# Explain the difference between a threat, vulnerability, attack threat actor and establish the relation between them.

**Threat:**  Threat refers to any potential danger or harm which can exploit a vulnerability and cause harm to an individual, system or organization. Some examples are Earthquake, Fires, Hackers attempting to breach companies’ data etc.

**Vulnerability**: Vulnerability refers to weaknesses or flaws that exist in the system, software or process which can be exploited by threat actors to cause harm. It can be caused due to poor design of the system, misconfigurations, outdated software or human errors mostly.

**Attack Threat Actor**: It refers to an individual, group or entity who carries out malicious activities with intent of causing harm. It may be in form of exploiting various vulnerabilities or gaining unauthorized access to the systems, networks or other valuable assets. Some examples are Script kiddies, terrorist groups, hackers, cyber criminals, insiders in business.

**Difference**

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| Threat | Vulnerability | Attack Threat Actor |
| It can be intentional or non-intentional.  Exploitation of the vulnerabilities. | It is non-intentional  A pathway to the threat. | It is intentional  Entity who carries out the attack or threat. |

**Relation between them**

Threat Actor>>Exploits>>Vulnerabilities>>Creating Threat

Threat actor requires vulnerabilities to exploit the system hence, creating a threat. Without vulnerabilities threat actor cannot act hence, there is no threat to the system.

All these are used to carry out a Cybersecurity Attack.