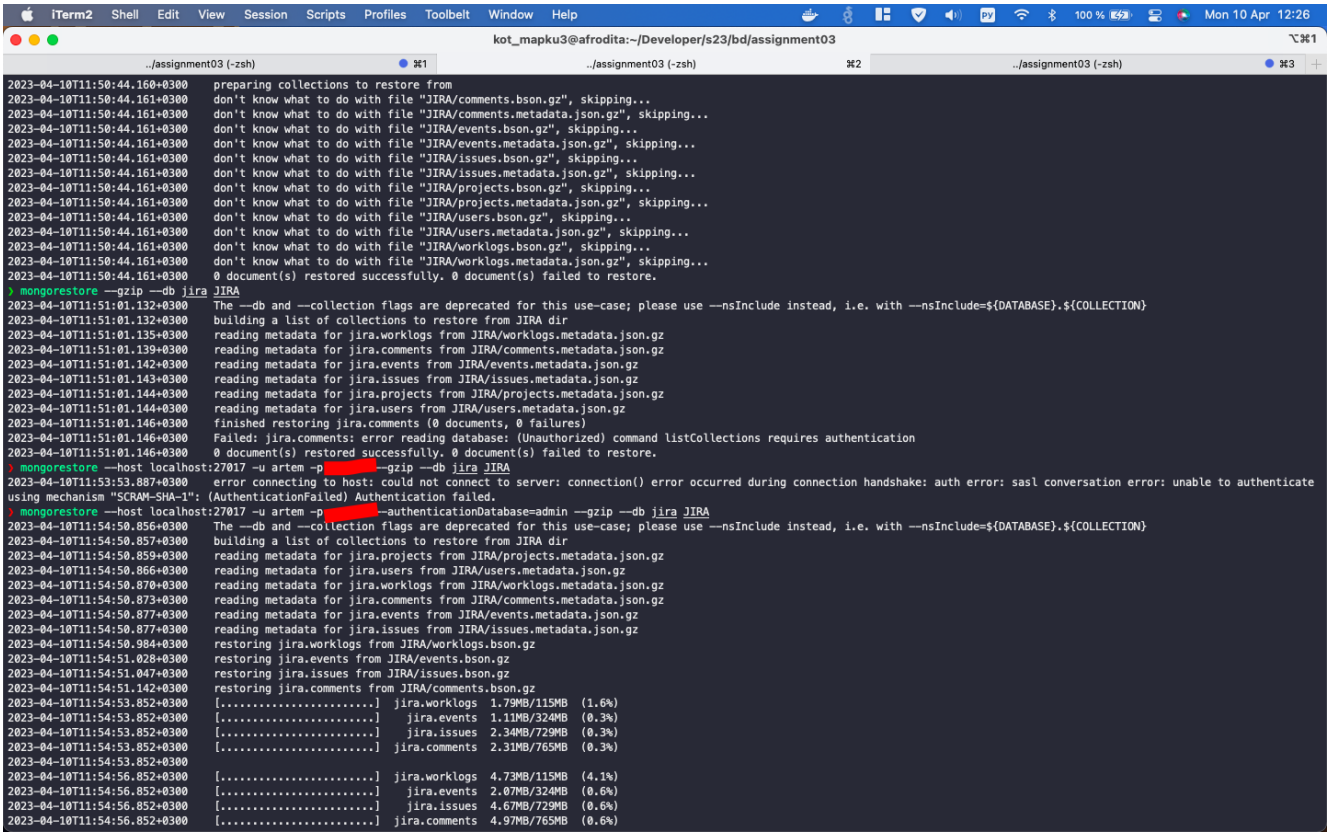
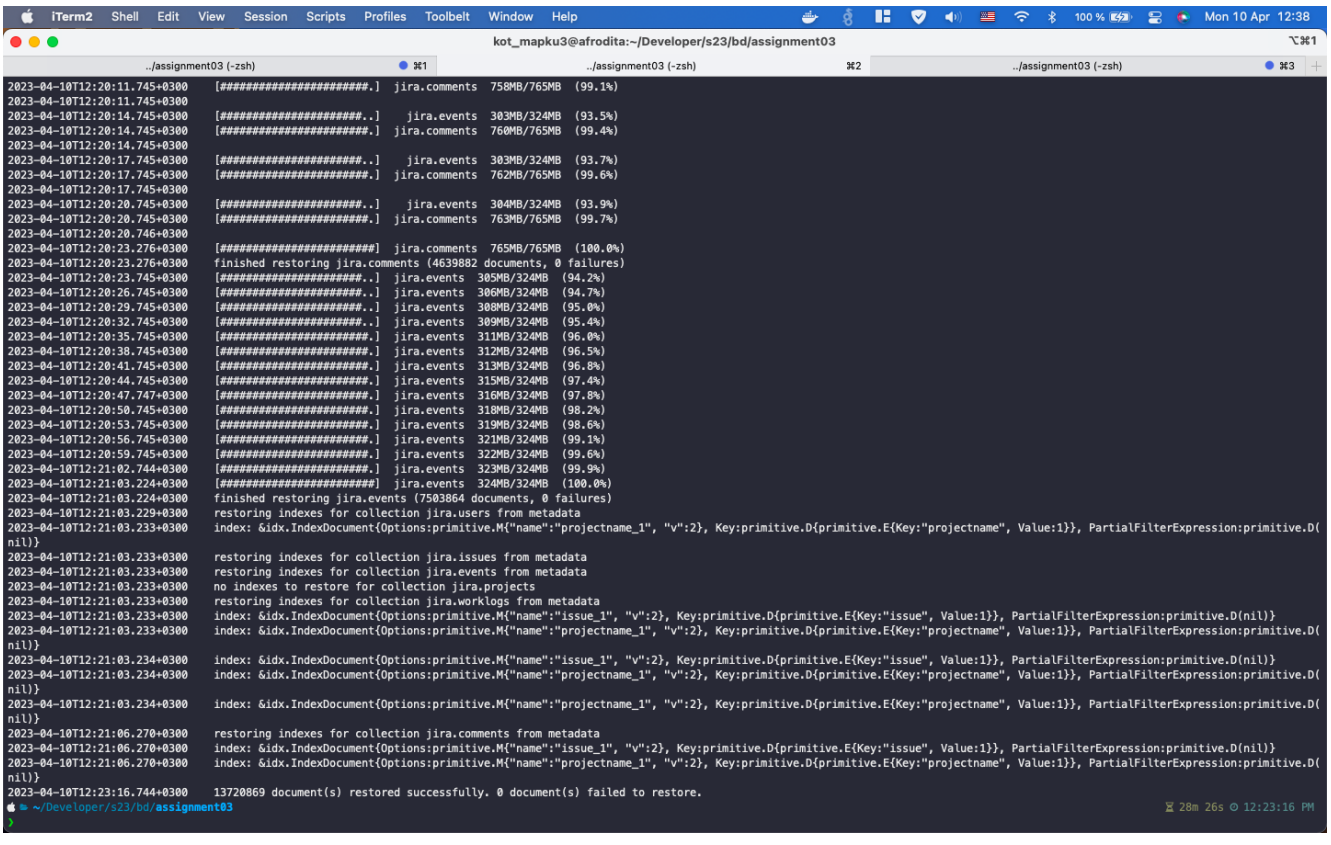
Track: B20-AI-01	**Week 3**
Name: Artem Chernitsa	**Introduction to Big Data**
Email: a.chernitsa@innopolis.university	**04.04.2023**

