MongoDB -Insurance_Database

Customer Collection Creation& Insertion:

```
Alphadb> db.Customers.insertMany([{"FirstName":"Anand", "LastName":"ch", "DateOfBirth":"23-09-2003", "Phone":"9573634476", "Email":"anandch119@gmail.com"},{
"FirstName":"Rohith", "LastName":"A", "DateOfBirth":"15-03-2005", "Phone":"8919685247", "Email":"reddyrohith@gmail.com"}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('695754291299c22a24292a68'),
    '1': ObjectId('695754291299c22a24292a69')
  }
}
```

```
Alphadb> db.Customers.insertMany([{ "FirstName": "Sita", "LastName": "B", "DateOfBirth": "1995-03-10", "Phone": "9999999999", "Email": "sita@gmail.com" }, {
"FirstName": "Amit", "LastName": "D", "DateOfBirth": "1998-07-01", "Phone": "8888888888", "Email": "amit@gmail.com" },{"FirstName": "Priya", "LastName": "V
", "DateOfBirth": "1999-12-19", "Phone": "9999999876", "Email": "priya@gmail.com"}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('695755301299c22a24292a6a'),
    '1': ObjectId('695755301299c22a24292a6b'),
    '2': ObjectId('695755301299c22a24292a6c')
  }
}
```

Retrive Data From Customer Collection:

```
Alphadb> db.Customers.find( );
[
  { _id: ObjectId('69574f431299c22a24292a67') },
  {
    _id: ObjectId('695754291299c22a24292a68'),
    FirstName: 'Anand',
    LastName: 'ch',
    DateOfBirth: '2003-09-23',
    Phone: '9573634476',
    Email: 'anandch119@gmail.com'
  },
  {
    _id: ObjectId('695754291299c22a24292a69'),
    FirstName: 'Rohith',
    LastName: 'A',
    DateOfBirth: '15-03-2005',
    Phone: '8919685247',
    Email: 'reddyrohith@gmail.com'
  },
  {
    _id: ObjectId('695755301299c22a24292a6a'),
    FirstName: 'Sita',
    LastName: 'B',
    DateOfBirth: '1995-03-10',
    Phone: '9999999999',
    Email: 'sita@gmail.com'
  },
  {
    _id: ObjectId('695755301299c22a24292a6b'),
    FirstName: 'Amit',
    LastName: 'D',
    DateOfBirth: '1998-07-01',
    Phone: '8888888888',
    Email: 'amit@gmail.com'
  },
  {
    _id: ObjectId('695755301299c22a24292a6c'),
    FirstName: 'Priya',
    LastName: 'V',
    DateOfBirth: '1999-12-19',
    Phone: '9999999876',
    Email: 'priya@gmail.com'
  }
]
```

Policies Collection Creation& Insertion:

```
Alphadb> db.policies.insertMany([
...    {
...      _id: 1,
...      policyName: "Health Plus",
...      policyType: "Health",
...      premiumAmount: 12000,
...      durationYears: 5
...    },
...    {
...      _id: 2,
...      policyName: "Life Secure",
...      policyType: "Life",
...      premiumAmount: 18000,
...      durationYears: 10
...    },
...    {
...      _id: 3,
...      policyName: "Car Protect",
...      policyType: "Vehicle",
...      premiumAmount: 8000,
...      durationYears: 3
...    },
...    {
...      _id: 4,
...      policyName: "Home Shield",
...      policyType: "Property",
...      premiumAmount: 15000,
...      durationYears: 7
...    }
... ])
{ acknowledged: true, insertedIds: { '0': 1, '1': 2, '2': 3, '3': 4 } }
```

Retrive Data From Policies Collection:

```
Alphadb> db.policies.find();
[
  {
    _id: 1,
    policyName: 'Health Plus',
    policyType: 'Health',
    premiumAmount: 12000,
    durationYears: 5
  },
  {
    _id: 2,
    policyName: 'Life Secure',
    policyType: 'Life',
    premiumAmount: 18000,
    durationYears: 10
  },
  {
    _id: 3,
    policyName: 'Car Protect',
    policyType: 'Vehicle',
    premiumAmount: 8000,
    durationYears: 3
  },
  {
    _id: 4,
    policyName: 'Home Shield',
    policyType: 'Property',
    premiumAmount: 15000,
    durationYears: 7
  }
]
```

