	IT Support	172.16.3.5/25
6.	Customer Support	172.16.3.133/25
7.	Marketing	172.16.4.5/25

2. At different sites we set Sub-networking IP addresses of Netmask is 255.255.255.0

NO.	DEPARTMENT	IP ADDRESSES
1.	Electrical Engineering	10.10.10.1/24
2.	Finance Engineering	10.10.11.1/24
3.	Civil Engineering	10.10.12.1/24
4.	IT Engineering	10.10.13.1/24
5.	Mechanical Engineering	10.10.14.1/24

Like, this way we decided the IP address and give to different departments and check whether any IP conflicts is not presents.

STEP: 3

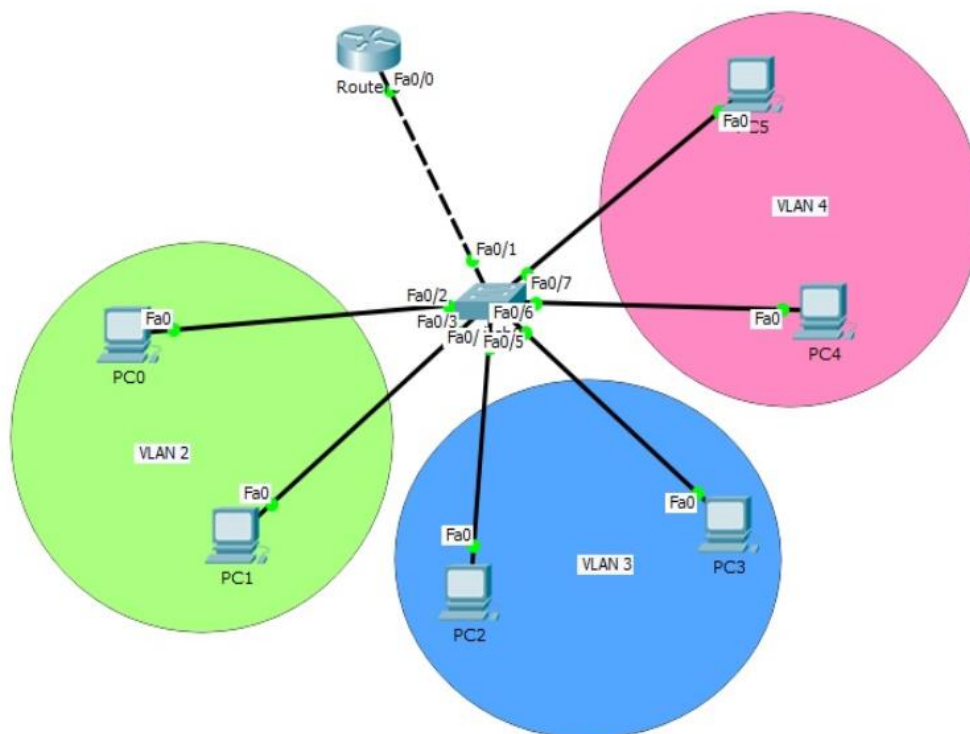
Now, after deciding IP addressing, we proceed to IP distributions.

We have two ways to give IP addresses to systems

1. DHCP System
2. Inter-vlan System

So, we decided to use second option because it is easy to configure and maintain as compare to DHCP procedure. And main reason is that we are Using Router of series 2811 which have only three ports which are already Being in use and we have to configure IP Phones also which service only Supported by this router series only.

Now we take a demo network and test our plan let see bellow;



Now we make vlan on switches and connect the devices together;

Let see the configuration and checking procedure:

```
Switch (config) # vlan 2
Switch (config-vlan) # vlan 3
Switch (config-vlan) # vlan 4
Switch (config-vlan) # exit
Switch (config) # interface range fastEthernet 0/2-3
Switch (config-if-range) # switchport mode access
Switch (config-if-range) # switchport access vlan 2
Switch (config-if-range) #exit
Switch (config) # interface range fastEthernet 0/4-5
Switch (config-if-range) # switchport mode access
Switch (config-if-range) # switchport access vlan 3
Switch (config-if-range) #exit
Switch (config) # interface range fastEthernet 0/6-7
Switch (config-if-range) # switchport mode access
Switch (config-if-range) # switchport access vlan 4
Switch (config-if-range) #exit
```

```
Switch# show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/8, Fa0/9, Fa0/10, Fa0/11 Fa0/12, Fa0/13, Fa0/14, Fa0/15 Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/20, Fa0/21, Fa0/22, Fa0/23 Fa0/24, Gig0/1, Gig0/2
2	VLAN0002	active	Fa0/2, Fa0/3
3	VLAN0003	active	Fa0/4, Fa0/5
4	VLAN0004	active	Fa0/6, Fa0/7
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	AN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
3	enet	100003	1500	-	-	-	-	-	0	0
4	enet	100004	1500	-	-	-	-	-	0	0

Here you see the vlans our configured and verified


