1. Vulnerability Assessment and penetration testing
   1. Host – Windows, Linux, Mobile Android or IOS
   2. Network Wireless (Bluetooth, wifi, Lora…)
   3. Server
      1. OS Windows Server, Linux
      2. Applications (Web server, Email server, FTP server, ….)
2. 2. Malware Analysis and Detection
   1. Windows OS – Email Attachment , download from a website (pdf, jpg, exe,…)
   2. Android (media), apk files (applications)
      1. Spyware
      2. Worm
      3. Trojanhosre
      4. Botnet
      5. Ransomeware الفدية(

Keywords: Ransomeware Analysis and detection

* [A survey on **analysis**and **detection**of Android **ransomware**](https://onlinelibrary.wiley.com/doi/abs/10.1002/cpe.6272)
  + Survey paper , Android introduction, Ransomeware , static and dynamic analysis, 5 detection methods using machine learning and other methods, suggestion for future research by answering 4 questions
    - Q1 – Most commonly used analysis methods
    - Q2 – The extracted satatic and dynamic features?
    - Q3- - Detection Techniques
    - Q4- Challenges:
      * Dataset = RansomProber52 and HelDroid51 datasets provide 2300 and 670 Android ransomware APKs
        + Research point : Andriod Ransomeware detection using Deep Learning (Larger Dataset) [Ransomware detection using deep learning based unsupervised feature extraction and a cost sensitive Pareto Ensemble classifier](https://www.nature.com/articles/s41598-022-19443-7)
      * Methods
      * Features
      * Analysis

[Android and its architecture | Android Malware Analysis - YouTube](https://www.youtube.com/watch?v=G9G4mHOK4lI&list=PL1f72Oxv5SynYxt9LyclIQXfmHCJiMt-O)

1. IDS – Intrusion detection system
   1. Host Based IDS
   2. Network IDS