We have installed the OpenBSD OS on our Virtual-box along with the Ports. Also we have successfully did SSH to our OpenBSD from our desktop. The output is given below

## **SSH into OPEN BSD**

```
[Group6@group6d ~]$ ssh -x root@192.168.116.101 root@192.168.116.101's password:
Last login: Sun Apr 27 16:41:40 2014 from 192.168.116.1
OpenBSD 5.4 (GENERIC) #37: Tue Jul 30 12:05:01 MDT 2013
```

Welcome to OpenBSD: The proactively secure Unix-like operating system.

Please use the sendbug(1) utility to report bugs in the system. Before reporting a bug, please try to reproduce it with the latest version of the code. With bug reports, please try to ensure that enough information to reproduce the problem is enclosed, and if a known fix for it exists, include that as well.

## **IfConfig Command**

```
# ifconfig
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 33192
    priority: 0
    groups: lo
    inet6::1 prefixlen 128
    inet6 fe80::1%lo0 prefixlen 64 scopeid 0x4
    inet 127.0.0.1 netmask 0xff000000
em0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    lladdr 08:00:27:0d:49:c5
    priority: 0
    groups: egress
    media: Ethernet autoselect (1000baseT full-duplex)
    status: active
    inet6 fe80::a00:27ff:fe0d:49c5%em0 prefixlen 64 scopeid 0x1
    inet 10.0.2.15 netmask 0xffffff00 broadcast 10.0.2.255
em1: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    lladdr 08:00:27:04:9c:50
    priority: 0
    media: Ethernet autoselect (1000baseT full-duplex)
    status: active
    inet6 fe80::a00:27ff:fe04:9c50%em1 prefixlen 64 scopeid 0x2
    inet 192.168.116.101 netmask 0xffffff00 broadcast 192.168.116.255
enc0: flags=0<>
    priority: 0
    groups: enc
```

## **Error Detection and Design**

status: active

You are to implement a wireless network. What error detection scheme would you choose and why would you choose this approach?

We would implement Cyclic Redundancy Check error detecting codes because they are simple to implement in binary hardware and particularly good at detecting errors caused by noise in transmission channels.

You are to implement a fiber-based network. What error detection scheme would you choose and why would you choose this approach?

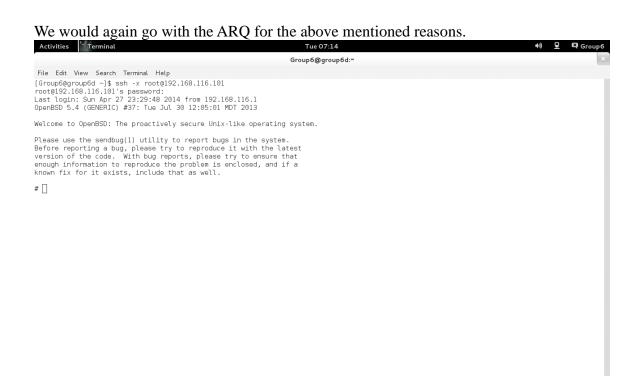
We would choose parity as this is used for error detection in SONET.

## **Reliable Transmission**

You are to implement a wireless network. What reliable transmission scheme would you choose and why would you choose this approach?

We would choose Selective Repeat ARQ transmission scheme because it ensures reliable transmission over noisy media and is widely used in power lines, telephone lines and co-axial cables.

You are to implement a fiber-based network. What reliable transmission scheme would you choose and why would you choose this approach?



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