Report

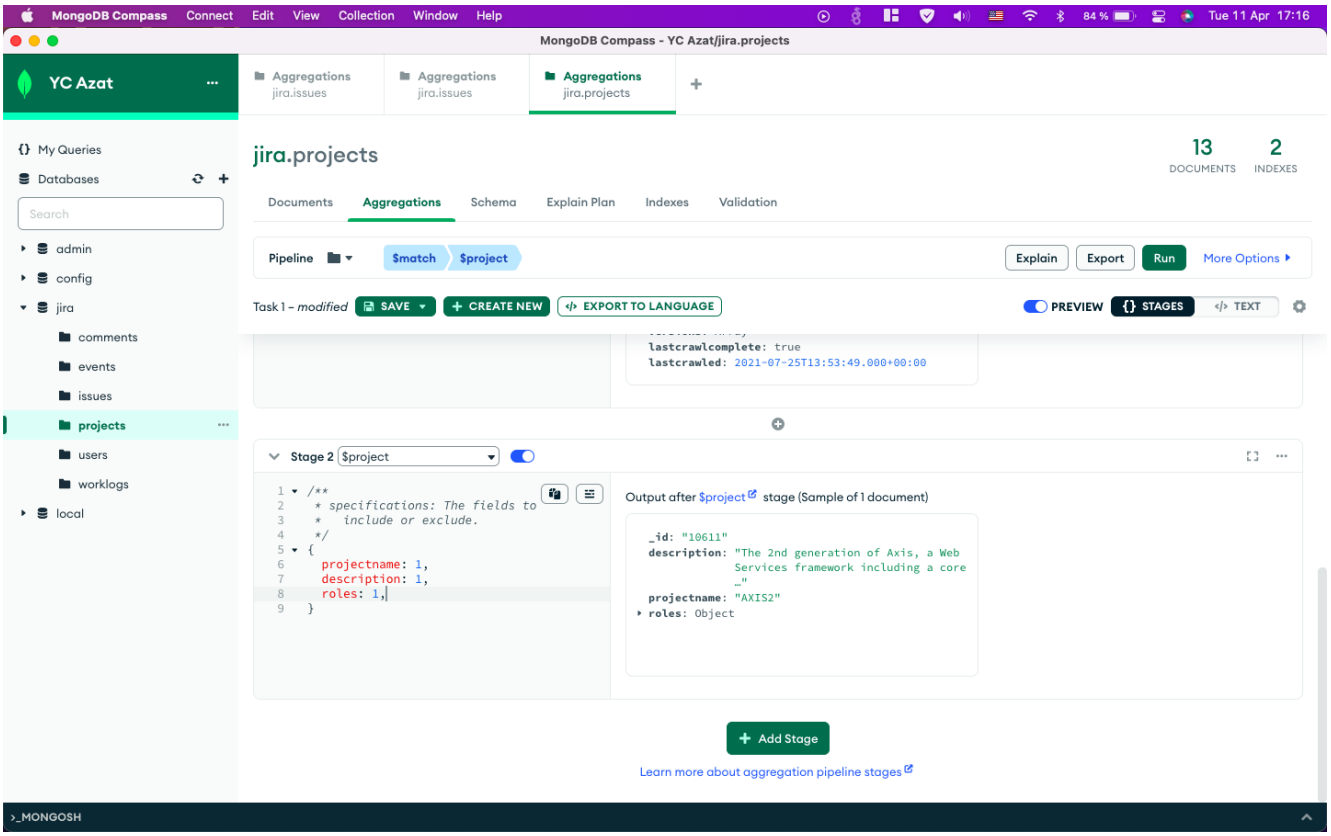




Task 1

Your query as a text	Collection name

[
  {
  $match:
  /**
  * query: The query in MQL.
  */
  {
  projectname: {
  $regex: "^A",
  },
  },
  },
  {
  $project:
  /**
  * specifications: The fields to
  * include or exclude.
  */
  {
  projectname: 1,
  description: 1,
  roles: 1,
  },
  },
]
	projects