```
Router (config) # interface fastEthernet 0/0
Router (config-if) # no shutdown
Router (config-if) # exit
```

```
Router (config) # interface fastEthernet 0/0.2
Router (config-if) # encapsulation dot1q 2
Router (config-if) # switchport trunk allowed vlan 2,3,4
Router (config-if) #ip address 10.0.0.1 255.255.255.0
Router (config-if) #no shutdown
Router (config-if) #exit
```

```
Router (config) # interface fastEthernet 0/0.3
Router (config-if) # encapsulation dot1q 3
Router (config-if) # switchport trunk allowed vlan 2,3,4
Router (config-if) #ip address 20.0.0.1 255.255.255.0
Router (config-if) #no shutdown
Router (config-if) #exit
```

```
Router (config) # interface fastEthernet 0/0.4
Router (config-if) # encapsulation dot1q 4
Router (config-if) # switchport trunk allowed vlan 2,3,4
Router (config-if) #ip address 30.0.0.1 255.255.255.0
Router (config-if) #no shutdown
Router (config-if) #exit
```

This is router configuration and sub-interfaces and check the configuration below image

```
Router#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	unassigned	YES	unset	up	up
FastEthernet0/0.2	10.0.0.1	YES	manual	up	up
FastEthernet0/0.3	20.0.0.1	YES	manual	up	up
FastEthernet0/0.4	30.0.0.1	YES	manual	up	up
FastEthernet0/1	unassigned	YES	unset	administratively down	down
Vlan1	unassigned	YES	unset	administratively down	down

Step: 4

Now, we will do routing process, we know that we have different Routing protocols available but the question arises which protocol we used in our case study? So, we decided to use EIGRP routing protocol which is good for short distances.

EIGRP router configuration

```
Router0(config)# router eigrp 100
Router0(config-router)# network 192.168.1.0
Router0(config-router)# network 10.0.0.0
Router0(config-router)# network 20.0.0.0
Router0(config-router)# no auto-summary
Router0(config-router)# end
Router0# copy running-config startup-config
```

```
Router1(config)# router eigrp 100
Router1(config-router)# network 192.168.2.0
Router1(config-router)# network 10.0.0.0
Router1(config-router)# network 30.0.0.0
Router1(config-router)# no auto-summary
Router1(config-router)# end
Router1# copy running-config startup-config
```

```
Router2(config)# router eigrp 100
Router2(config-router)# network 192.168.3.0
Router2(config-router)# network 20.0.0.0
Router2(config-router)# network 40.0.0.0
Router2(config-router)# no auto-summary
Router2(config-router)# end
Router2# copy running-config startup-config
```

```
Router3(config)# router eigrp 100
Router3(config-router)# network 192.168.4.0
Router3(config-router)# network 30.0.0.0
Router3(config-router)# network 40.0.0.0
Router3(config-router)# no auto-summary
Router3(config-router)# end
Router3# copy running-config startup-config
```

