

## CIA Triad and the Difference Between Authentication & Authorization

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### **Essay**

Cybersecurity is all about keeping data and systems safe. One of the main ideas used in this field are called the CIA Triad. CIA stands for the confidentiality integrity, and availability. These three parts are the basics of security and help organizations protect their information. Along with that, two other terms, authentication and authorization, are important for controlling who can get into systems and what they can do once inside. Even Though people often confuse them, they mean different things.

The CIA Triad is simple but very important. Confidentiality means keeping information private so only the right people can see it. Things like passwords, encryption, and two-factor authentication are common ways to do this. A good example is online banking, where you need more than just a password to get in. Integrity is about making sure information stays correct and isn't changed by mistake or on purpose. File permissions and backups help keep data accurate. Availability means making sure the system or information is

always there when people need it. Updates, backups, and recovery plans are some of the ways to make sure things stay available. All three of this work together to keep systems secure.

Authentication and authorization are also key to security. Authentication is how you prove who you are, like logging in with a password or using a fingerprint on your phone. Authorization happens after that and decides what you can do. For example, after logging into work, you might be able to check your email but not open private company files. An easy way to think of it is like entering a building. Showing your badge to get inside is authentication, and the rooms you're allowed into are authorization.

In conclusion, the CIA Triad confidentiality, integrity, and availability give a simple way to understand the main goals of cybersecurity. Authentication and authorization add another layer by controlling who gets in and what they can do. Together, these ideas make systems safer and more reliable.

## Reference

<https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA>