

## A Tutorial on Network Security: Attacks and Controls

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**Abstract :** With the phenomenal growth in the Internet, network security has become an integral part of computer and information security. In order to come up with measures that make networks more secure, it is important to learn about the vulnerabilities that could exist in a computer network and then have an understanding of the typical attacks that have been carried out in such networks. The first half of this paper will expose the readers to the classical network attacks that have exploited the typical vulnerabilities of computer networks in the past and solutions that have been adopted since then to prevent or reduce the chances of some of these attacks. The second half of the paper will expose the readers to the different network security controls including the network architecture, protocols, standards and software/ hardware tools that have been adopted in modern day computer networks.

**Keywords :** network security, attacks and controls, computer and information, solutions

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