Policyassignments Collections Creation& Insertion:

```
Alphadb> db.policyAssignments.insertMany([
...    {
...       _id: 1,
...       customerId: 1,
...       policyId: 1,
...       agentId: 1,
...       startDate: ISODate("2023-01-01"),
...       endDate: ISODate("2028-01-01")
...    },
...    {
...       _id: 2,
...       customerId: 1,
...       policyId: 2,
...       agentId: 2,
...       startDate: ISODate("2024-06-01"),
...       endDate: ISODate("2034-06-01")
...    },
...    {
...       _id: 3,
...       customerId: 2,
...       policyId: 3,
...       agentId: 1,
...       startDate: ISODate("2022-03-15"),
...       endDate: ISODate("2025-03-15")
...    },
...    {
...       _id: 4,
...       customerId: 3,
...       policyId: 1,
...       agentId: 3,
...       startDate: ISODate("2021-09-10"),
...       endDate: ISODate("2026-09-10")
...    },
...    {
...       _id: 5,
...       customerId: 4,
...       policyId: 4,
...       agentId: 2,
...       startDate: ISODate("2020-12-01"),
...       endDate: ISODate("2027-12-01")
...    },
...    {
...       _id: 6,
...       customerId: 5,
...       policyId: 2,
...       agentId: 3,
...       startDate: ISODate("2023-07-20"),
...       endDate: ISODate("2033-07-20")
...    }
... ])
{
  acknowledged: true,
  insertedIds: { '0': 1, '1': 2, '2': 3, '3': 4, '4': 5, '5': 6 }
}
```

Retrive Data From policyAssignments Collection:

```
Alphadb> db.policyAssignments.find();
[
  {
    _id: 1,
    customerId: 1,
    policyId: 1,
    agentId: 1,
    startDate: ISODate('2023-01-01T00:00:00.000Z'),
    endDate: ISODate('2028-01-01T00:00:00.000Z')
  },
  {
    _id: 2,
    customerId: 1,
    policyId: 2,
    agentId: 2,
    startDate: ISODate('2024-06-01T00:00:00.000Z'),
    endDate: ISODate('2034-06-01T00:00:00.000Z')
  },
  {
    _id: 3,
    customerId: 2,
    policyId: 3,
    agentId: 1,
    startDate: ISODate('2022-03-15T00:00:00.000Z'),
    endDate: ISODate('2025-03-15T00:00:00.000Z')
  },
  {
    _id: 4,
    customerId: 3,
    policyId: 1,
    agentId: 3,
    startDate: ISODate('2021-09-10T00:00:00.000Z'),
    endDate: ISODate('2026-09-10T00:00:00.000Z')
  },
  {
    _id: 5,
    customerId: 4,
    policyId: 4,
    agentId: 2,
    startDate: ISODate('2020-12-01T00:00:00.000Z'),
    endDate: ISODate('2027-12-01T00:00:00.000Z')
  },
  {
    _id: 6,
    customerId: 5,
    policyId: 2,
    agentId: 3,
    startDate: ISODate('2023-07-20T00:00:00.000Z'),
    endDate: ISODate('2033-07-20T00:00:00.000Z')
  }
]
```

Claims Collections Creation& Insertion:

```
Alphadb> db.claims.insertMany([
...    {
...       _id: 1,
...       assignmentId: 1,
...       claimDate: ISODate("2024-02-10"),
...       claimAmount: 25000,
...       claimStatus: "Approved"
...    },
...    {
...       _id: 2,
...       assignmentId: 2,
...       claimDate: ISODate("2024-08-05"),
...       claimAmount: 50000,
...       claimStatus: "Pending"
...    },
...    {
...       _id: 3,
...       assignmentId: 3,
...       claimDate: ISODate("2023-11-18"),
...       claimAmount: 15000,
...       claimStatus: "Rejected"
...    },
...    {
...       _id: 4,
...       assignmentId: 4,
...       claimDate: ISODate("2022-12-01"),
...       claimAmount: 30000,
...       claimStatus: "Approved"
...    },
...    {
...       _id: 5,
...       assignmentId: 6,
...       claimDate: ISODate("2024-09-09"),
...       claimAmount: 45000,
...       claimStatus: "Pending"
...    }
... ])
{
  acknowledged: true,
  insertedIds: { '0': 1, '1': 2, '2': 3, '3': 4, '4': 5 }
}
```

