A Hands-on Digital Forensic Lab to Investigate Morris Worm Attack

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Contributions

- Developed a hands-on digital forensic lab to investigate the Morris Worm attack
- Demonstrate a systematic approach to reconstructing the attack scenario
- Help students learn the fundamentals of digital forensic investigation, including identifying, collecting, and analyzing digital forensic evidence

Background

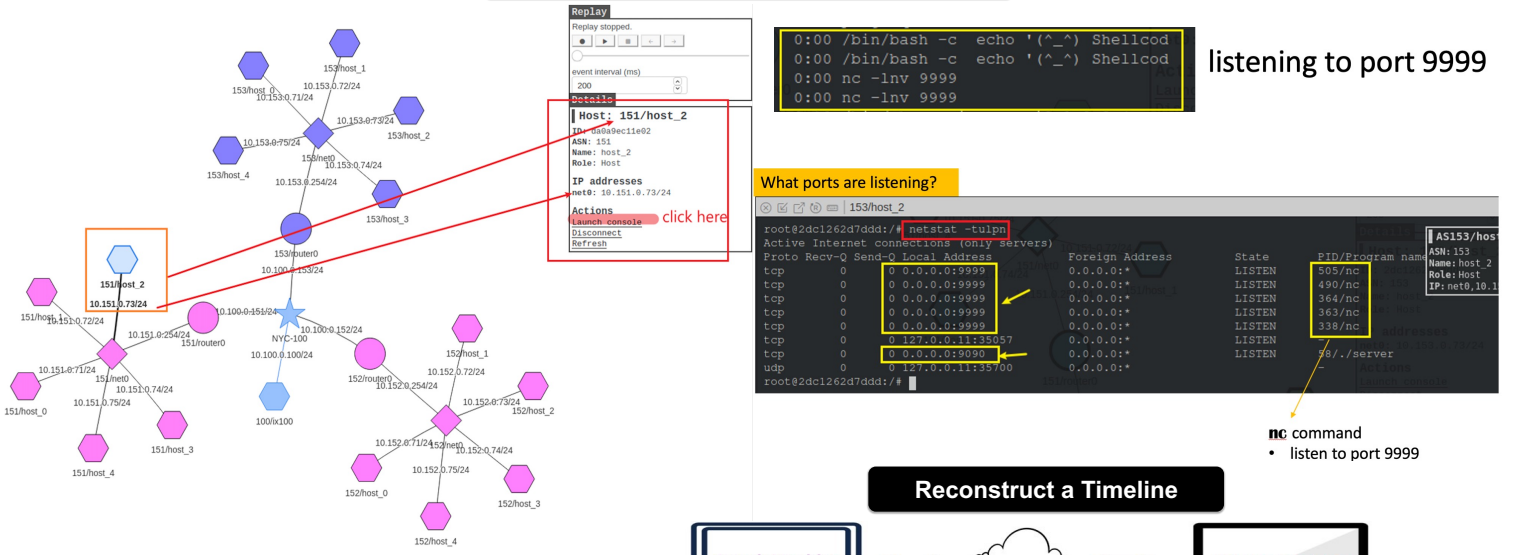
- **Morris Worm**
  - A malware was developed by Robert Tappan MORRIS
  - A program can self-spread across a national network
  - Demonstrate the inadequacies of security measures

Why Study Morris Worm ?

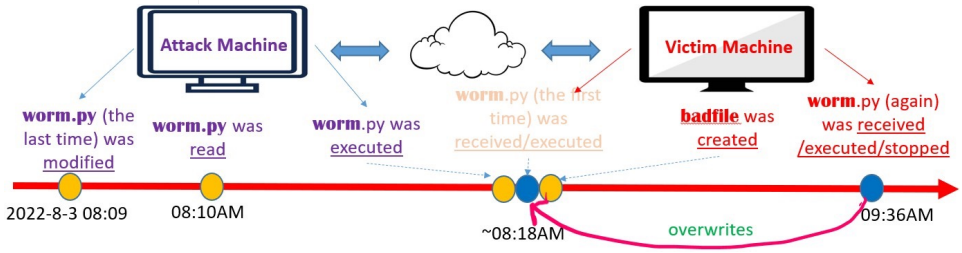
- **Morris Worm vs. Ransomware**
  - The techniques are still the same
  - Exploit vulnerabilities
  - Self-duplication
  - Self-spreading
  - Non-destructive vs. asking ransom fee (WannaCry)

Forensics Investigation

Analyze Network Ports and Process Used by Worm



Reconstruct a Timeline



Setup Environment

- Install Virtual Machine
- Running on an Internet emulator
- A simplified version of the attack code written in Python

Lab Resources

https://github.com/frankwxu/digital-forensics-lab

https://www.cyberforensics4all.org/

CYBER FORENSICS 4 ALL

SCAN ME

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