

DAFTAR PUSTAKA

- Alamin, M. M., Azzaroh, A. F., Pangarso, A. W., Laksono, D. A., & Hasan, M. I. (2024). Analisis *Quality of Service* (QoS) Jaringan Internet Pada Kampus Universitas Nahdlatul Ulama Sidoarjo Berbasis Wireshark. *Voteteknika (Vocational Teknik Elektronika Dan Informatika)*, 12(3), 350. <https://doi.org/10.24036/voteteknika.v12i3.128106>
- Aprilianto, M. R., Anggoro, D., & Hidayat, A. (2023). Perancangan Manajemen *Bandwidth* Berbasis Mikrotik OS Pada Sentra Layanan Universitas Terbuka Gajah Mada. *JIKI (Jurnal Ilmu Komputer & Informatika)*, 4(2), 164–172. <https://doi.org/10.24127/jiki.v4i2.4524>
- Duri, R. N., & Juansen, M. (2025). Analisis Perbandingan Qos Dengan Standarisasi Tiphon: Metode Simple Queue Dan Per Connection Queue. *Jurnal PROCESSOR*, 20(1). <https://doi.org/10.33998/processor.2025.20.1.2027>
- ETSI. (1998). *Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON); General aspects of Quality of Service (QoS)*. <https://api.semanticscholar.org/CorpusID:211567231>
- Guntoro, Sadar, M., & Syafitri, W. (2021). Evaluasi Performance Jaringan Internet Kampus Menggunakan *Quality of Service* (QoS). *SEMASTER: Seminar Nasional Teknologi Informasi & Ilmu Komputer*, 1(1), 280–290. <https://doi.org/10.31849/semaster.v1i1.6139>
- Iqbal, M., Fitriawan, H., & Kurniawan, D. (2022). Simulasi Kinerja Web Server Pada Jaringan LAN (*Local Area Network*) Kampus Menggunakan NS2 (Network Simulator 2). *Jurnal Komputasi*, 10(2), 22–47. <https://doi.org/10.23960/komputasi.v10i2.3166>
- Iturria-Rivera, P. E., & Erol-Kantarci, M. (2021). QoS-Aware Load Balancing in Wireless Networks using Clipped Double Q-Learning. *2021 IEEE 18th International Conference on Mobile Ad Hoc and Smart Systems (MASS)*, 10–16. <https://doi.org/10.1109/MASS52906.2021.00011>
- Maulana, M. E., Ramdhani, N., & Mahmudin. (2025). Pengaruh Penggunaan Topologi Mesh terhadap Perkembangan Jaringan Wireless di Era Sekarang.