Retrive Data From claims Collection:

```
Alphadb> db.claims.find();
[
  {
    _id: 1,
    assignmentId: 1,
    claimDate: ISODate('2024-02-10T00:00:00.000Z'),
    claimAmount: 25000,
    claimStatus: 'Approved'
  },
  {
    _id: 2,
    assignmentId: 2,
    claimDate: ISODate('2024-08-05T00:00:00.000Z'),
    claimAmount: 50000,
    claimStatus: 'Pending'
  },
  {
    _id: 3,
    assignmentId: 3,
    claimDate: ISODate('2023-11-18T00:00:00.000Z'),
    claimAmount: 15000,
    claimStatus: 'Rejected'
  },
  {
    _id: 4,
    assignmentId: 4,
    claimDate: ISODate('2022-12-01T00:00:00.000Z'),
    claimAmount: 30000,
    claimStatus: 'Approved'
  },
  {
    _id: 5,
    assignmentId: 6,
    claimDate: ISODate('2024-09-09T00:00:00.000Z'),
    claimAmount: 45000,
    claimStatus: 'Pending'
  }
]
```

Agents Collections Creation& Insertion:

```
Alphadb> db.agents.insertMany([
...    {
...        _id: 1,
...        agentName: "Suresh Rao",
...        phone: "8888888888",
...        city: "Hyderabad"
...    },
...    {
...        _id: 2,
...        agentName: "Neha Singh",
...        phone: "7777777777",
...        city: "Bangalore"
...    },
...    {
...        _id: 3,
...        agentName: "Vikram Patel",
...        phone: "6666666666",
...        city: "Mumbai"
...    }
... ])
{ acknowledged: true, insertedIds: { '0': 1, '1': 2, '2': 3 } }
```

Retrive Data From Agents Collection:

```
Alphadb> db.agents.find();
[
  {
    _id: 1,
    agentName: 'Suresh Rao',
    phone: '8888888888',
    city: 'Hyderabad'
  },
  {
    _id: 2,
    agentName: 'Neha Singh',
    phone: '7777777777',
    city: 'Bangalore'
  },
  {
    _id: 3,
    agentName: 'Vikram Patel',
    phone: '6666666666',
    city: 'Mumbai'
  }
]
```

Queries:

1.Format the date where customer_name is Anand and Rohith.

```
Alphadb> db.Customers.updateOne(
...    { FirstName: "Anand" },
...    {
...        $set: {
...            DateOfBirth: "2003-09-23"
...        }
...    }
... );
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
Alphadb> db.Customers.updateOne( { FirstName: "Rohith" }, { $set: { DateOfBirth: "1
5-03-2005" } } );
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 0,
  upsertedCount: 0
}
```

2.Select all customers born after 2000-Jan-01;

```
Alphadb> db.Customers.find( { DateOfBirth: { $gt: '2000-01-01' } }, { _id: 0, FirstName: 1, LastName: 1 } );
[
  { FirstName: 'Anand', LastName: 'ch' },
  { FirstName: 'Rohith', LastName: 'A' }
]
```

3.Display policies with premiumamount greater than 10000;

```
Alphadb> db.policies.find({premiumAmount:{$gt:10000}});
[
  {
    _id: 1,
    policyName: 'Health Plus',
    policyType: 'Health',
    premiumAmount: 12000,
    durationYears: 5
  },
  {
    _id: 2,
    policyName: 'Life Secure',
    policyType: 'Life',
    premiumAmount: 18000,
    durationYears: 10
  },
  {
    _id: 4,
    policyName: 'Home Shield',
    policyType: 'Property',
    premiumAmount: 15000,
    durationYears: 7
  }
]
```

4. List claims where claimamount>25000;

```
Alphadb> db.claims.find({claimAmount:{$gt:10000}});
[
  {
    _id: 1,
    assignmentId: 1,
    claimDate: ISODate('2024-02-10T00:00:00.000Z'),
    claimAmount: 25000,
    claimStatus: 'Approved'
  },
  {
    _id: 2,
    assignmentId: 2,
    claimDate: ISODate('2024-08-05T00:00:00.000Z'),
    claimAmount: 50000,
    claimStatus: 'Pending'
  },
  {
    _id: 3,
    assignmentId: 3,
    claimDate: ISODate('2023-11-18T00:00:00.000Z'),
    claimAmount: 15000,
    claimStatus: 'Rejected'
  },
  {
    _id: 4,
    assignmentId: 4,
    claimDate: ISODate('2022-12-01T00:00:00.000Z'),
    claimAmount: 30000,
    claimStatus: 'Approved'
  },
  {
    _id: 5,
    assignmentId: 6,
    claimDate: ISODate('2024-09-09T00:00:00.000Z'),
    claimAmount: 45000,
    claimStatus: 'Pending'
  }
]
```

5.Find Policies Where Type=Health And Amount>10000;

```
Alphadb> db.policies.find({$and:[{policyType:'Health'},{premiumAmount:{$gt:10000}}]
});
[
  {
    _id: 1,
    policyName: 'Health Plus',
    policyType: 'Health',
    premiumAmount: 12000,
    durationYears: 5
  }
]
```

