Node topology

The topology configuration file in a Cardano node specifies the network peers (other nodes) with which your node will communicate. This file is crucial for ensuring that your node can propagate transactions and blocks throughout the network, maintain synchronization with the blockchain, and participate in the consensus process if it's a stake pool.

Key Sections in the Node Topology File

- **useLedgerAfterSlot** indicates after which slot peers should be fetched from the ledger. A negative value will disable fetching peers from the ledger, and you will need to manually add peers to the topology file.
- **valency** is the number of connections that your node should establish towards a specific group. If you have one IP in **localRoots**, then it should be 1; if you have one DNS name with two IPs behind it, then it should be 2; or if you have two IPs/DNS names with single IP behind each, then it should also be 2, and so on.
- **localRoots** are for peers which the node should always have as hot connections, such as your BP or your other relays.
- **publicRoots** represent a source of fallback peers, a source of peers to be used if peers from the ledger (**useLedgerAfterSlot**) are disabled or unavailable.
- You can tell the node that the topology configuration file has changed by sending a SIGHUP signal to the cardano-node process, e.g. `pkill -HUP cardano-node`. After receiving the signal, cardano-node will re-read the file and restart all DNS resolution. Please note that this only applies to the topology configuration file!

```
{
    "localRoots": [
        {
            "accessPoints": [],
            "advertise": false,
            "valency": 1
        }
    ],
    "publicRoots": [
        {
            "accessPoints": [
                {
                    "address": "backbone.cardano.iog.io",
                    "port": 3001
                },
                {
                    "address": "backbone.mainnet.emurgornd.com",
                    "port": 3001
                },
                {
                    "address": "backbone.mainnet.cardanofoundation.org",
                    "port": 3001
                }
            ],
            "advertise": false
        }
    ],
    "useLedgerAfterSlot": 128908821
}
```