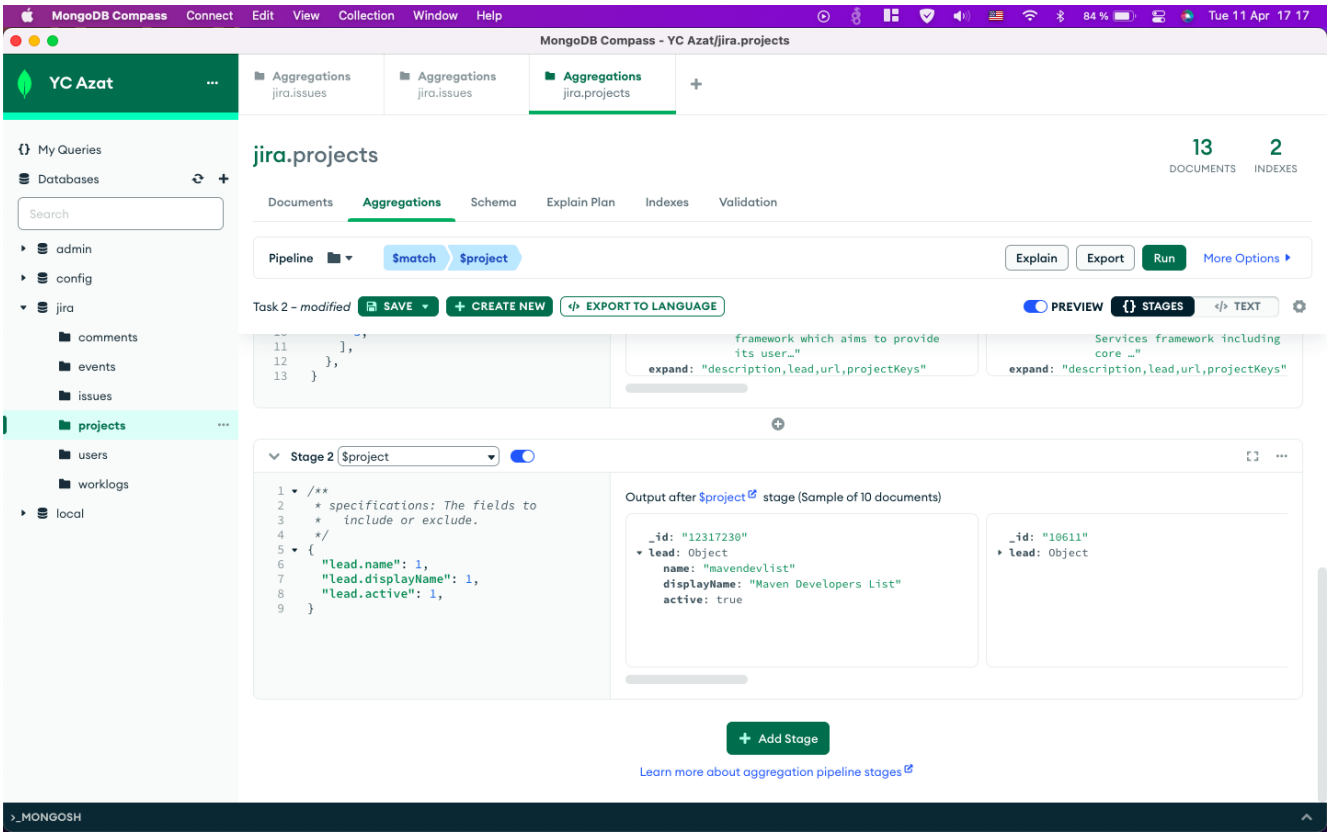
Your comments (optional)

Task 2

Your query as a text	Collection name

[
{
$match:
/**
* query: The query in MQL.
*/
{
$expr: {
$gt: [
{
$size: "$issueTypes",
},
5,
],
},
},
},
{
	projects

$project: /** * specifications: The fields to * include or exclude. */ { "lead.name": 1, "lead.displayName": 1, "lead.active": 1, }, },]	