6.Find agents who not live in Hyderabad

```
Alphadb> db.agents.find({city:{$nin:['Hyderabad']}});
[
  {
    _id: 2,
    agentName: 'Neha Singh',
    phone: '7777777777',
    city: 'Bangalore'
  },
  {
    _id: 3,
    agentName: 'Vikram Patel',
    phone: '6666666666',
    city: 'Mumbai'
  }
]
```

7. Find agents who live in Hyderabad or in Bangalore;

```
Alphadb> db.agents.find({$or:[{city:'Hyderabad'},{city:'Bangalore'}]})
[
  {
    _id: 1,
    agentName: 'Suresh Rao',
    phone: '8888888888',
    city: 'Hyderabad'
  },
  {
    _id: 2,
    agentName: 'Neha Singh',
    phone: '7777777777',
    city: 'Bangalore'
  }
]
```

8.List policies where premiumamount is between 10,000 and 15,000

```
Alphadb> db.policies.find({premiumAmount:{$gte:10000,$lte:15000}})
[
  {
    _id: 1,
    policyName: 'Health Plus',
    policyType: 'Health',
    premiumAmount: 12000,
    durationYears: 5
  },
  {
    _id: 4,
    policyName: 'Home Shield',
    policyType: 'Property',
    premiumAmount: 15000,
    durationYears: 7
  }
]
```

9.List claims where claimStatus is not Approved.

```
Alphadb> db.claims.find({claimStatus:{$ne:"Approved"}});
[
  {
    _id: 2,
    assignmentId: 2,
    claimDate: ISODate('2024-08-05T00:00:00.000Z'),
    claimAmount: 50000,
    claimStatus: 'Pending'
  },
  {
    _id: 3,
    assignmentId: 3,
    claimDate: ISODate('2023-11-18T00:00:00.000Z'),
    claimAmount: 15000,
    claimStatus: 'Rejected'
  },
  {
    _id: 5,
    assignmentId: 6,
    claimDate: ISODate('2024-09-09T00:00:00.000Z'),
    claimAmount: 45000,
    claimStatus: 'Pending'
  }
]
```

10.Drop a collections from the database.

```
Alphadb> show collections;
agents
claims
Customers
policies
policyAssignments
Pratice
Alphadb> db.Pratice.drop();
true
Alphadb>
```

11.Policies sorted by premium(descending)

```
Alphadb> db.policies.find().sort({premiumAmount:-1});
[
  {
    _id: 2,
    policyName: 'Life Secure',
    policyType: 'Life',
    premiumAmount: 18000,
    durationYears: 10
  },
  {
    _id: 4,
    policyName: 'Home Shield',
    policyType: 'Property',
    premiumAmount: 15000,
    durationYears: 7
  },
  {
    _id: 1,
    policyName: 'Health Plus',
    policyType: 'Health',
    premiumAmount: 12000,
    durationYears: 5
  },
  {
    _id: 3,
    policyName: 'Car Protect',
    policyType: 'Vehicle',
    premiumAmount: 8000,
    durationYears: 3
  }
]
```

12.Top 2 highest premium policies

```
Alphadb> db.policies.find().sort({premiumAmount:-1}).limit(2);
[
  {
    _id: 2,
    policyName: 'Life Secure',
    policyType: 'Life',
    premiumAmount: 18000,
    durationYears: 10
  },
  {
    _id: 4,
    policyName: 'Home Shield',
    policyType: 'Property',
    premiumAmount: 15000,
    durationYears: 7
  }
]
```

13.Skip first 2 records from Customers.

```
Alphadb> db.Customers.find().skip(3);
[
  {
    _id: ObjectId('695755301299c22a24292a6a'),
    FirstName: 'Sita',
    LastName: 'B',
    DateOfBirth: '1995-03-10',
    Phone: '9999999999',
    Email: 'sita@gmail.com'
  },
  {
    _id: ObjectId('695755301299c22a24292a6b'),
    FirstName: 'Amit',
    LastName: 'D',
    DateOfBirth: '1998-07-01',
    Phone: '8888888888',
    Email: 'amit@gmail.com'
  },
  {
    _id: ObjectId('695755301299c22a24292a6c'),
    FirstName: 'Priya',
    LastName: 'V',
    DateOfBirth: '1999-12-19',
    Phone: '9999999876',
    Email: 'priya@gmail.com'
  }
]
```

14.Count approved policies.

```
Alphadb> db.claims.countDocuments({claimStatus:'Approved'});
2
```

