Monero is maintained by a decentralized network of nodes run by users around the world. Nodes serve three essential functions – distribution of the blockchain history, verification of cryptographic soundness, and the transmission of new peer to peer transactions. The Monero network would not exist today if nodes were not running, and as an incentive, managing your own node leads to the most secure and private experience that Monero users can have.

A node can be run on any computer with an internet connection and enough hard drive space. When you first start a node, it synchronizes to the network, downloading a copy of the entire blockchain from other peers. Over time, the blockchain will continue to grow as more transactions are sent. If you find yourself short of hard drive space, you have the ability to trim the size of the blockchain by two thirds through a process known as pruning. This will have no effect on your privacy or the soundness of the blockchain.

While synchronizing, your node simultaneously plays the role of an auditor by verifying that every single transaction abides by the underlying mathematics that comprise Monero's cryptography. Because of this, you can rest assured that you are receiving a correct copy of the blockchain. Once your node is fully synchronized, you can send transactions from your private wallet and help other nodes download their own copy of the blockchain.

With a node that is active, the user will have stronger privacy because of Dandelion++
-- when running an active node, a passive observer of the network will not be able to
tell whether you are transmitting transactions on the Monero network, or simply
relaying transactions from other nodes on the network. This allows you to hide your
transactions behind all the other transactions being relayed through your node.
Therefore, with an active node, a passive observer would not be able to tell when you
connect to the Monero network to scan the blockchain or send a transaction.

Additionally, there's the option of running a Public Remote Node. This advanced feature allows a node to be accessed by other Monero users who do not run their own private node, such as mobile wallet users. Because every Monero wallet requires a blockchain to scan, your public remote node will serve as the catalyst for their transaction by allowing the remote user to access your blockchain and transmit their anonymous payments.

Monero Nodes are a vital core concept that is the foundation for every Monero transaction. Check out Getmonero.org and run your very own node today!