# 计算机网络 PJ Checkpoints 通过截图

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## 一、 Checkpoint1

Checkpoint 1 - Test 1 - Test 2

Checkpoint1 - Test 3

### 二、 Checkpoint2

```
😑 🗊 sunnyyao666@sunnyyao666-VirtualBox: ~/PJ/cp2
****** ref peer exiting after 2 connections, as specified by -x flag *******
########## Test 1 Passed! ##########
Spiffy local stuff: 00000000:1111
Spiffy setup complete. 127.0.0.1:15441
Delete this line after testing.
Spiffy local stuff: 0100007f:2222
Spiffy setup complete. 127.0.0.1:15441 Delete this line after testing.
id = 0, hash = 3b9f916bbf59021ab781c9f2456df90a0102079f
id = 0, hash = 3b9f916bbf59021ab781c9f2456df90a0102079f
SEND CHUNK id = 2
id = 0, hash = 3b9f916bbf59021ab781c9f2456df90a0102079f
id = 1, hash = 78585121ee33fbb6666bc4bf1a8498c04b2758e8
id = 1, hash = 78585121ee33fbb6666bc4bf1a8498c04b2758e8
       hash = 78585121ee33fbb6666bc4bf1a8498c04b27<u>5</u>8e8
id = 1,
SEND CHUNK id = 3
id = 1, hash = 78585121ee33fbb6666bc4bf1a8498c04b2758e8
GOT test2.tar
******* ref_peer exiting after 2 connections, as specified by -x flag *******
***
########## Test 2 Passed! ##########
done with tests
killing spiffy
sunnyyao666@sunnyyao666-VirtualBox:~/PJ/cp2$
```

Checkpoint2 - Test 1 - Test 2

#### 三、 Checkpoint3

```
😑 📵 sunnyyao666@sunnyyao666-VirtualBox: ~/PJ/cp3
0.1:1111) at time = 91874
Dropping packet seq = 345, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 91885
Dropping packet seq = 346, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 92903
Dropping packet seq = 347, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 92916
Dropping packet seq = 0, ack = 348 len = 2048 (from,to) = (127.0.0.1:2222,127.0.
0.1:1111) at time = 93937
Dropping´packet seq = 0, ack = 353 len = 2048 (from,to) = (127.0.0.1:2222,127.0.
0.1:1111) at time = 93976
Dropping packet seq = 355, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 93980
Dropping packet seq = 356, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 94999
Dropping packet seq = 0, ack = 355 len = 2048 (from,to) = (127.0.0.1:2222,127.0.
0.1:1111) at time = 95004
Dropping packet seq = 361, ack = 0 len = 1432 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 96030
GOT chunk id = 1
GOT test1.chunks
****** ref peer exiting after 2 connections, as specified by -x flag *******
########## Test 1 Passed! ##########
```

```
🔊 🖃 📵 sunnyyao666@sunnyyao666-VirtualBox: ~/PJ/cp3
queue loss!
Dropping packet seq = 504, ack = 0 len = 2048 (from,to) = (127.0.0.1:1111,127.0.0.1:2222) at time = 118602
queue loss!
Dropping packet seq = 0, ack = 502 len = 32 (from,to) = (127.0.0.1:2222,127.0.0.
1:1111) at time = 118645
Dropping packet seq = 511, ack = 0 len = 2048 (from,to) = (127.0.0.1:1111,127.0.
0.1:2222) at time = 118689
Successfully Downloaded: id = 1, hash = 78585121ee33fbb6666bc4bf1a8498c04b2758e8
GOT test2.tar
****** ref_peer exiting after 2 connections, as specified by -x flag *******
***
########## Test 2 Passed! ##########
done with tests
killing spiffy
sunnyyao666@sunnyyao666-VirtualBox:~/PJ/cp3$
```

Checkpoint3 - Test 2

#### 四、 Concurrenttest

```
id = 1, hash = af91dbd47aac60e980e0369df68271ca52de11a8
creating Control packet of type 1 with 2 chunks
Peer 1 Sending IHAVE of size 60 to 0.0.0.0:3333
DOWNLOADING chunk id = 0 from peer
DOWNLOADING chunk id = 1 from peer 2
Peer 2 received GET from peer 3:
id = 1, hash = af91dbd47aac60e980e0369df68271ca52de11a8
Data Transfer May take a few minutes
Peer 1 received GET from peer 3:
id = 0, hash = 6acfce07d222d400ce900d918306c6664501b33f
Data Transfer May take a few minutes
GOT chunk id = 1
****** ref_peer exiting after 1 connections, as specified by -x flag *******
Peer 1 received WHO HAS with 2 hashes
id = -1, hash = fc7f0000ee8e40000000000c68e40000000000
GOT chunk id = 0
GOT test1.chunks
killing spiffy after test1
done with test
sunnyyao666@sunnyyao666-VirtualBox:~/PJ/concurrenttest$
```

Concurrenttest - Test 1