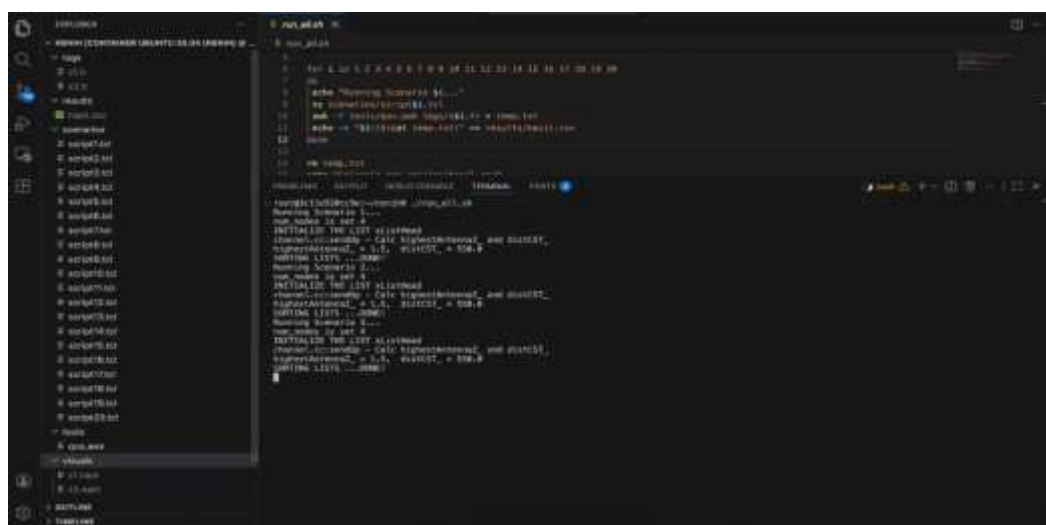
- Router : Jurnal Teknik Informatika Dan Terapan*, 3(3), 14–23.
<https://doi.org/10.62951/router.v3i3.637>
- Nusri, A. Z., & Erwin Syah, R. (2025). Analisis Trafik Jaringan Menggunakan Wireshark Untuk Meningkatkan Kinerja Jaringan Pada Smk 3 Soppeng. *Jurnal Ilmiah Sistem Informasi Dan Teknik Informatika (JISTI)*, 8(1), 114–122. <https://doi.org/10.57093/jisti.v8i1.281>
- Prihantoro, C., Hidayah, A. K., & Fernandez, S. (2021). Analisis Manajemen *Bandwidth* Menggunakan Metode Queue Tree pada Jaringan Internet Universitas Muhammadiyah Bengkulu. *Just TI (Jurnal Sains Terapan Teknologi Informasi)*, 13(2), 81. <https://doi.org/10.46964/justti.v13i2.750>
- Priyani, N., Putri, N. R., Nazarius, A., & Parhusip, J. (2024). Transformasi Kurikulum Pendidikan untuk Meningkatkan Kompetensi Teknologi dalam Era Digital. *Informatika: Jurnal Teknik Informatika Dan Multimedia*, 4(2), 08–12. <https://doi.org/10.51903/informatika.v4i2.824>
- Saski, M., Iskandar, I., Novriyanto, & Pizaini. (2023). Optimasi Kualitas Jaringan WIFI Fakultas Melalui Redesain Topologi Dengan Menggunakan Network Simulator 2. *KLIK: Kajian Ilmiah Informatika Dan Komputer*, 4(2), 1032–1041.
- Simargolang, M. Y., & Widarma, A. (2022). *Quality of Service (QoS)* for Network Performance Analysis Wireless Area Network (WLAN). *CESS (Journal of Computer Engineering, System and Science)*, 7(1), 162–171. <https://doi.org/10.24114/cess.v7i1.29758>
- Yadav, S., & Anand, R. (2025). Analysis of advancing paradigms of smart grid innovations, applications, challenges, future trends and strategic implementations. *Discover Applied Sciences*, 7(12), 1380. <https://doi.org/10.1007/s42452-025-07905-2>

