

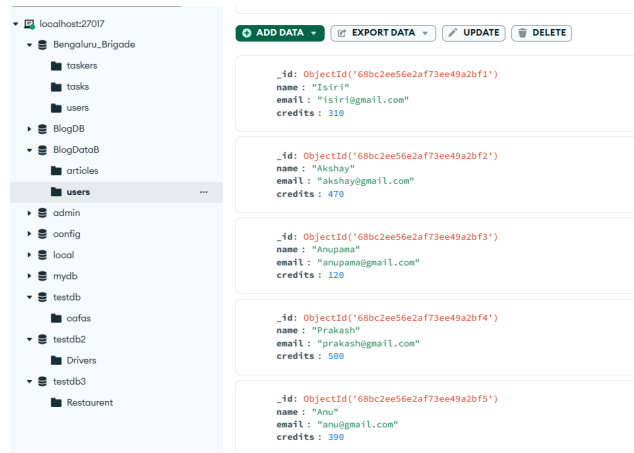
Modelling a Blog in MongoDB

2 collections:

1. Users
2. Articles

1. Users:

```
[
  { "name": "Isiri", "email": "isiri@gmail.com", "credits": 310 },
  { "name": "Akshay", "email": "akshay@gmail.com", "credits": 470 },
  { "name": "Anupama", "email": "anupama@gmail.com", "credits": 120 },
  { "name": "Prakash", "email": "prakash@gmail.com", "credits": 500 },
  { "name": "Anu", "email": "anu@gmail.com", "credits": 390 }
]
```



2. Articles:

```
x_MONGODB
> use BlogDataB
< switched to db BlogDataB
> db.articles.insertMany([
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf1"),
    "title": "Top 10 Healthy Breakfast Ideas",
    "date": { "$date": "2025-01-05T08:00:00Z" },
    "text": "Discover 10 quick, nutritious breakfast options that give you energy for the entire day.",
    "url": "https://articleexpo.in/healthy-breakfast-ideas",
    "categories": ["Food", "Lifestyle"],
    "tags": ["Education", "Fitness"],
    "comments": [
      { "date": { "$date": "2025-01-06T09:00:00Z" }, "text": "These ideas are so easy to follow!" },
      { "date": { "$date": "2025-01-07T10:30:00Z" }, "text": "My kids loved the oatmeal recipe." },
      { "date": { "$date": "2025-01-08T11:15:00Z" }, "text": "Would love more smoothie options." }
    ]
  },
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf2"),
    "title": "Exploring Space Discoveries in 2025",
    "date": { "$date": "2025-02-10T10:00:00Z" },
    "text": "An overview of exciting space exploration breakthroughs expected this year.",
    "url": "https://articleexpo.in/space-discoveries-2025",
    "categories": ["Science"],
    "tags": ["Education"],
    "comments": [
      { "date": { "$date": "2025-02-11T09:45:00Z" }, "text": "Can't wait to see the new Mars data!" },
      { "date": { "$date": "2025-02-12T14:00:00Z" }, "text": "This article was very informative." },
      { "date": { "$date": "2025-02-13T16:30:00Z" }, "text": "Hoping for new exoplanet discoveries!" }
    ]
  },
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf3"),
    "title": "Simple Home Workouts Without Equipment",
    "date": { "$date": "2025-03-05T07:00:00Z" },
    "text": "Learn easy bodyweight exercises you can do at home to stay fit.",
    "url": "https://articleexpo.in/home-workouts-no-equipment",
    "categories": ["Lifestyle"],
    "tags": ["Fitness"],
    "comments": [
      { "date": { "$date": "2025-03-06T08:00:00Z" }, "text": "These workouts are perfect for my small apartment!" },
    ]
  }
])
```

```

    { "date": { "$date": "2025-03-07T09:15:00Z" }, "text": "Great guide for beginners." },
    { "date": { "$date": "2025-03-08T10:20:00Z" }, "text": "I feel motivated to exercise daily now." }
  ],
},
{
  "user_id": ObjectId("68bc2ee56e2af73ee49a2bf4"),
  "title": "5 Quick Snacks for Busy Evenings",
  "date": { "$date": "2025-04-01T16:00:00Z" },
  "text": "Five easy-to-make snacks for those evenings when you are short on time.",
  "url": "https://articleexpo.in/quick-snacks",
  "categories": ["Food"],
  "tags": ["Education"],
  "comments": [
    { "date": { "$date": "2025-04-02T17:00:00Z" }, "text": "I tried the peanut butter bites, they were amazing!" },
    { "date": { "$date": "2025-04-03T18:15:00Z" }, "text": "These saved me during my busy workweek." },
    { "date": { "$date": "2025-04-04T19:30:00Z" }, "text": "Healthy and tasty options!" }
  ]
},
{
  "user_id": ObjectId("68bc2ee56e2af73ee49a2bf5"),
  "title": "The Future of Renewable Energy",
  "date": { "$date": "2025-05-10T12:00:00Z" },
  "text": "A deep dive into how renewable energy will shape our future.",
  "url": "https://articleexpo.in/future-of-renewable-energy",
  "categories": ["Science"],
  "tags": ["Education"],
  "comments": [
    { "date": { "$date": "2025-05-11T13:00:00Z" }, "text": "Very detailed and insightful article." },
    { "date": { "$date": "2025-05-12T14:30:00Z" }, "text": "I learned a lot about solar tech trends." },
    { "date": { "$date": "2025-05-13T15:45:00Z" }, "text": "Hope to see more on wind power!" }
  ]
},
{
  "user_id": ObjectId("68bc2ee56e2af73ee49a2bf1"),
  "title": "Weekend Relaxation Ideas",
  "date": { "$date": "2025-06-15T09:00:00Z" },
  "text": "Simple activities to relax and recharge over the weekend.",
  "url": "https://articleexpo.in/weekend-relaxation",
  "categories": ["Lifestyle"],
  "tags": ["Fitness"]
}

