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# Query and Projection Operators

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> **NOTE:**
>
> For details on specific operator, including syntax and examples, click on the specific operator to go to its reference page.

## Query Selectors

### Comparison

For comparison of different BSON type values, see the specified BSON comparison order.

| Name | Description |
| --- | --- |
| $eq | Matches values that are equal to a specified value. |
| $gt | Matches values that are greater than a specified value. |
| $gte | Matches values that are greater than or equal to a specified value. |
| $in | Matches any of the values specified in an array. |
| $lt | Matches values that are less than a specified value. |
| $lte | Matches values that are less than or equal to a specified value. |

| Name | Description |
| --- | --- |
| $ne | Matches all values that are not equal to a specified value. |
| $nin | Matches none of the values specified in an array. |

## Logical

| Name | Description |
| --- | --- |
| $and | Joins query clauses with a logical AND returns all documents that match the conditions of both clauses. |
| $not | Inverts the effect of a query expression and returns documents that do *not* match the query expression. |
| $nor | Joins query clauses with a logical NOR returns all documents that fail to match both clauses. |
| $or | Joins query clauses with a logical OR returns all documents that match the conditions of either clause. |

## Element

| Name | Description |
| --- | --- |
| $exists | Matches documents that have the specified field. |
| $type | Selects documents if a field is of the specified type. |

## Evaluation

| Name | Description |
| --- | --- |

| Name | Description |
| --- | --- |
| $expr | Allows use of aggregation expressions within the query language. |
| $jsonSchema | Validate documents against the given JSON Schema. |
| $mod | Performs a modulo operation on the value of a field and selects documents with a specified result. |
| $regex | Selects documents where values match a specified regular expression. |
| $text | Performs text search. |
| $where | Matches documents that satisfy a JavaScript expression. |

## Geospatial

| Name | Description |
| --- | --- |
| $geoIntersects | Selects geometries that intersect with a GeoJSON geometry. The 2dsphere index supports $geoIntersects. |
| $geoWithin | Selects geometries within a bounding GeoJSON geometry. The 2dsphere and 2d indexes support $geoWithin. |
| $near | Returns geospatial objects in proximity to a point. Requires a geospatial index. The 2dsphere and 2d indexes support $near. |
| $nearSphere | Returns geospatial objects in proximity to a point on a sphere. Requires a geospatial index. The 2dsphere and 2d indexes support $nearSphere. |

## Array

| Name | Description |
| --- | --- |

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| --- | --- | --- |
| $all | Matches arrays that contain all elements specified in the query. | |
| $elemMatch | Selects documents if element in the array field matches all the specified $elemMatch conditions. | |
| $size | Selects documents if the array field is a specified size. | |

## Bitwise

| Name | Description |
| --- | --- |
| $bitsAllClear | Matches numeric or binary values in which a set of bit positions *all* have a value of 0. |
| $bitsAllSet | Matches numeric or binary values in which a set of bit positions *all* have a value of 1. |
| $bitsAnyClear | Matches numeric or binary values in which *any* bit from a set of bit positions has a value of 0. |
| $bitsAnySet | Matches numeric or binary values in which *any* bit from a set of bit positions has a value of 1. |

## Comments

| Name | Description |
| --- | --- |
| $comment | Adds a comment to a query predicate. |

# Projection Operators

| Name | Description |
| --- | --- |
| $ | Projects the first element in an array that matches the query condition. |

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|------|---------------|---------------|----------------------|
| `$elemMatch` | | Projects the first element in an array that matches the specified `$elemMatch` condition. | |
| `$meta` | | Projects the document's score assigned during `$text` operation. | |
| `$slice` | | Limits the number of elements projected from an array. Supports skip and limit slices. | |

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