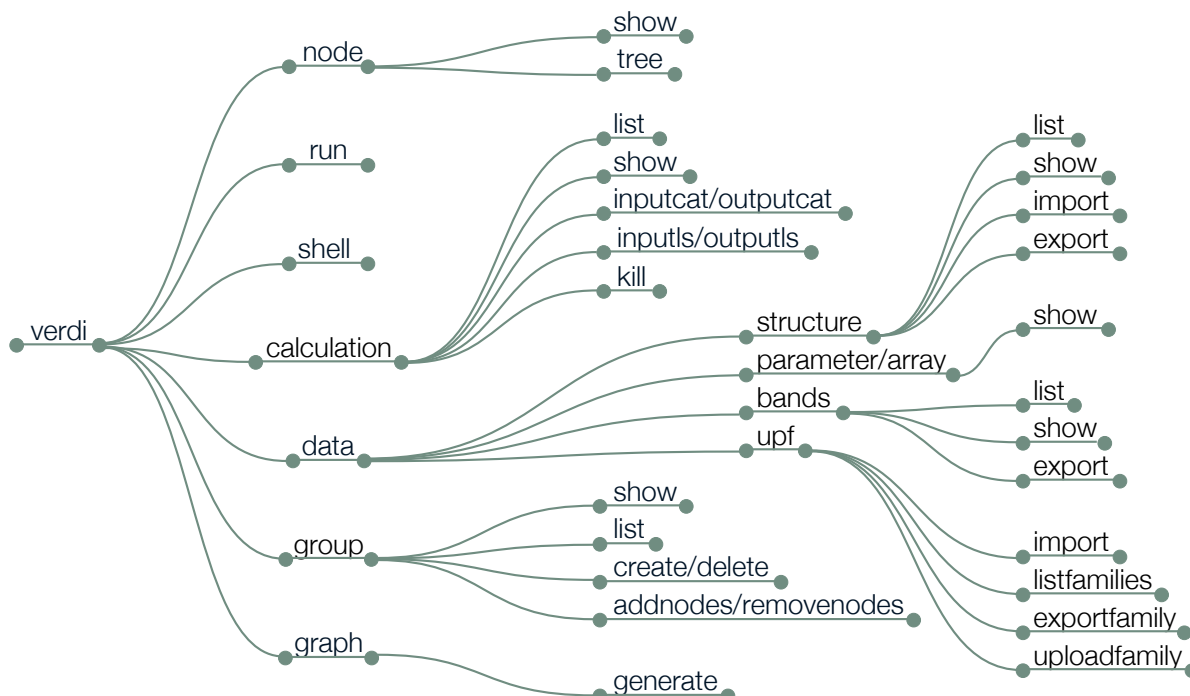# AiiDA

The `verdi` command-line tool

Use TAB auto-completion at any level for full list of commands and subcommands
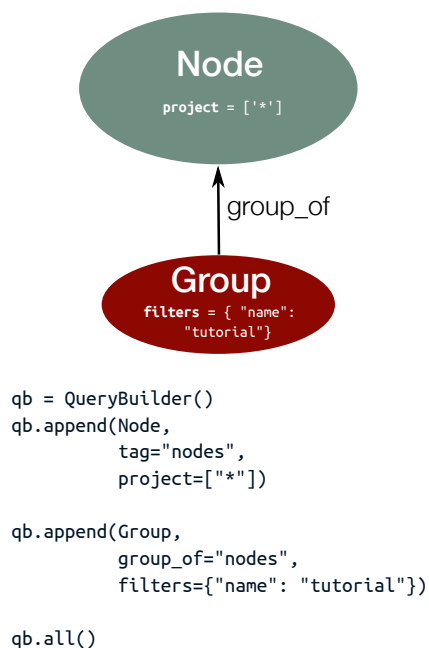Note that this is a non-complete list of commands, but it only summarizes the most common ones

The QueryBuilder

To import: `from aiida.orm.querybuilder import QueryBuilder`

Fetch all nodes of group "tutorial"


```
qb = QueryBuilder()
qb.append(Node,
          tag="nodes",
          project=["*"])

qb.append(Group,
          group_of="nodes",
          filters={"name": "tutorial"})

qb.all()
```

Print the smearing energy calculated for Sn$_2$O$_3$ if it is smaller than 10^{-4} eV

```
qb = QueryBuilder()
qb.append(
    StructureData,
    project=["extras.formula"],
    filters={"extras.formula":"Sn2O3"},
    tag="structure")

qb.append(
    Calculation,
    tag="calculation",
    output_of="structure")

qb.append(
    ParameterData,
    tag="results",
    filters={"attributes.energy_smearing":
    {"<=":-0.0001}},
    project=[
        "attributes.energy_smearing",
        "attributes.energy_smearing_units",
    ],
    output_of="calculation")

qb.all()
```

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