```

```

    "comments": [
      { "date": { "$date": "2025-06-16T10:15:00Z" }, "text": "Reading with coffee is my favorite idea." },
      { "date": { "$date": "2025-06-17T11:20:00Z" }, "text": "Loved the nature walk suggestion." },
      { "date": { "$date": "2025-06-18T12:25:00Z" }, "text": "I tried meditation this weekend, felt amazing!" }
    ],
  },
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf2"),
    "title": "Meal Prep for the Whole Week",
    "date": { "$date": "2025-07-20T08:00:00Z" },
    "text": "A guide to preparing meals ahead of time for the entire week.",
    "url": "https://articleexpo.in/meal-prep-week",
    "categories": ["Food", "Lifestyle"],
    "tags": ["Education", "Fitness"],
    "comments": [
      { "date": { "$date": "2025-07-21T09:00:00Z" }, "text": "This helped me stay on track with my diet." },
      { "date": { "$date": "2025-07-22T10:30:00Z" }, "text": "Very practical and budget-friendly tips." },
      { "date": { "$date": "2025-07-23T11:45:00Z" }, "text": "Loved the smoothie prep idea!" }
    ]
  },
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf3"),
    "title": "Top 5 Science Experiments for Kids",
    "date": { "$date": "2025-08-25T10:00:00Z" },
    "text": "Fun and safe science experiments kids can do at home with parental guidance.",
    "url": "https://articleexpo.in/science-experiments-kids",
    "categories": ["Science", "Education"],
    "tags": ["Education"],
    "comments": [
      { "date": { "$date": "2025-08-26T11:00:00Z" }, "text": "My kids had a blast making the volcano!" },
      { "date": { "$date": "2025-08-27T12:15:00Z" }, "text": "Great rainy day activities." },
      { "date": { "$date": "2025-08-28T13:30:00Z" }, "text": "We loved the baking soda rocket!" }
    ]
  },
  {
    "user_id": ObjectId("68bc2ee56e2af73ee49a2bf4"),
    "title": "Evening Yoga for Relaxation",
    "date": { "$date": "2025-09-05T18:00:00Z" },
    "text": "Simple yoga poses to help relax your body and mind before bedtime.",
    "url": "https://articleexpo.in/evening-yoga",
    "categories": ["Lifestyle"],
    "tags": ["Fitness"]
  }
}

