Title: SESSION ON NETWORK SECURITY APPLICATIONS

Date: 22nd February, 2019 Time: 11.15 to 1.15pm

Class: T.E. Computer Engg. Students

Venue: IBM Lab, A-Wing 2nd Floor, Department of Computer Engg., DBIT

Faculty In-charge: Shafaque Fatma Syed

The Cyber Security Session organized by Department of Computer was held on 22nd February 2019. It started at 11:15am by an introductory speech by Prof. Shafaque Syed. The session was further led by the speaker Mr. Pratik Chotaliya (Certified ethical hacker, Security Expert) on an interactive session focusing on topics like:

- Network Security
- Denial of Service(DOS)
- Internet Security Protocol

The session started by introduction to the various internal and external security threats on a system. Emphasizing the importance of Confidentiality, Integrity and Availability in area of Security and also how Vulnerability is weakness of a Secured System was explained. Concepts involving the following was illustrated:

- ARP Poisoning (ARP Spoofing) A technique by which an attacker sends (spoofed) Address Resolution Protocol (ARP) messages onto a local area network. Generally, the aim is to associate the attacker's MAC address with the IP address of another host, such as the default gateway, causing any traffic meant for that IP address to be sent to the attacker instead.
- Packet Sniffing/Spoofing The act of capturing packets of data flowing across a computer network. Packet sniffing is widely used by hackers and crackers to gather information illegally about networks they intend to break into.
- Port Scanning To check server side ports and services by NMap and TCP 3 way
 handshake. A process that sends client requests to a range of server port addresses
 on a host, with the goal of finding an active port. The majority of uses of a port
 scan are not attacks, but rather simple probes to determine services available on a
 remote machine.

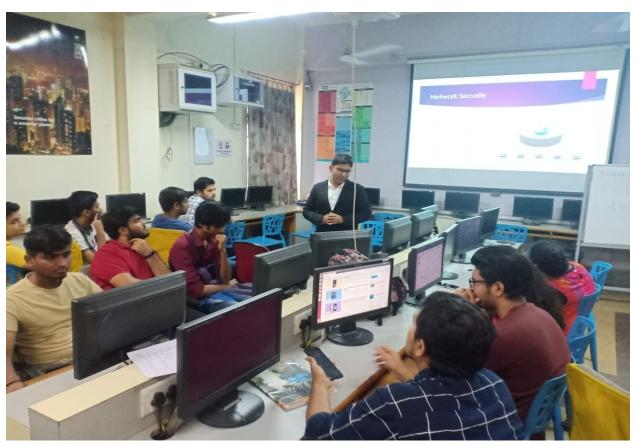
- UDP Scan A UDP packet is sent to a port that is not open, the system will respond with an ICMP port unreachable message. Most UDP port scanners use this scanning method, and use the absence of a response to infer that a port is open. However, if a port is blocked by a firewall, this method will falsely report that the port is open. If the port unreachable message is blocked, all ports will appear open.
- TCP Syn Flood A SYN flood is a form of denial-of-service attack in which an attacker sends a succession of SYN requests to a target's system in an attempt to consume enough server resources to make the system unresponsive to legitimate traffic. The basis of the SYN flooding attack lies in the design of the 3-way handshake that begins a TCP connection. In this handshake, the third packet verifies the initiator's ability to receive packets at the IP address it used as the source in its initial request, or its return reachability.
- Hacking Android Application by use of Oracle VM VirtualBox, Windows VM Virtual Box where Android emulator would run, Kali Linux – VM image, Android SDK, Metasploit Framework
- ICMP flooding Ping flood, also known as ICMP flood, a common Denial of Service (DoS) attack in which an attacker takes down a victim's computer by overwhelming it with ICMP echo requests, also known as pings. The attack involves flooding the victim's network with request packets, knowing that the network will respond with an equal number of reply packets.

The various kinds of DOS attacks like ICMP, SYN, UDP, DDOS was explained and how to differentiate between the operating system used by the target server, by the value of time to live (ttl) was demonstrated.

This session ended at 1pm and aimed to provide an opportunity to students to connect the **theoretical knowledge of CSS** with a **practical application of how it's actually works** for better understanding of Security within System.

Report prepared by-

Atharva Deshmukh





DON BOSCO INSTITUTE OF TECHNOLOGY DEPARTMENT OF COMPUTER ENGINEERING

WORKSHOP ON NETWORK SECURITY APPLICATIONS ATTENDANCE SHEET

CLASS: T.E. DATE: 22/02/2019 TIME: 11AM TO 1PM SUBJECT: CRYPTOGRAPHY AND SYSTEM SECURITY VENUE: COMP LAB – 4

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