

# 1. E-Commerce Store – Product & Orders

```
// users collection
db.createCollection("users", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["name", "email", "password"],
      properties: {
        name: { bsonType: "string" },
        email: {
          bsonType: "string",
          pattern: "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$"
        },
        password: { bsonType: "string" }
      }
    }
  }
});
```

```
db.users.createIndex({ email: 1 }, { unique: true });
```

```
// products collection
db.createCollection("products", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["title", "description", "price", "category", "stock"],
      properties: {
```

```
    title: { bsonType: "string" },
    description: { bsonType: "string" },
    price: { bsonType: "number", minimum: 0 },
    category: { bsonType: "string" },
    stock: { bsonType: "int", minimum: 0 }
  }
}
});
```

```
// orders collection
```

```
db.createCollection("orders", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["userId", "products", "totalAmount", "orderDate"],
      properties: {
        userId: { bsonType: "objectId" },
        products: {
          bsonType: "array",
          items: {
            bsonType: "object",
            required: ["productId", "quantity"],
            properties: {
              productId: { bsonType: "objectId" },
              quantity: { bsonType: "int", minimum: 1 }
            }
          }
        }
      }
    },
  },
});
```

```
    totalAmount: { bsonType: "number", minimum: 0 },
    orderDate: { bsonType: "date" }
  }
}
});
```

```
// reviews collection
db.createCollection("reviews", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["userId", "productId", "rating"],
      properties: {
        userId: { bsonType: "objectId" },
        productId: { bsonType: "objectId" },
        rating: { bsonType: "int", minimum: 1, maximum: 5 },
        comment: { bsonType: "string" }
      }
    }
  }
});
```

## 2. Online Course Platform – Instructors & Students

```
// users collection
db.createCollection("users", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
```

```

    required: ["name", "email", "role"],
    properties: {
      name: { bsonType: "string" },
      email: {
        bsonType: "string",
        pattern: "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$"
      },
      role: { enum: ["student", "instructor"] }
    }
  }
}
});

```

```

db.users.createIndex({ email: 1 }, { unique: true });

```

```

// courses collection

```

```

db.createCollection("courses", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["title", "instructorId", "category", "price", "createdAt", "lessons"],
      properties: {
        title: { bsonType: "string" },
        instructorId: { bsonType: "objectId" },
        category: { bsonType: "string" },
        price: { bsonType: "number", minimum: 0 },
        createdAt: { bsonType: "date" },
        lessons: {
          bsonType: "array",

```

```
    items: {
      bsonType: "object",
      required: ["title", "videoURL", "duration"],
      properties: {
        title: { bsonType: "string" },
        videoURL: { bsonType: "string" },
        duration: { bsonType: "number", minimum: 0 }
      }
    }
  }
}
});
```

```
// enrollments collection
db.createCollection("enrollments", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["userId", "courseId", "enrollmentDate"],
      properties: {
        userId: { bsonType: "objectId" },
        courseId: { bsonType: "objectId" },
        enrollmentDate: { bsonType: "date" }
      }
    }
  }
});
```

### 3. Event Booking System – Organizers & Attendees

```
// users collection
```

```
db.createCollection("users", {  
  validator: {  
    $jsonSchema: {  
      bsonType: "object",  
      required: ["name", "email", "role"],  
      properties: {  
        name: { bsonType: "string" },  
        email: {  
          bsonType: "string",  
          pattern: "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$"  
        },  
        role: { enum: ["organizer", "attendee"] }  
      }  
    }  
  }  
});
```

```
db.users.createIndex({ email: 1 }, { unique: true });
```

```
// events collection
```

```
db.createCollection("events", {  
  validator: {  
    $jsonSchema: {  
      bsonType: "object",  
      required: ["title", "organizerId", "location", "startTime", "endTime", "capacity"],  
      properties: {
```

```

    title: { bsonType: "string" },
    organizerId: { bsonType: "objectId" },
    location: { bsonType: "string" },
    startTime: { bsonType: "date" },
    endTime: { bsonType: "date" },
    capacity: { bsonType: "int", minimum: 1 }
  }
}
}
});

// bookings collection
db.createCollection("bookings", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["eventId", "attendeed", "bookingDate"],
      properties: {
        eventId: { bsonType: "objectId" },
        attendeed: { bsonType: "objectId" },
        bookingDate: { bsonType: "date" }
      }
    }
  }
});

```

## 4. Blogging Platform – Authors & Articles

```

// authors collection
db.createCollection("authors", {

```

```
validator: {
  $jsonSchema: {
    bsonType: "object",
    required: ["name", "email", "bio"],
    properties: {
      name: { bsonType: "string" },
      email: {
        bsonType: "string",
        pattern: "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$"
      },
      bio: { bsonType: "string" }
    }
  }
};
```

```
db.authors.createIndex({ email: 1 }, { unique: true });
```

```
// articles collection
```

```
db.createCollection("articles", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["title", "content", "authorId", "tags", "published", "createdAt"],
      properties: {
        title: { bsonType: "string" },
        content: { bsonType: "string" },
        authorId: { bsonType: "objectId" },
        tags: {
```



```

        bsonType: "array",
        items: { bsonType: "string" }
    },
    published: { bsonType: "bool" },
    createdAt: { bsonType: "date" }
}
}
}
});

// comments collection
db.createCollection("comments", {
    validator: {
        $jsonSchema: {
            bsonType: "object",
            required: ["articleId", "userName", "commentText", "postedAt"],
            properties: {
                articleId: { bsonType: "objectId" },
                userName: { bsonType: "string" },
                commentText: { bsonType: "string" },
                postedAt: { bsonType: "date" }
            }
        }
    }
});

```

## 5. Subscription App – Users & Plans

```

// users collection
db.createCollection("users", {

```

```

validator: {
  $jsonSchema: {
    bsonType: "object",
    required: ["email", "name", "signupDate"],
    properties: {
      email: {
        bsonType: "string",
        pattern: "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$"
      },
      name: { bsonType: "string" },
      signupDate: { bsonType: "date" }
    }
  }
}
});

```

```

db.users.createIndex({ email: 1 }, { unique: true });

```

```

// plans collection

```

```

db.createCollection("plans", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["name", "price", "features", "billingCycle"],
      properties: {
        name: { bsonType: "string" },
        price: { bsonType: "number", minimum: 0 },
        features: {
          bsonType: "array",

```

```
        items: { bsonType: "string" }
    },
    billingCycle: { enum: ["monthly", "yearly"] }
}
}
}
});

// subscriptions collection
db.createCollection("subscriptions", {
    validator: {
        $jsonSchema: {
            bsonType: "object",
            required: ["userId", "planId", "startDate", "isActive"],
            properties: {
                userId: { bsonType: "objectId" },
                planId: { bsonType: "objectId" },
                startDate: { bsonType: "date" },
                isActive: { bsonType: "bool" }
            }
        }
    }
});
```