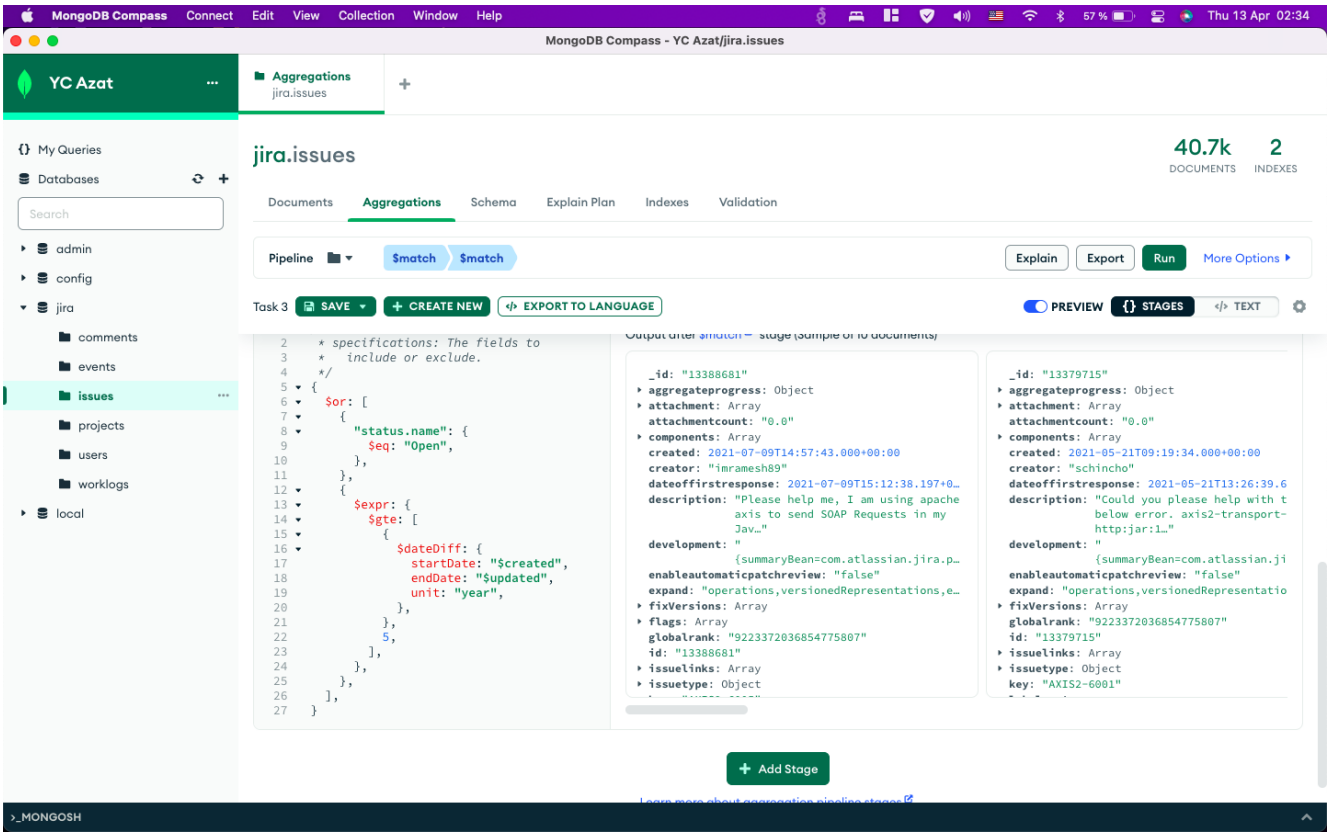


Your comments (optional)

Task 3

Your query as a text	Collection name
[{ $match:	issues

```
    /**
     * query: The query in MQL.
     */
    {
      "issuetype.name": {
        $eq: "Bug",
      },
    },
  },
  {
    $match:
    /**
     * specifications: The fields to
     *   include or exclude.
     */
    {
      $or: [
        {
          "status.name": {
            $eq: "Open",
          },
        },
        {
          $expr: {
            $gte: [
              {
                $dateDiff: {
                  startDate: "$created",
                  endDate: "$updated",
                  unit: "year",
                },
              },
              5,
            ],
          },
        },
      ],
    },
  },
]
```



Your comments (optional)