EIGRP checking configuration

```
Router#show ip eigrp ?
  interfaces  IP-EIGRP interfaces
  neighbors   IP-EIGRP neighbors
  topology    IP-EIGRP Topology Table
  traffic     IP-EIGRP Traffic Statistics
```

```
Router0#show ip eigrp neighbors
IP-EIGRP neighbors for process 100
H   Address          Interface      Hold Uptime    SRTT    RTO    Q    Seq
   (sec)              (ms)          Cnt  Num
0   10.0.0.2          Fa4/0         14   00:14:53   40    1000    0    12
1   20.0.0.2          Fa5/0         12   00:14:53   40    1000    0    11
```

```
Router1#show ip eigrp neighbors
IP-EIGRP neighbors for process 100
H   Address          Interface      Hold Uptime    SRTT    RTO    Q    Seq
   (sec)              (ms)          Cnt  Num
0   30.0.0.2          Fa5/0         14   00:16:57   40    1000    0    11
1   10.0.0.1          Fa4/0         13   00:16:57   40    1000    0    13
```

```
Router0#show ip eigrp interfaces
IP-EIGRP interfaces for process 100

          Xmit Queue  Mean    Pacing Time  Multicast    Pending
Interface  Peers  Un/Reliable  SRTT    Un/Reliable  Flow Timer   Routes
Fa4/0       1      0/0         1236     0/10         0            0
Fa5/0       1      0/0         1236     0/10         0            0
Fa0/0       0      0/0         1236     0/10         0            0
```

```
Router1#show ip eigrp interfaces
IP-EIGRP interfaces for process 100

          Xmit Queue  Mean    Pacing Time  Multicast    Pending
Interface  Peers  Un/Reliable  SRTT    Un/Reliable  Flow Timer   Routes
Fa4/0       1      0/0         1236     0/10         0            0
Fa5/0       1      0/0         1236     0/10         0            0
Fa0/0       0      0/0         1236     0/10         0            0
```

Now, see EIGRP topology

```
Router0#show ip eigrp topology
IP-EIGRP Topology Table for AS 100/ID(192.168.1.2)

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - Reply status

P 10.0.0.0/24, 1 successors, FD is 28160
    via Connected, FastEthernet4/0
P 20.0.0.0/24, 1 successors, FD is 28160
    via Connected, FastEthernet5/0
P 30.0.0.0/24, 1 successors, FD is 30720
    via 10.0.0.2 (30720/28160), FastEthernet4/0
P 40.0.0.0/8, 1 successors, FD is 30720
    via 20.0.0.2 (30720/28160), FastEthernet5/0
P 192.168.1.0/24, 1 successors, FD is 28160
    via Connected, FastEthernet0/0
P 192.168.2.0/24, 1 successors, FD is 30720
    via 10.0.0.2 (30720/28160), FastEthernet4/0
P 192.168.3.0/24, 1 successors, FD is 30720
    via 20.0.0.2 (30720/28160), FastEthernet5/0
P 192.168.4.0/24, 1 successors, FD is 33280
    via 10.0.0.2 (33280/30720), FastEthernet4/0
```

This way we configure our Routing protocol to communicate in between Different sites of given in our Case study.

STEP: 5

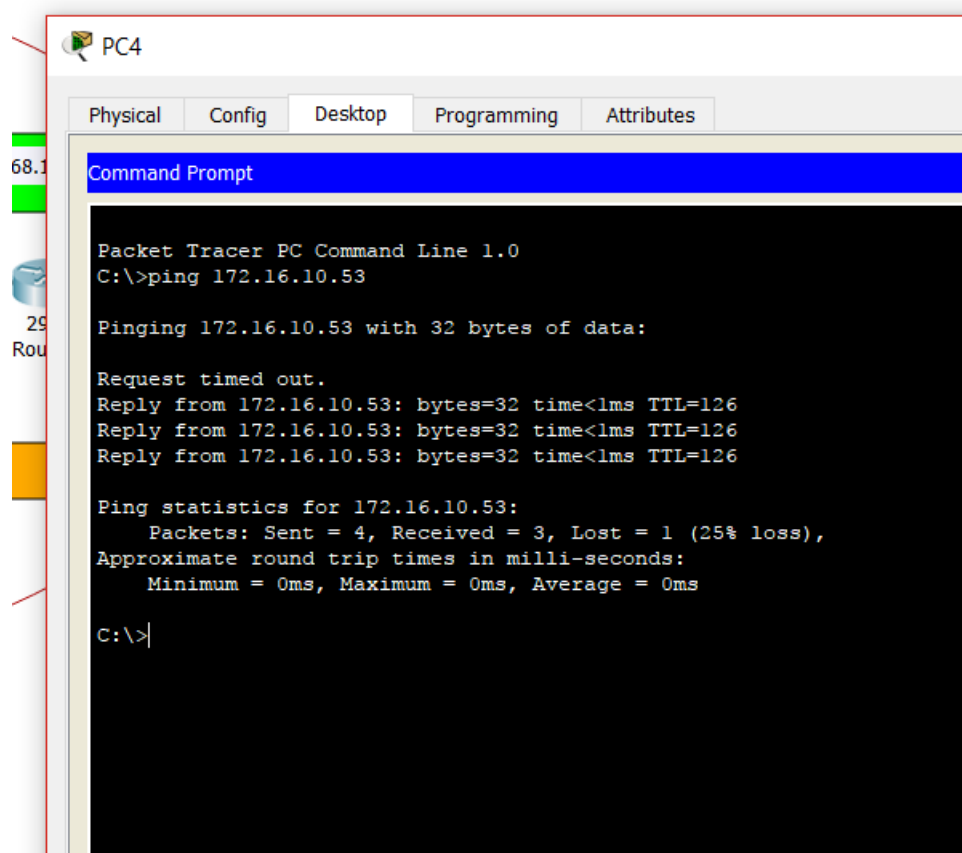
Now, we have to configure DNS on server for communicate in one domain and other site to. For Domain Name System we take a Server and configure in our network.

