

# Rucio development update (metadata)

- As it stands, Rucio provides some functionality in the way of querying metadata, namely by equivalence only e.g.:

```
[root@4fdc57aca207 rucio]# rucio list-dids mock:fe_test_did* --filter="project=anothertest2"
+-----+-----+
| SCOPE:NAME | [DID TYPE] |
+-----+-----+
| mock:fe_test_did_25471a171fe84b708bd3d1e056fd1301 | DIDType.DATASET |
+-----+-----+
```

- For SKAO (& others), it will be necessary to perform more complicated metadata searches, e.g. a cone search of the sky would require filtering for targets by a set of ranged coordinates
- <https://github.com/rucio/rucio/pull/4746> refactors and extends upon the excellent work done in <https://github.com/gabrielefronze/rucio/tree/feature-inequality-engine> to build a filtering engine that is capable of executing more complex queries against the database, including logical operators and ranged searches on **hardcoded table columns** => brief demo
- Next steps are to get this PR merged (some CI autotests are currently failing) & propagate the same logic for custom JSON metadata filtering
- Testing will need to be done on how efficient these searches are, especially with concurrent users querying large metadata sets simultaneously

