



Course Overview



View Discussion

Final Exam

Final: Question 7

< [Back to the Question](#)

The correct answer is **OneWorld, with 4 carriers**

A pipeline that can be used to get these results is

COPY

```
db.air_routes.aggregate([
  {
    $match: {
      src_airport: { $in: ["LHR", "JFK"] },
      dst_airport: { $in: ["LHR", "JFK"] }
    }
  },
  {
    $lookup: {
      from: "air_alliances",
      foreignField: "airlines",
      localField: "airline.name",
      as: "alliance"
    }
  },
  {
    $match: { alliance: { $ne: [] } }
  },
  {
    $addFields: {
      alliance: { $arrayElemAt: ["$alliance.name", 0] }
    }
  },
  {
    $group: {
      _id: "$airline.id",
      alliance: { $first: "$alliance" }
    }
  },
  {
    $sortByCount: "$alliance"
  }
])
```

We begin with a `$match` stage and fetch routes that originate or end at either **LHR** and **JFK**

COPY

```
{
  $match: {
    src_airport: { $in: ["LHR", "JFK"] },
    dst_airport: { $in: ["LHR", "JFK"] }
  }
},
```

We then `$lookup` into the `air_alliances` collection, matching member airline names in the `airlines` field to the local `airline.name` field in the route

COPY

```
{
  $lookup: {
    from: "air_alliances",
    foreignField: "airlines",
    localField: "airline.name",
    as: "alliance"
  }
},
```

We follow with a `$match` stage to remove routes that are not members of an alliance. We use `$addFields` to cast just the name of the alliance and extract a single element in one go

COPY

```
{
  $addFields: {
    alliance: { $arrayElemAt: ["$alliance.name", 0] }
  }
},
```

Lastly, we `$group` on the `airline.id`, since we don't want to count the same airline twice. We take the `$first` alliance name to avoid duplicates. Then, we use `$sortByCount` to get our answer from the results

COPY

```
{
  $group: {
    _id: "$airline.id",
    alliance: { $first: "$alliance" }
  }
},
{
  $sortByCount: "$alliance"
}
```

This produces the following output

COPY

```
{ "_id": "OneWorld", "count": 4 }
{ "_id": "SkyTeam", "count": 2 }
```