

#### 4) between Authorization and Authentication?

Difference Authorization and authentication are two crucial concepts in the realm of information security, often used together but serving different purposes. Here's a breakdown of their differences:

### Authentication

1. **Definition:** Authentication is the process of verifying the identity of a user or system. It answers the question, "Who are you?"
2. **Purpose:** Ensures that the entity is who it claims to be.
3. **Process:** Typically involves checking credentials like usernames and passwords, biometric data, or security tokens.
4. **Examples:**

1. Entering a password to log into an email account.
2. Using a fingerprint scan to unlock a smartphone.
3. Entering a one-time password (OTP) sent to a mobile device.

### Authorization

1. **Definition:** Authorization is the process of determining if an authenticated entity has permission to access specific resources or perform certain actions. It answers the question, "What are you allowed to do?"
2. **Purpose:** Ensures that the authenticated entity has the appropriate permissions to access resources or perform operations.
3. **Process:** Involves checking permissions and roles associated with the authenticated entity against the resource or action they are attempting to access or perform.
4. **Examples:**

1. Allowing an employee to access specific files on a company's network based on their role.
2. Granting access to a particular feature within a software application.
3. Restricting access to certain areas of a building based on security clearance.

## Key Differences

1. **1》 Order:** Authentication always precedes authorization. First, the system verifies the identity (authentication) and then determines the permissions (authorization).
2. **2》 Scope:** Authentication deals with identity verification, while authorization deals with access control and permissions.
3. **3》 Data Used:** Authentication typically uses credentials like passwords, biometric data, or tokens. Authorization uses access control lists (ACLs), role-based access control (RBAC), and policies.

In summary, authentication is about validating identity, and authorization is about granting or denying permissions based on that validated identity.