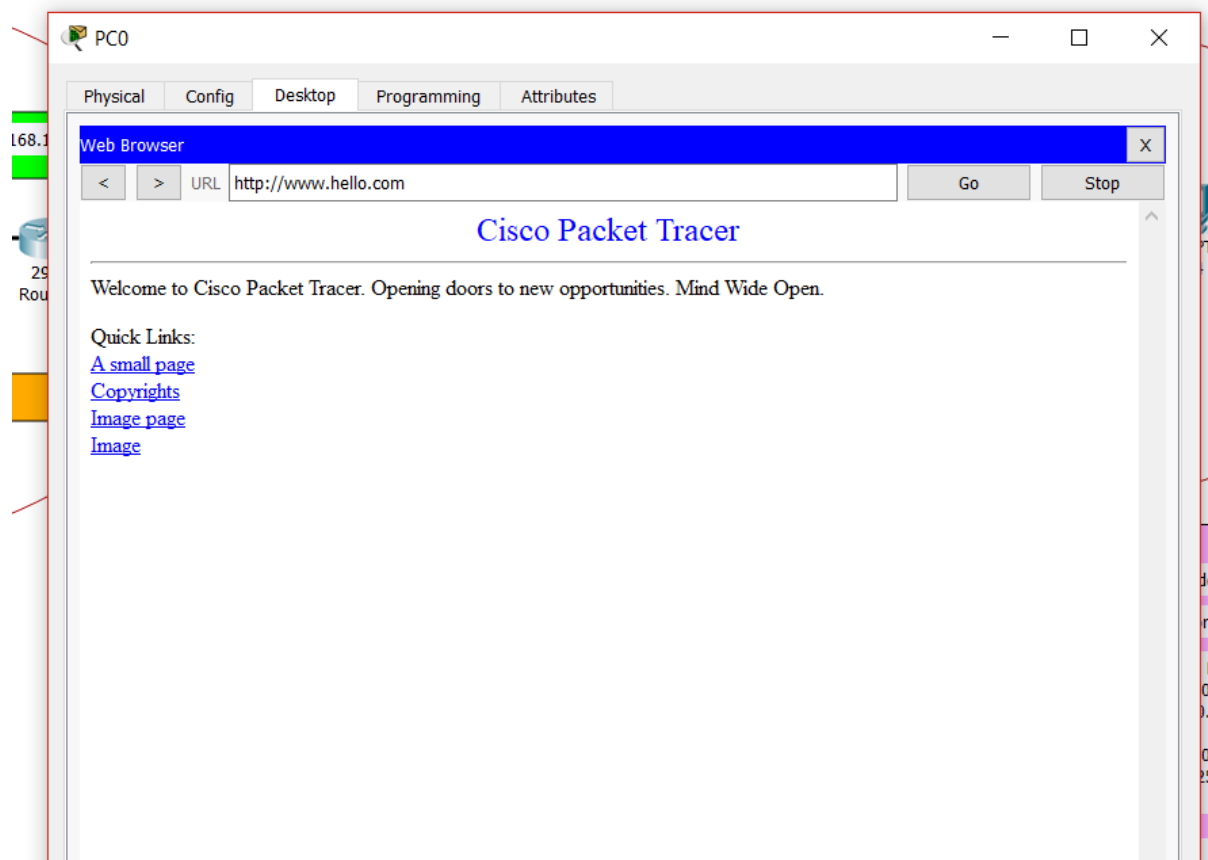
Here are commands on router:

