**IT Infrastructure Management**

**Week 9 Assignment**

Explain about the different identity management models.

## Answer Identity Management

Identity management is the process of creating, managing, and verifying the digital identities of users, devices, or entities in a network or system. Identity management enables secure and convenient access to resources and services, as well as protection of privacy and data.

**Identity Management Models**

There are different ways to design and implement identity management systems based on the roles, responsibilities, and relationships of the identity providers (IdPs), service providers (SPs), and users. Some common identity management models are:

* **Centralized model**: In this model, there is a single trusted IdP that is responsible for creating, storing, and providing identity information for all users and SPs. The IdP acts as a central authority that authenticates users and authorizes their access to resources and services. The SPs rely on the IdP to verify the identity of the users and grant them access accordingly. This model simplifies identity management and enables single sign-on (SSO), but it also creates a single point of failure and a privacy risk. An example of this model is the Common user identity management model [1](https://www.sciencedirect.com/topics/computer-science/identity-management-model).
* **Decentralized model**: In this model, there are multiple IdPs that are distributed among different domains or organizations. Each IdP manages its own set of users and identity information, and each SP can choose which IdPs to trust or accept. The IdPs and SPs establish trust relationships based on agreements or standards, and exchange identity information using protocols such as SAML or OpenID Connect. This model enhances scalability and flexibility, but it also increases complexity and interoperability challenges. An example of this model is the Federated identity management model [2](https://www.microsoft.com/en-us/security/business/security-101/what-is-identity-access-management-iam).
* **User-centric model**: In this model, the users have more control and choice over their own identity information and how it is used by IdPs and SPs. The users can create multiple identities with different IdPs, and decide which identity to use for each SP. The users can also manage their consent and preferences for sharing their identity information with SPs. The IdPs and SPs use protocols such as OAuth or OpenID Connect to enable user-centric identity management. This model improves privacy and user experience, but it also requires more user involvement and awareness. [An example of this model is the Self-sovereign identity management model](https://www.tec.gov.in/public/pdf/Studypaper/identity%20management%20approved.pdf)