15.Show policy Type in uppercase.

```
Alphadb> db.policies.aggregate([{$project:{policyType:{$toUpper:"$policyType"}}}]);

[
  { _id: 1, policyType: 'HEALTH' },
  { _id: 2, policyType: 'LIFE' },
  { _id: 3, policyType: 'VEHICLE' },
  { _id: 4, policyType: 'PROPERTY' }
]
```

16.Add GST(18%) to premium.

```
Alphadb> db.policies.aggregate([{$project:{FirstName:1,totalPremium:{$multiply:["$premiumAmount",1.18]}}}]);
[
  { _id: 1, totalPremium: 14160 },
  { _id: 2, totalPremium: 21240 },
  { _id: 3, totalPremium: 9440 },
  { _id: 4, totalPremium: 17700 }
]
```

17.Conditional field using $cond

```
Alphadb> db.policies.aggregate([{$project:{FirstName:1,category:{$cond:[{$gt:["$premiumAmount",15000]},"High","Normal"]}}}]);
[
  { _id: 1, category: 'Normal' },
  { _id: 2, category: 'High' },
  { _id: 3, category: 'Normal' },
  { _id: 4, category: 'Normal' }
]
```

18.Total premiumAmount collected.

```
Alphadb> db.policies.aggregate([{$group:{_id:null,totalPremium:{$sum:"$premiumAmount"}}}]);
[ { _id: null, totalPremium: 53000 } ]
```

19. Customers who have policies

```
Alphadb> db.Customers.aggregate([ { $lookup: { from: "policies", localField: "customerId", foreignField: "customerId", as: "policyDetails" } }, { $unwind: "$policyDetails" }] );
[
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policyDetails: {
      _id: 1,
      policyName: 'Health Plus',
      policyType: 'Health',
      premiumAmount: 12000,
      durationYears: 5
    }
  },
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policyDetails: {
      _id: 2,
      policyName: 'Life Secure',
      policyType: 'Life',
      premiumAmount: 18000,
      durationYears: 10
    }
  },
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policyDetails: {
      _id: 3,
      policyName: 'Car Protect',
      policyType: 'Vehicle',
      premiumAmount: 8000,
      durationYears: 3
    }
  },
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policyDetails: {
      _id: 4,
      policyName: 'Home Shield',
      policyType: 'Property',
      premiumAmount: 15000,
      durationYears: 7
    }
  },
  {
    _id: ObjectId('695754291299c22a24292a68'),
    FirstName: 'Anand',
    LastName: 'ch',
    DateOfBirth: '2003-09-23',
    Phone: '9573634476',
    Email: 'anandch119@gmail.com',
    policyDetails: {
      _id: 1,
      policyName: 'Health Plus',
      policyType: 'Health',
      premiumAmount: 12000,
      durationYears: 5
```

20. JOIN with Multiple Tables

```
Alphadb> db.Customers.aggregate([ { $lookup: { from: "policies", localField: "customerId", foreignField: "customerId", as: "policy" } }, { $unwind: "$policy" }, { $lookup: { from: "claims", localField: "polic
y.policyId", foreignField: "policyId", as: "claims" } }] );
[
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policy: {
      _id: 1,
      policyName: 'Health Plus',
      policyType: 'Health',
      premiumAmount: 12000,
      durationYears: 5
    },
    claims: [
      {
        _id: 1,
        assignmentId: 1,
        claimDate: ISODate('2024-02-10T00:00:00.000Z'),
        claimAmount: 25000,
        claimStatus: 'Approved'
      },
      {
        _id: 2,
        assignmentId: 2,
        claimDate: ISODate('2024-08-05T00:00:00.000Z'),
        claimAmount: 50000,
        claimStatus: 'Pending'
      },
      {
        _id: 3,
        assignmentId: 3,
        claimDate: ISODate('2023-11-18T00:00:00.000Z'),
        claimAmount: 15000,
        claimStatus: 'Rejected'
      },
      {
        _id: 4,
        assignmentId: 4,
        claimDate: ISODate('2022-12-01T00:00:00.000Z'),
        claimAmount: 30000,
        claimStatus: 'Approved'
      },
      {
        _id: 5,
        assignmentId: 6,
        claimDate: ISODate('2024-09-09T00:00:00.000Z'),
        claimAmount: 45000,
        claimStatus: 'Pending'
      }
    ]
  },
```

```
Alphadb> db.Customers.aggregate([ { $lookup: { from: "policies", localField: "customerId", foreignField: "customerId", as: "policy" } }, { $unwind: "$policy" }, { $lookup: { from: "claims", localField: "polic
y.policyId", foreignField: "policyId", as: "claims" } }] );
[
  {
    _id: ObjectId('69574f431299c22a24292a67'),
    policyName: 'Health Plus',
```