# NS3 Learning Guide

[Multimedia Communication Simulations] (ns-3.34)
1.  myEvalSVC-NS3 (performance evaluation framework for scalable video contents in NS3 environment) (2022/1/28 done)
2.  ffmpeg streaming over NS3 networks (2022/2/26 done)

[Performance Measurement]
1.  TCP throughput measurement (2022/2/4 done)
2.  UDP throughput measurement (2022/2/4 done)
3.  TCP throughput measurement2 (multiple tcp flows) (2022/2/5 done) Plot the throughputs with Gnuplot (2022/2/10 done)
4.  UDP Packet Loss Rate Calculation (2022/2/5 done)
5.  UDP: End to End Delay Measurement (2022/2/6 done) More Examples (2022/2/7 done)
6.  Use iperf to measure the throughput and dynamically plot the throughput with gnuplot (2022/2/27 done)

[Queue]
1.  pfifo-fast (2022/2/7 done)
2.  Dumbbell topology: FIFO vs. RED (2022/2/9 done)
3.  How to add a new queue into NS3? (2022/2/15 done)
4.  How to add a random drop queue into NS3? (2022/2/17 done)
5.  How to measure the queue length? (2022/2/18 done)
6.  How to add a round-robin queue into NS3? (2022/2/20 done)
7.  How to add a weighted round-robin queue into NS3? (2022/2/21 done)

[Others]
1. Set TOS field (2022/2/6 done)
2. Broadcast (2022/2/12 done)
3. Multicast (2022/2/12 done)
4. Static ARP (2022/2/12 done)
5. Link Down and Link Up (2022/2/13 down)
6. Dynamically change the bandwidth (2022/2/14 down)

[Tap Bridge]
1. How to use Dockers in NS3 networks? (TapBridge: UseBridge mode) (2022/2/23 done)
2. Tap Bridge Model: ConfigureLocal Mode and UseLocal Mode (2022/2/24 done)
3. Tap Bridge Model: UseBridge Mode (more complicated scenario) (2022/2/25 done)
4. Mininet Host talks to NS3 Host (2022/9/6 done)
5. NS3 Host sends data packets to Mininet Host (2022/9/26 done)

[Routing]
1. static routing (wired) (2022/2/11 done)
2. static routing (wireless adhoc) (2022/2/11 done)

[SDN]
1. ofswitch13 with RYU controller (2022/2/27 done)

2.NS4: A P4-driven Network Simulator (2022/2/28 done)

[ns3-gym]
1.CCOD-DQN (Contention Window Optimization in IEEE 802.11ax
Networks with Deep Reinforcement Learning) (2022/2/28 done)
2.Move2Right (q-learning example) (2022/11/15 done)
3.Move2Right-multiagent (q-learning example) (2022/11/15 done)

[Topology Generator]
1.Topology Generator (2022/2/8 done)


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[References]
[reinforcement learning]
1.  ns3-gym
2.  ns3-ai
3.  RLinWiFi
4.  ns3-gym-multiagent
5.  Deep RL based adaptive WiFi Load balancing
6.  DQN-based-AQM

[802.11]
1.https://github.com/zzkkcc/ns3-wireless-DCF-saturationThroughput
2.NS3 WiFi模型內容翻譯
3.關於NS3中各個WifiRemoteStationManager
4.NS3仿真IEEE 802.11e協議TXOP
5.Wi-Fi (IEEE 802.11)
6.ns3 code used in the paper "Attention to Wifi Diversity: Resource
Management in WLANs with Heterogeneous Aps".
7.ns-3-python-examples/wireless
8.NS3 WiFi環境中Socket發送Packet的過程
9.NS-3學習之wifi-simple-adhoc.cc分析和變種
10.NS3中無線節點的通信傳輸範圍如何設置
11.wifi-multi-tos.cc

[LTE/5G]
1.  5G-LENA simulator
2.  LTE Module
3.  基于NS3的5G網絡仿真
4.  利用NS3部屬一個LTE網絡

[SDN]
1.  OFSWITCH13
2.ns3-bmv2
3.ns4-install   P4Simulator

[Others]

1. [ns3-users](#)
2. [ns3simluator.com](#)
3. [ns3simulation.com](#)
4. [ns3-code.com](#)
5. [ns3tutorial.com](#)
6. [DDoS simulation in NS-3](#)
7. [C++-如何在NS-3中打印使用UDP接收的數據包](#)
8. [ns3利用FlowMonitor進行網絡性能分析](#)
9. [數據包端到端時延的測量](#)
10. [ns3 installation](#)
11. [NS3生成隨機數](#)
12. [NS3 仿真系列資料大全](#)

[Author]

Dr. [Chih-Heng Ke](#) (柯志亨)
Department of Computer Science and Information Engineering, National Quemoy University, Kinmen, Taiwan
Email: smallko@gmail.com