Home_router (config) # ip domain-name www.home.com

Home_router (config) # ip name-server 172.16.10.53

Now, check on system that DNS is working:

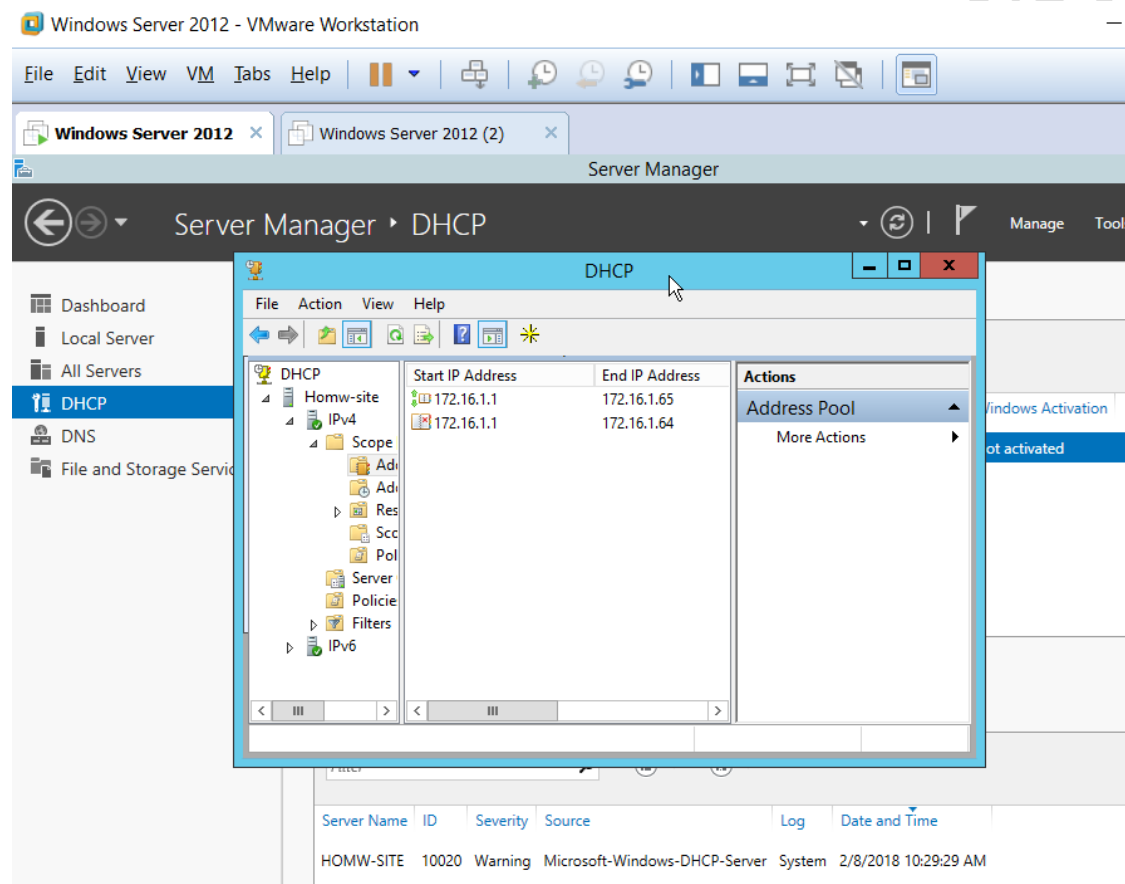




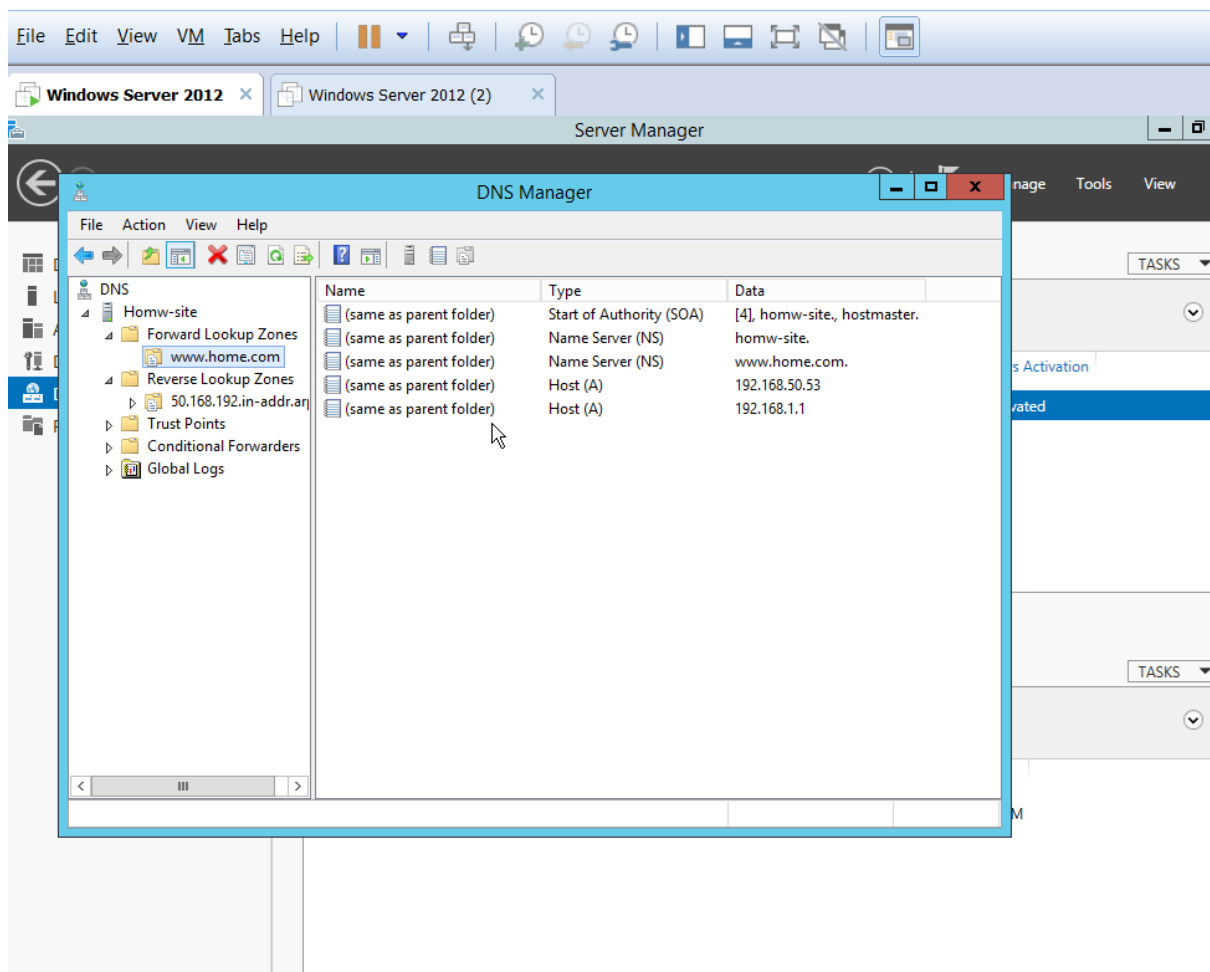
STEP: 6

Now, we can configure ADDS on server and make all four site in one domain system using Windows Server 2012 R2. Due to this it becomes one network part and security of network and organization will be increased.