```

```

"comments": [
  { "date": { "$date": "2025-09-06T19:00:00Z" }, "text": "Helped me sleep better last night!" },
  { "date": { "$date": "2025-09-07T20:15:00Z" }, "text": "Very calming and easy to follow." },
  { "date": { "$date": "2025-09-08T21:30:00Z" }, "text": "Perfect for stress relief." }
],
{
  "user_id": ObjectId("68bc2ee56e2af73ee49a2bf5"),
  "title": "Best Street Foods Around the World",
  "date": { "$date": "2025-10-10T12:00:00Z" },
  "text": "A journey exploring the most delicious and unique street foods globally.",
  "url": "https://articleexpo.in/best-street-foods",
  "categories": ["Food", "Lifestyle"],
  "tags": ["Entertainment"],
  "comments": [
    { "date": { "$date": "2025-10-11T13:00:00Z" }, "text": "Street tacos are my absolute favorite!" },
    { "date": { "$date": "2025-10-12T14:15:00Z" }, "text": "Now I want to travel just for food!" },
    { "date": { "$date": "2025-10-13T15:30:00Z" }, "text": "The Thai street food section was mouthwatering." }
  ]
}
]
)
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("68bd6e247c3b15ddc58e0996"),
    '1': ObjectId("68bd6e247c3b15ddc58e0997"),
    '2': ObjectId("68bd6e247c3b15ddc58e0998"),
    '3': ObjectId("68bd6e247c3b15ddc58e0999"),
    '4': ObjectId("68bd6e247c3b15ddc58e099a"),
    '5': ObjectId("68bd6e247c3b15ddc58e099b"),
    '6': ObjectId("68bd6e247c3b15ddc58e099c"),
    '7': ObjectId("68bd6e247c3b15ddc58e099d"),
    '8': ObjectId("68bd6e247c3b15ddc58e099e"),
    '9': ObjectId("68bd6e247c3b15ddc58e099f")
  }
}
}

```

Queries:

1.Fetch all articles for a given user

```

db.articles.find({ user_id: ObjectId("68bc2ee56e2af73ee49a2bf1") })
<
  {
    _id: ObjectId("68bd6e247c3b15ddc58e0996"),
    user_id: ObjectId("68bc2ee56e2af73ee49a2bf1"),
    title: 'Top 10 Healthy Breakfast Ideas',
    date: 2025-01-05T08:00:00.000Z,
    text: 'Discover 10 quick, nutritious breakfast options that give you energy for the entire day.',
    url: 'https://articleexpo.in/healthy-breakfast-ideas',
    categories: [
      'Food',
      'Lifestyle'
    ],
    tags: [
      'Education',
      'Fitness'
    ],
    comments: [
      {
        date: 2025-01-06T09:00:00.000Z,
        text: 'These ideas are so easy to follow!'
      },
      {
        date: 2025-01-07T10:30:00.000Z,
        text: 'My kids loved the oatmeal recipe.'
      },
      {
        date: 2025-01-08T11:15:00.000Z,
        text: 'Would love more smoothie options.'
      }
    ]
  }
]
{
  _id: ObjectId("68bd6e247c3b15ddc58e099b"),
  user_id: ObjectId("68bc2ee56e2af73ee49a2bf1"),
  title: 'Weekend Relaxation Ideas',
  date: 2025-06-15T09:00:00.000Z,
  text: 'Simple activities to relax and recharge over the weekend.',
  url: 'https://articleexpo.in/weekend-relaxation',
  categories: [
    'Lifestyle'
  ],
}

```

```

tags: [
  'Entertainment'
],
comments: [
  {
    date: 2025-06-16T10:15:00.000Z,
    text: 'Reading with coffee is my favorite idea.'
  },
  {
    date: 2025-06-17T11:20:00.000Z,
    text: 'Loved the nature walk suggestion.'
  },
  {
    date: 2025-06-18T12:25:00.000Z,
    text: 'I tried meditation this weekend, felt amazing!'
  }
]
}

