# Mesh Topology

*Supported by AVM*

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Date: 2024-10-10

## History

| Date | Version | Changes |
|---|---|---|
| 2023-02-08 | 1 | Initial version |
| 2023-02-13 | 2 | Revised third question and corresponding answer in FAQs chapter |
| 2024-01-30 | 3 | Updated Table 1 JSON schema URLs for mesh topology by FRITZ!OS version |
| 2024-10-10 | 4 | Updated Table 1 JSON schema URLs for mesh topology by FRITZ!OS version |

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# 1 Mesh Topology

A mesh topology in terms of FRITZ!OS is a mapping of a network topology. It consists of nodes (e.g. FRITZ!Boxes, Wi-Fi stations or desktop PCs), node interfaces of different technologies (e.g. LAN, WLAN and PLC) and node links between node interfaces which connect two nodes.

For details on how to interpret a mesh topology, please refer to the JSON schema matching the corresponding FRITZ!OS version as well as chapter 2.

| FRITZ!OS version | JSON schema URL |
|---|---|
| 08.00 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v7.8.json |
| 07.81, 07.80 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v5.0.json |
| 07.62, 07.61, 07.60 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v6.7.json |
| 07.58, 07.57, 07.56, 07.55, 07.52, 07.51, 07.50 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v4.11.json |
| 07.30, 07.29, 07.20 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v1.9.json |
| 07.15, 07.14, 07.13, 07.12, 07.11 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v1.6.json |
| 07.10, 07.08 | https://avm.de/fileadmin/user_upload/Global/Service/Schnittstellen/mesh_topology/mesh_topology_schema_v1.5.json |

*Table 1 JSON schema URLs for mesh topology by FRITZ!OS version*

# 2 FAQs

This chapter provides answers to the most frequently asked questions regarding mesh topologies and the corresponding JSON schemata.

## *2.1 Are UIDs of nodes, node interfaces and node links stored in the property “uid” unique within a mesh topology?*

Yes, within a mesh topology UIDs are always unique. However, retrieving the mesh topology twice in a row from the same FRITZ!OS device does not guarantee that a UID refers to the same topology element it referred to before. Hence, UIDs may not be used to find a topology element.

## *2.2 Why do some nodes have no node links to any other nodes?*

A mesh topology also contains nodes which were not actively seen for a while and thus have no active node links anymore.

## *2.3 Why does a mesh topology with two or more PLC adapters contain node links from each PLC adapter to any other adapter within the same PLC network?*

A PLC network is inherently composed of a bus (a power line), i.e. any PLC adapter is connected to any other adapter in the same PLC network. Since there is no topology element which maps to a bus, a node link from each PLC adapter to any other adapter is used.

## *2.4 Is a mesh topology always free from loops?*

No, loops may exist due to PLC networks, Wi-Fi DBDC connections or switching loops.