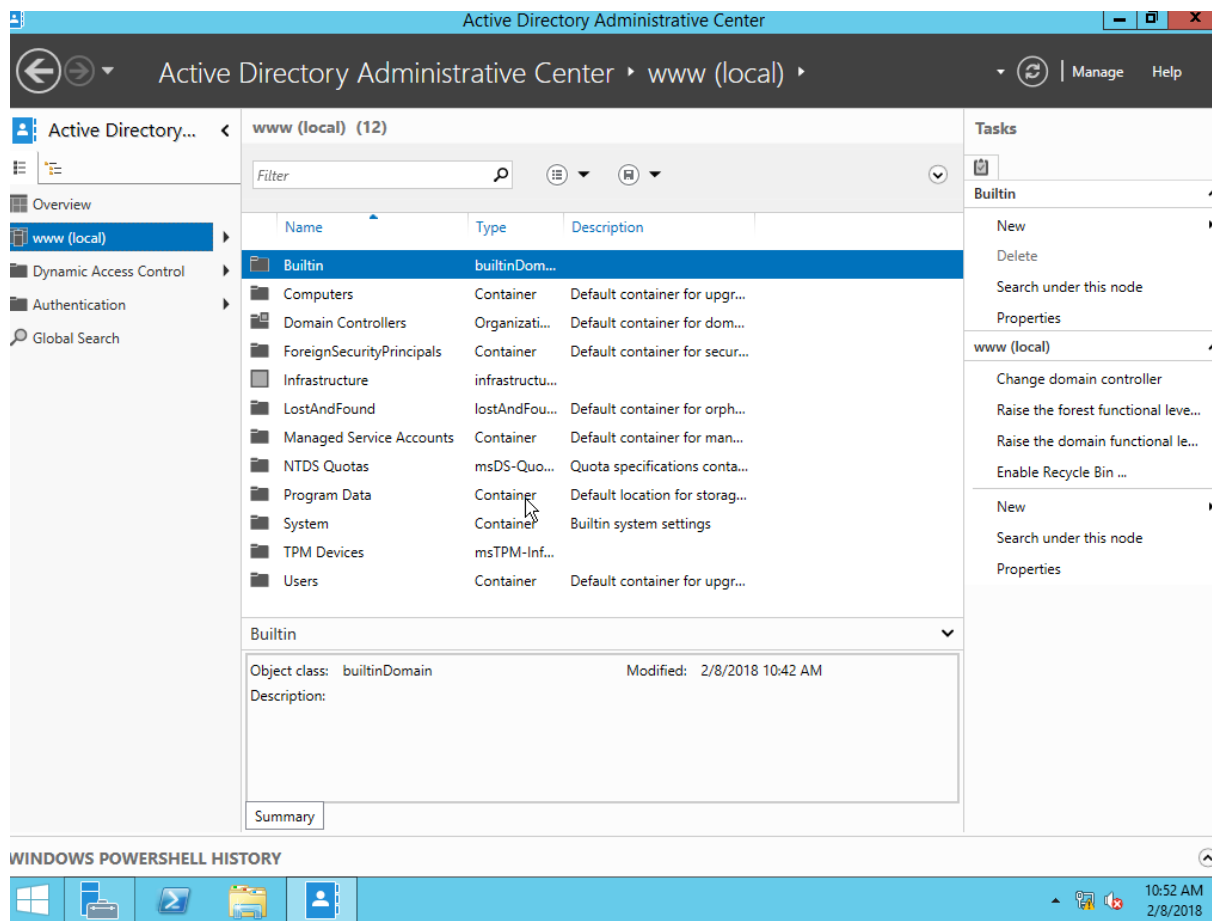
Now, see the process;



Here you can see the DHCP is configure for Home sites.



Here you can see the DNS configurations is done.



Here you can see the ADDS management and Users and Group Policy are configured

Server Manager ▸ AD DS

Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers

www.home.com

Users

Name	Type	Description
Administrator	User	Built-in account for ad...
Allowed RO...	Security Group...	Members in this group c...
Cert Publish...	Security Group...	Members of this group ...
Cloneable D...	Security Group...	Members of this group t...
Denied ROD...	Security Group...	Members in this group c...
DHCP Admi...	Security Group...	Members who have ad...
DHCP Users	Security Group...	Members who have vie...
DnsAdmins	Security Group...	DNS Administrators Gro...
DnsUpdateP...	Security Group...	DNS clients who are per...
Domain Ad...	Security Group...	Designated administrato...
Domain Co...	Security Group...	All workstations and ser...
Domain Con...	Security Group...	All domain controllers i...
Domain Gue...	Security Group...	All domain guests
Domain Users	Security Group...	All domain users
Enterprise A...	Security Group...	Designated administrato...
Enterprise R...	Security Group...	Members of this group ...
Group Polic...	Security Group...	Members in this group c...
Guest	User	Built-in account for gue...
Protected Us...	Security Group...	Members of this group ...
RAS and IAS ...	Security Group...	Servers in this group can...
Read-only D...	Security Group...	Members of this group ...