```

2. Fetch users who write articles for a given category

```
> db.articles.aggregate([
  {
    $match: { categories: "Food" }
  },
  {
    $lookup: {
      from: "users",
      localField: "user_id",
      foreignField: "_id",
      as: "userDetails"
    }
  },
  { $unwind: "$userDetails" },
  {
    $project: {
      _id: 0, user_id: 1,
      title: 1,
      name: "$userDetails.name",
      email: "$userDetails.email"
    }
  }
]);
< {
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf1'),
  title: 'Top 10 Healthy Breakfast Ideas',
  name: 'Isiri',
  email: 'isiri@gmail.com'
}
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf4'),
  title: '5 Quick Snacks for Busy Evenings',
  name: 'Prakash',
  email: 'prakash@gmail.com'
}
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf2'),
  title: 'Meal Prep for the Whole Week',
  name: 'Akshay',
  email: 'akshay@gmail.com'
}
{
```

```
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf5'),
  title: 'Best Street Foods Around the World',
  name: 'Anu',
  email: 'anu@gmail.com'
}
```

3. Fetch users who write articles for a given Tag.

```
> db.articles.aggregate([
  {
    $match: { tags: "Fitness" }
  },
  {
    $lookup: {
      from: "users",
      localField: "user_id",
      foreignField: "_id",
      as: "userDetails"
    }
  },
  { $unwind: "$userDetails" },
  {
    $project: {
      _id: 0, user_id:1,
      name: "$userDetails.name",
      email: "$userDetails.email" , title:1
    }
  }
]);
< {
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf1'),
  title: 'Top 10 Healthy Breakfast Ideas',
  name: 'Isiri',
  email: 'isiri@gmail.com'
}
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf3'),
  title: 'Simple Home Workouts Without Equipment',
  name: 'Anupama',
  email: 'anupama@gmail.com'
}
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf2'),
  title: 'Meal Prep for the Whole Week',
  name: 'Akshay',
  email: 'akshay@gmail.com'
}
{
```

```
{
  user_id: ObjectId('68bc2ee56e2af73ee49a2bf4'),
  title: 'Evening Yoga for Relaxation',
  name: 'Prakash',
  email: 'prakash@gmail.com'
}
```

4. Fetch all the comments for a particular article.

```
> db.articles.find(
  { title: "Top 10 Healthy Breakfast Ideas" },
  { comments: 1, _id: 0 })
< {
  comments: [
    {
      date: 2025-01-06T09:00:00.000Z,
      text: 'These ideas are so easy to follow!'
    },
    {
      date: 2025-01-07T10:30:00.000Z,
      text: 'My kids loved the oatmeal recipe.'
    },
    {
      date: 2025-01-08T11:15:00.000Z,
      text: 'Would love more smoothie options.'
    }
  ]
}
```

5. Write a query to fetch all articles for the user. Use projection to fetch only the title of each article and not the complete document.

```
> db.articles.find(
  { user_id: ObjectId("68bc2ee56e2af73ee49a2bf2") },
  { title: 1, _id: 0 }
)
< {
  title: 'Exploring Space Discoveries in 2025'
}
{
  title: 'Meal Prep for the Whole Week'
}
```

6. Write a query to deduct 50 credits from a particular user. Note: the query should not update the credits field. It should subtract from the value. Post screenshots before and after running the query.

Before:

```
> db.users.find(
  { _id: ObjectId("68bc2ee56e2af73ee49a2bf1") }
)
< {
  _id: ObjectId('68bc2ee56e2af73ee49a2bf1'),
  name: 'Isiri',
  email: 'isiri@gmail.com',
  credits: 310
}
```

Query:

```
> db.users.updateOne(
  { _id: ObjectId("68bc2ee56e2af73ee49a2bf1") },
  { $inc: { credits: -50 } }
);
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

After:

```
> db.users.find(
  { _id: ObjectId("68bc2ee56e2af73ee49a2bf1") }
)
< {
  _id: ObjectId('68bc2ee56e2af73ee49a2bf1'),
  name: 'Isiri',
  email: 'isiri@gmail.com',
  credits: 260
}
```