Federated Architecture

In this lesson, we will discuss federated architecture.

We'll cover the following

- What Is federated architecture?
- How is federated architecture implemented in decentralized social networks?
- What is the need for pods?

What Is federated architecture?#

Federated architecture is an extension of *decentralized architecture*. It powers social networks like *Mastodon*, *Minds*, *Diaspora*, etc.

The term *federated* in a general sense means a group of semi-autonomous entities that exchange information with each other. A real-world example of this is looking at different states in a country that are managed by the state governments. They are partially self-governing and exercise power to keep things running smoothly. Then, those state governments share information with each other and with a central government making a complete autonomous government.

This is just an example. From a technical standpoint, the federated model is under continual research, development, and evolution. There are no standard rules. Developers and architects can have their own designs in

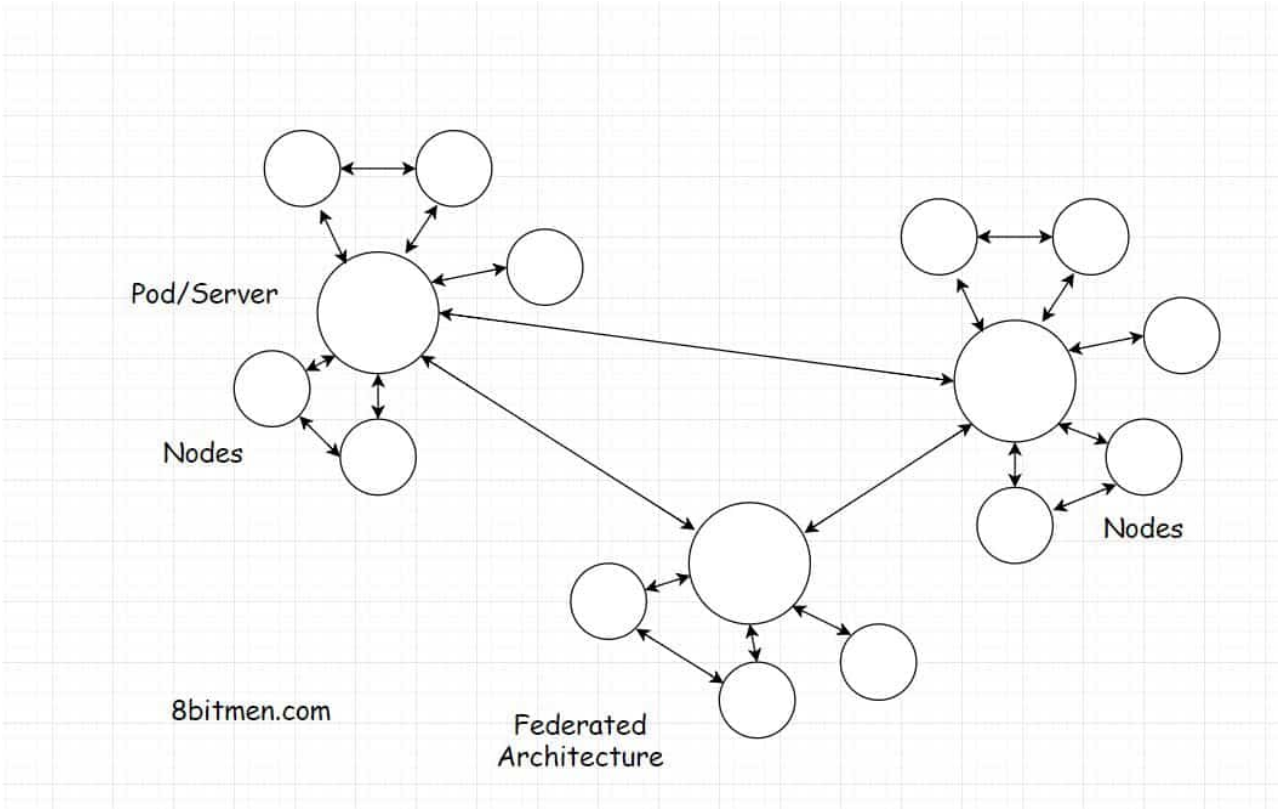
place. After all, it's all *decentralized*, meaning not under the control of any single entity.

How is federated architecture implemented in decentralized social networks?#

As shown in the diagram below, a federated network has entities called *servers* or *pods*. A large number of *nodes* subscribe to the *pods*. There are several *pods* in the network that are linked to each other and share information with each other.

The *pods* can be hosted by individuals, as is ideal in a decentralized network. As new *pods* are hosted and introduced to the network, the network keeps growing.

In case the link between a few *pods* breaks temporarily, the network is still up. *Nodes* can still communicate with each other via the pods they are subscribed to.



What is the need for pods?#

What is the need for Pods? Can't the nodes just be linked to each other like in a regular peer-to-peer network?

Pods facilitate node discovery. In a *peer-to-peer* network, there is no way of discovering other nodes, and we would just sit in the dark if it weren't for a centralized node registry or something.

The other way is to run a scan through the network to try to discover other nodes. This is a really time-consuming and tedious task. Why not just have a *pod* instead?

Okay!! So, everyone, I think I have given you a pretty good insight into the decentralized web.

Let's move on to the next lesson where we talk about picking the right server-side technology.

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Decentralized Social Networks

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