## + TopologyAnalyzer() + QMap< QString, QStringList > inferDeviceConnections (const QList< HostInfo > &hosts) + QMap< int, QStringList > analyzeTTLLayers(const QList< HostInfo > &hosts) + QMap< QString, QStringList > analyzeSubnets(const **QGraphicsView** QList< HostInfo > &hosts) + QList< QStringList > clusterDevicesByResponse Time(const QList< HostInfo > &hosts) + int getTTLValue(const QString &ipAddress) + QStringList performTrace Route(const QString &targetIP) QString calculateSubnet (const QString &ip, int prefixLength=24) + bool inSameSubnet(const QString &ip1, const QString &ip2, int prefixLength=24) -m\_analyzer **NetworkTopologyView** - QGraphicsScene \* m scene QMap< QString, DeviceNode ` > m\_nodes - QList< ConnectionLine \* > m\_connections + NetworkTopologyView (QWidget \*parent=nullptr) + void setHosts(const QList< HostInfo > &hosts) + void clear() + void autoLayout() + void hierarchicalLayout (const QMap< int, QStringList > &layers) + void groupedLayout (const QMap< QString, QStringList > &groups)

**TopologyAnalyzer** 

## QWidget

- void createConnection (DeviceNode \*source, DeviceNode \*target, Connection Type type=CONNECTION\_DIRECT)

 DeviceType determineDevice Type(const HostInfo &host)

-m\_topologyView

## **Network Topology**

- QWidget \* m\_controlPanel
- LayoutMode m\_layoutMode
- QList< HostInfo > m \_currentHosts
- + NetworkTopology(QWidget \*parent=nullptr)
- + void updateTopology (const QList< HostInfo > &hosts)
- + void clear()
- + void scale(qreal factor)
- + void resetView()
- + void setLayoutMode (int mode)