

```
Importing gadfly and initializing the simulation:
>>> import gadfly as gdf
>>> sim = gdf.Simulation('path_to_simulation_directory')
```

Loading a snapshot:

```
>>> snap = sim.load_snapshot(100)
>>> snap.file_id
<HDF5 file "snapshot_100.hdf5" (mode r)>
>>> snap.file_id.keys()
[u'Header', u'PartType0', u'PartType1']
```

Inspecting the Header:

```
>>> snap.header.Redshift
26.663827788885538
>>> snap.header.BoxSize
100.0
```

Loading a particle dataset:

```
>>> snap.define_ptype('dm', 1, gdf.nbody.PartTypeNbody)
>>> snap.dm.load_masses()
>>> snap.dm.info()
<class 'gadfly.nbody.PartTypeNbody'>
Int64Index: 13347573 entries, 25272898 to 25272897
Data columns (total 1 columns):
masses      float64
dtypes: float64(1)
memory usage: 203.7 MB
```

```
>>> snap.dm.cleanup()
>>> snap.dm.load_quantity('coordinates', 'particleIDs')
>>> snap.dm.info()
<class 'gadfly.nbody.PartTypeNbody'>
Int64Index: 13347573 entries, 25272898 to 25272897
Data columns (total 4 columns):
x            float64
y            float64
z            float64
particleIDs  uint32
dtypes: float64(3), uint32(1)
memory usage: 458.3 MB
```