

MongoDB CRUD Operations > Query Documents > Query an Array of Embedded Documents

Query an Array of Embedded Documents

This page provides examples in:

MONGO SHELL COMPASS PYTHON JAVA (SYNC) NODEJS PHP MOTOR
JAVA (ASYNC) C# PERL RUBY SCALA GO

This page provides examples of query operations on an array of nested documents using the `db.collection.find()` method in the mongo shell. The examples on this page use the `inventory` collection. To populate the `inventory` collection, run the following:

```
db.inventory.insertMany( [
  { item: "journal", instock: [ { warehouse: "A", qty: 5 }, { warehouse: "C", qty: 15 }
  { item: "notebook", instock: [ { warehouse: "C", qty: 5 } ] },
  { item: "paper", instock: [ { warehouse: "A", qty: 60 }, { warehouse: "B", qty: 15 } ]
  { item: "planner", instock: [ { warehouse: "A", qty: 40 }, { warehouse: "B", qty: 5 }
  { item: "postcard", instock: [ { warehouse: "B", qty: 15 }, { warehouse: "C", qty: 35
  ] } ] );
```

You can run the operation in the web shell below:

Query for a Document Nested in an Array

The following example selects all documents where an element in the `instock` array matches the specified document:

```
db.inventory.find( { "instock": { warehouse: "A", qty: 5 } } )
```

Equality matches on the whole embedded/nested document require an *exact* match of the specified document, including the field order. For example, the following query does not match any documents in the `inventory` collection:

```
db.inventory.find( { "instock": { qty: 5, warehouse: "A" } } )
```

Specify a Query Condition on a Field in an Array of Documents

Specify a Query Condition on a Field Embedded in an Array of Documents

If you do not know the index position of the document nested in the array, concatenate the name of the array field, with a dot (.) and the name of the field in the nested document.

The following example selects all documents where the `instock` array contains the field `qty` whose value is less than or equal to 20:

[Search Documentation](#)

```
db.inventory.find( { 'instock.qty': { $lte: 20 } } )
```

Use the Array Index to Query for a Field in the Embedded Document

Using dot notation, you can specify query conditions for field in a document at a particular index or position of the array. The array uses zero-based indexing.

NOTE:

When querying using dot notation, the field and index must be inside quotation marks.

The following example selects all documents where the `instock` array has as its first element a document that contains the field `qty` whose value is less than or equal to 20:

```
db.inventory.find( { 'instock.0.qty': { $lte: 20 } } )
```

Specify Multiple Conditions for Array of Documents

When specifying conditions on more than one field nested in an array of documents, you can specify the query such that either a single document meets these condition or any combination of documents (including a single document) in the array meets the conditions.

A Single Nested Document Meets Multiple Query Conditions on Nested Fields

Use the `$elemMatch` operator to specify multiple criteria on an array of embedded documents such that at least one embedded document satisfies all the specified criteria.

The following example queries for documents where the `instock` array has at least one embedded document that contains both the field `qty` equal to 5 and the field `warehouse` equal to A:

```
db.inventory.find( { "instock": { $elemMatch: { qty: 5, warehouse: "A" } } } )
```

The following example queries for documents where the `instock` array contains the field `qty` that is greater than 10 and

[Search Documentation](#)

```
db.inventory.find( { "instock": { $elemMatch: { qty: { $gt: 10, $lte: 20 } } } } )
```

Combination of Elements Satisfies the Criteria

If the compound query conditions on an array field do not use the `$elemMatch` operator, the query selects those documents whose array contains any combination of elements that satisfies the conditions.

For example, the following query matches documents where any document nested in the `instock` array has the `qty` field greater than 10 and any document (but not necessarily the same embedded document) in the array has the `qty` field less than or equal to 20:

```
db.inventory.find( { "instock.qty": { $gt: 10, $lte: 20 } } )
```

The following example queries for documents where the `instock` array has at least one embedded document that contains the field `qty` equal to 5 and at least one embedded document (but not necessarily the same embedded document) that contains the field `warehouse` equal to A:

```
db.inventory.find( { "instock.qty": 5, "instock.warehouse": "A" } )
```

Additional Query Tutorials

For additional query examples, see:

- [Query an Array](#)
- [Query Documents](#)
- [Query on Embedded/Nested Documents](#)