

The DQL - The Dataloop Query Language

It's the ability to navigate, query and sort your data within the dataloop platform.

DQL query has the following components:

Resource : The target resource for the query. (items or annotations)

Filter: The filter includes attributes and logical operators to filter items,basically it's your query .

The **output** will be a page with the items in it,which you can also sort based on fieldes like createdAt,name..

Data types:

- **string**: surround string constants with double quotes, e.g., "hello world"
- **number**: floating point and integer
- **boolean**: boolean variables are true or false
- **array**: collection of elements, e.g., ["item1", "item2"]
- **null**: no value

Operators :

- AND: "\$and"
- OR: "\$or"
- Exists: "\$exists": true or false
- Equal: "\$eq": "value"
- Equal not case sensitive (for strings): "\$ieq": "value"
- Not equal: "\$ne": "value"
- Greater than: "\$gt": "value"
- Greater than or equal: "\$gte": "value"
- Less than: "\$lt": "value"
- Less than or equal: "\$lte": "value"
- Field List Matching: "\$in": ["option-1", "option-2"]
- Wildcard characters: * (representing zero or more characters) and ? (representing 1 character)

DQL Examples:

Basic ones here :

<https://dataloop.ai/docs/dql-operators>

More Advanced:

- Get all annotated items with the model name "yolo":
We know it will take 2 resources: item level-Annotated and annotation level-model name.

```
{
  "filter": {
    "$and": [{
      "hidden": false
    }, {
      "annotated": true
    }, {
      "type": "file"
    }
  ], "join": {
    "filter": {
      "$and": [{
        "$or": [{
          "metadata": {
            "user.model.name": "yolo"
          }
        }
      ]
    }, "on": {
      "resource": "annotations", "local": "itemId", "foreign": "id"
    }
  ]
}
```

- All items with .jpg extension with user metadata device type iOS.

```
{
  "filter": {
    "$and": [{
      "hidden": false
    }, {
      "$or": [{
        "metadata": {
          "user.deviceDetails.deviceOsType": "iOS"
        }
      }], {
      "$or": [{
        "filename": "*.jpg"
      }], {
        "type": "file"
      }
    ]}, "join": {}
  }
}
```

- Get all items that are with customer_name Dataloop or customer2.

```
{
  "filter": {
    "$and": [{
      "hidden": false
    }, {
      "$or": [{
        "metadata": {
          "user.customer_name": "Dataloop"
        }
      }, {
        "metadata": {
          "user.customer_name": "customer2"
        }
      }], {
        "type": "file"
      }
    ]}, "join": {}
  }
}
```

- Get all items with file_number greater than 12000

```
{
  "filter": {
    "$and": [{
      "hidden": false
    }, {
      "$or": [{
        "metadata": {
          "user.file_number": {
            "$gt": 12000
          }
        }
      ]
    }, {
      "type": "file"
    }
  ]
}, "join": {}}
```

Useful links:

More about DQL and Operators [here](#).

Filter using the sdk [here](#).