

实验成绩	分数?
批阅教师	批阅教师?
日 期	批阅日期?



西南林业大学  
SOUTHWEST FORESTRY UNIVERSITY

## 大数据与智能工程学院 实践（实习）报告

课程名称 《计算机网络》课程实习

专业班级 实习班级?

学 号 学号?

学生姓名 张三

指导教师 指导教师?

2024年6月30日

实习时间	实习日期?	实习天数	实习天数?
实习地点	实习地点?	实习班级	实习班级?
实习人数	实习人数?	分组情况	分组情况?

## 实习目的

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## 实习要求

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## 实习内容

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## 课程实习安排

(本栏须填写清楚实习的日期及该天实习的具体内容)

课程实习安排?

## 1 Packet analysis

Upon running the following command:

---

```
1 sudo tcpdump -i lo -nnvvvxXKS -s0 port 3333
```

---

the following packet is captured:

```
08:34:10.790666 IP (tos 0x0, ttl 64, id 12824, offset 0, flags [DF], proto TCP (6),
length 64)
  127.0.0.1.46668 > 127.0.0.1.3333: Flags [P.], seq 2400005725:2400005737, ack 37
  win 512, options [nop,nop,TS val 3259949783 ecr 3259896343], length 12
    0x0000:  4500 0040 3218 4000 4006 0a9e 7f00 0001  E..@2.@.....
    0x0010:  7f00 0001 b64c 0d05 8f0d 2e5d 163f caa4  .....L.....].?...
    0x0020:  8018 0200 fe34 0000 0101 080a c24e e2d7  .....4.....N..
    0x0030:  c24e 1217 6865 6c6c 6f20 776f 726c 640a  .N..hello.world.
```

1. Tell me the meaning of each option used in the previous command.
  - **-i:**
  - **-nn:**
  - **-vvv:**
  - **-x:**
  - **-X:**
  - **-S:**
  - **-K:**
  - **-s0:**
2. Please analyze this captured packet and explain it to me as detailed as you can.

**Answer**

## 2 HTTP

1. Write a simple script showing how HTTP works (you need `curl`);

---

```
1 #!/bin/bash
2
```

---

2. Record your HTTP demo session with `tttyrec`.

## 3 Socket programming

### 3.1 TCP

---

```
1 /* A simple TCP server written in C */
2
3 // Your code
```

---

---

```
1 /* A simple TCP client written in C */
2
3 // Your code
```

---

### 3.2 UDP

---

```
1 /* A simple UDP server written in C */
2
3 // Your code
```

---

---

```
1 /* A simple UDP client written in C */
2
3 // Your code
```

---

## 4 Questions

List at least 5 problems you've met while doing this work. When listing your problems, you have to tell me:

1. Description of this problem. For example,
  - What were you trying to do before seeing this problem?
2. How did you try solving this problem? For example,
  - Did you google? web links?
  - Did you read the man page?
  - Did you ask others for hints?

## 4.1 Problems

### 4.1.1 Problem 1

### 4.1.2 Problem 2

### 4.1.3 Problem 3

### 4.1.4 Problem 4

### 4.1.5 Problem 5