HOMW-SITE 4013 Warning Microsoft-Windows-DNS-Server-Service DNS Server 2/8/2018 10

HOMW-SITE 2886 Warning Microsoft-Windows-ActiveDirectory_DomainService Directory Service 2/8/2018 10

HOMW-SITE 2167 Error Microsoft-Windows-ActiveDirectory_DomainService Directory Service 2/8/2018 10

Server Manager ▸ AD DS

SERVICES

All servers | 1 total

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: www.home.com

Domains

www.home.com

Default Domain

Domain Contro

Group Policy Ol

WMI Filters

Starter GPOs

Sites

Group Policy Modeling

Group Policy Results

Starter GPOs in www.home.com

Contents Delegation

Name	Type	Created	Modified	Owner
Group Policy Remote Update ...	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Group Policy Reporting Firewa...	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows Vista EC Computer	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows Vista EC User	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows Vista SSLF Computer	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows Vista SSLF User	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows XP SP2 EC Computer	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows XP SP2 EC User	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows XP SP2 SSLF Comp...	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr
Windows XP SP2 SSLF User	System	2/8/2018 10:54:...	6/18/2013 6:49:5...	Administr

Load Cabinet... Save as Cabinet...

HOMW-SITE 2167 Error Microsoft-Windows-ActiveDirectory_DomainService Directory Service 2/8/2018 1

STEP: 7

Now, we have to configure the router basic security configuration here below we have done let see it;

Disabling Unused Ports

For a router basic security configuration, the first step is shut down all the unused ports. If you are using a port, it needs to be up. But if you don't use any ports, then always disable (administratively down) these unused ports. Shut down, in other words, disabling a port is very easy. You can do it with "shutdown" command under that interface.

```
Router (config) # interface fastethernet 0/0  
Router (config-if) # shutdown
```

Enable and Enable Secret Passwords

The second important router security step is passwords. You should use passwords on your router.

Here, there are two passwords: Enable password and Enable secret password.

Enable password stores the password in clear text format. So, it is easy to see it. But, enable secret password stores password in encrypted mode. So, it is more secure.

To encrypt all passwords in a router/switch, you can use "service password-encryption" command.

Let's see how to configure this passwords on a router.

```
Router (config) # enable password *****  
Router (config) # enable secret *****  
Router (config) # service password-encryption
```

Configuring Telnet Access Password

Telnet is not a secure way of connecting to a router. But if you use telnet to connect a router, you should use telnet password.

To configure Telnet access with password, you can use the below commands.

```
Router (config) #line vty 0 4
Router (config-line) # password 12345
Router (config-line) #login
```

Configuring Console Access Password

Like telnet, you also need to configure console access password for a secure router. To do this, firstly you need to enter line console mode and then set the password string. Again, with the login keyword, you can activate it.

To configure Console access with password, you can use the below commands.

```
Router (config) #line console 0
Router (config-line) # password 12345
Router (config-line) #login
```

Configuring Auxiliary Port Access Password

Aux port access password is rarely used. But like telnet and console, you can configure its password in line aux mode.

To configure Aux Port access with password, you can use the below commands.

```
Router (config) # line aux 0
Router (config-line) # password 12345
Router (config-line) # login local
```

Configuring SSH

SSH is generally used to access a router remotely. Because it is more secure than telnet.

Here, we are giving a brief SSH configuration in this basic router security configuration.

```
Router(config)# ip domain-name ipcisco.com
Router(config)# crypto key generate rsa modulus 1024 (key length, 1024 higher security)
Router(config)# ip ssh version 2
Router(config)# ip ssh time-out 60
Router(config)# ip ssh authentication-retries 2
Router(config)# ip ssh rsa keypair-name www.home.com
```

Users and Privilege Levels

A router has many users. For each user group you can create different access levels with privilege levels. Every user in the same privilege level has same access right.

Below, we created privilege level 3 limited only with 3 rights (telnet, show startup-config, show ip route) and a user named IPCisco with privilege level 3.

```
Router(config)# username IPCisco privilege 3 secret 12345
Router(config)# privilege exec level 3 show startup-config
Router(config)# privilege exec level 3 show ip route
Router(config)# privilege exec level 3 telnet
```

And lots of more security configurations we can do like ACLs, Authentication and Access-list for particular network to.

Chapter – 5

Conclusion

I hereby conclude that, I learnt a real based scenario case study and done hands on practical and simulation process. It enhance my current Networking skills and refurnish my basic knowledge to boost up advance knowledge.

I understand how in Industry the project is handling and done their completion process to submit it to higher authority and present it.

It enhance my presentation as well as documentation skills both.