LAMPIRAN

Lampiran 1. Interview Bersama Staff IT



Lampiran 2. Codingan Analisa Sebelum dan Sesudah Optimalisasi Menggunakan NS-2



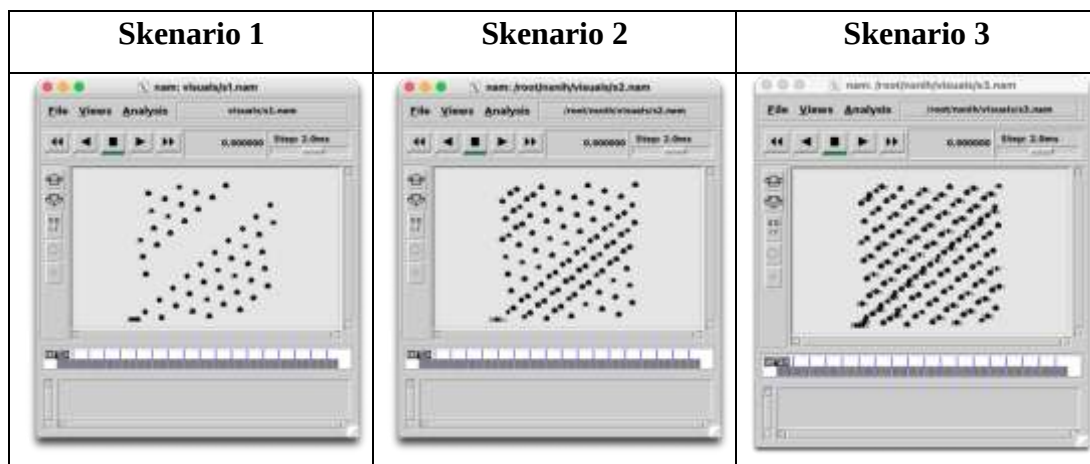
Lampiran 3. Output Codingan NS-2

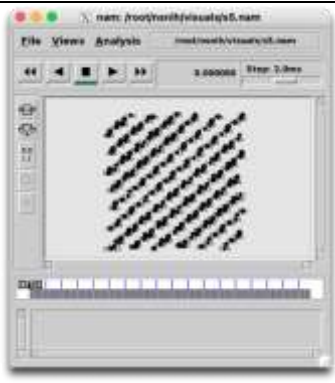
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Problems Output Debug Console Terminal Ports 12
root@3c11e520cc9e:~/nsnih# ./run_all.sh
channel.cc:sendUp - Calc highestAntennaZ_ and distCST_
highestAntennaZ_ = 1.5, distCST_ = 550.0
SORTING LISTS ...DONE!
Running Scenario 7...
num_nodes is set 153
INITIALIZE THE LIST xListHead
channel.cc:sendUp - Calc highestAntennaZ_ and distCST_
highestAntennaZ_ = 1.5, distCST_ = 550.0
SORTING LISTS ...DONE!
Running Scenario 8...
num_nodes is set 203
INITIALIZE THE LIST xListHead
channel.cc:sendUp - Calc highestAntennaZ_ and distCST_
highestAntennaZ_ = 1.5, distCST_ = 550.0
SORTING LISTS ...DONE!
Running Scenario 9...
num_nodes is set 253
INITIALIZE THE LIST xListHead
channel.cc:sendUp - Calc highestAntennaZ_ and distCST_
highestAntennaZ_ = 1.5, distCST_ = 550.0
SORTING LISTS ...DONE!
Running Scenario 10...
num_nodes is set 303
INITIALIZE THE LIST xListHead
channel.cc:sendUp - Calc highestAntennaZ_ and distCST_
highestAntennaZ_ = 1.5, distCST_ = 550.0
SORTING LISTS ...DONE!
[]

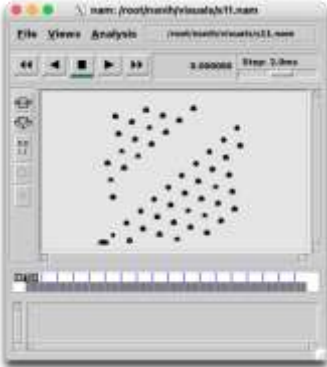
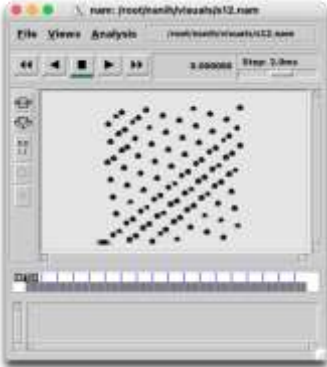
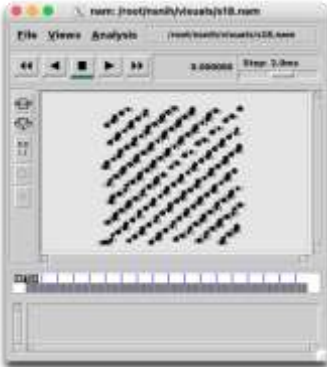
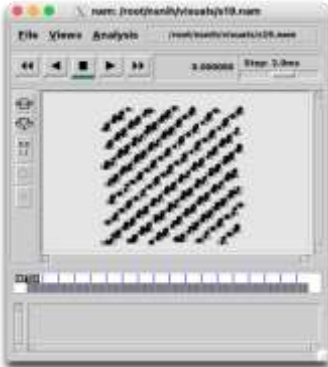
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Lampiran 4. Hasil Analisa Sebelum Optimalisasi



Skenario 4 	Skenario 5 	Skenario 6 
Skenario 7 	Skenario 8 	Skenario 9 
Skenario 10 		

Lampiran 5. Hasil Analisa Setelah Optimalisasi

Skenario 11	Skenario 12	Skenario 13
		
Skenario 14	Skenario 15	Skenario 16
		
Skenario 17	Skenario 18	Skenario 19
		

Skenario 20