Task 4

Your query as a text	Collection name

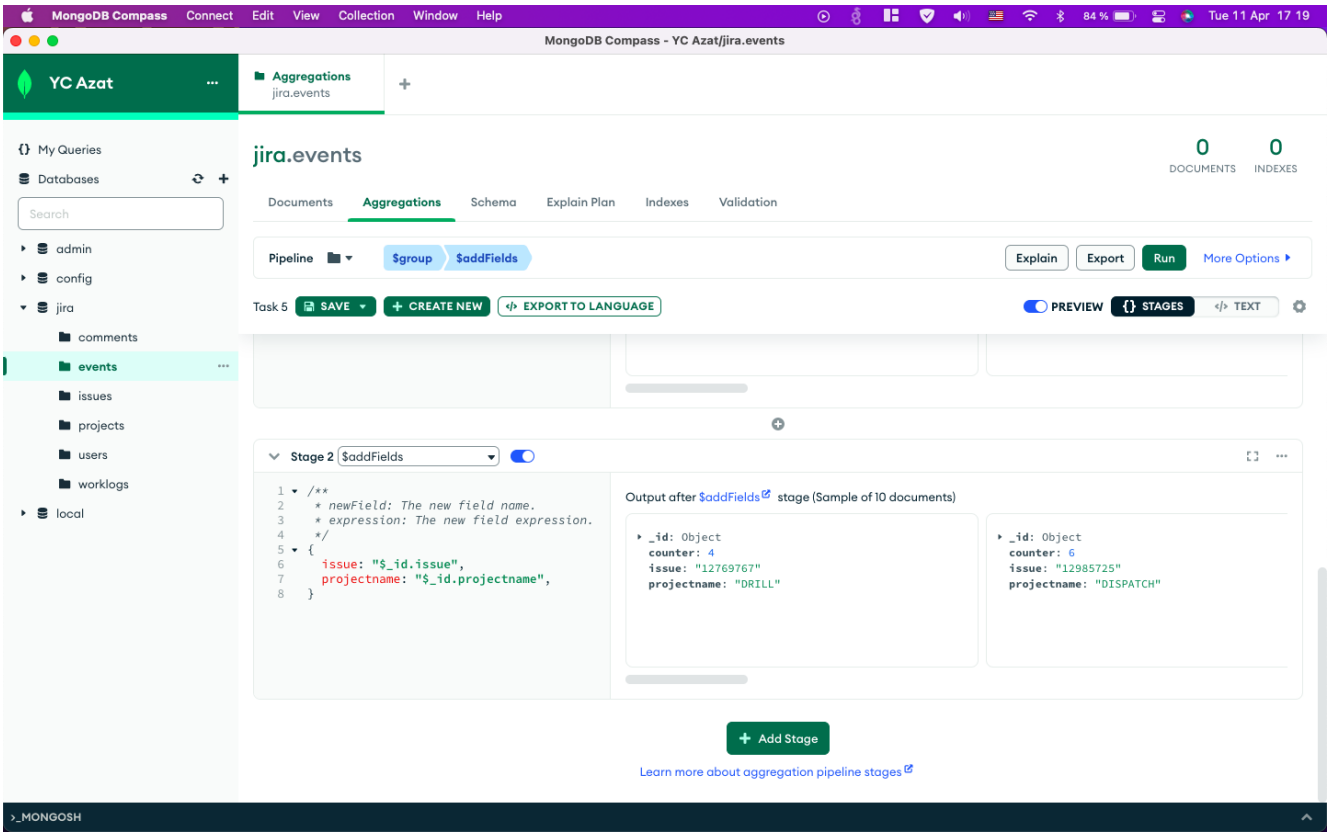
< put here the screenshot of the output>

Your comments (optional)

Task 5

Your query as a text	Collection name
[{	events

```
    $group: {
      _id: {
        issue: "$issue",
        projectname: "$projectname",
      },
      counter: {
        $sum: 1,
      },
    },
  },
  {
    $addFields:
      /**
       * newField: The new field name.
       * expression: The new field expression.
       */
      {
        issue: "$_id.issue",
        projectname: "$_id.projectname",
      },
  },
]
```

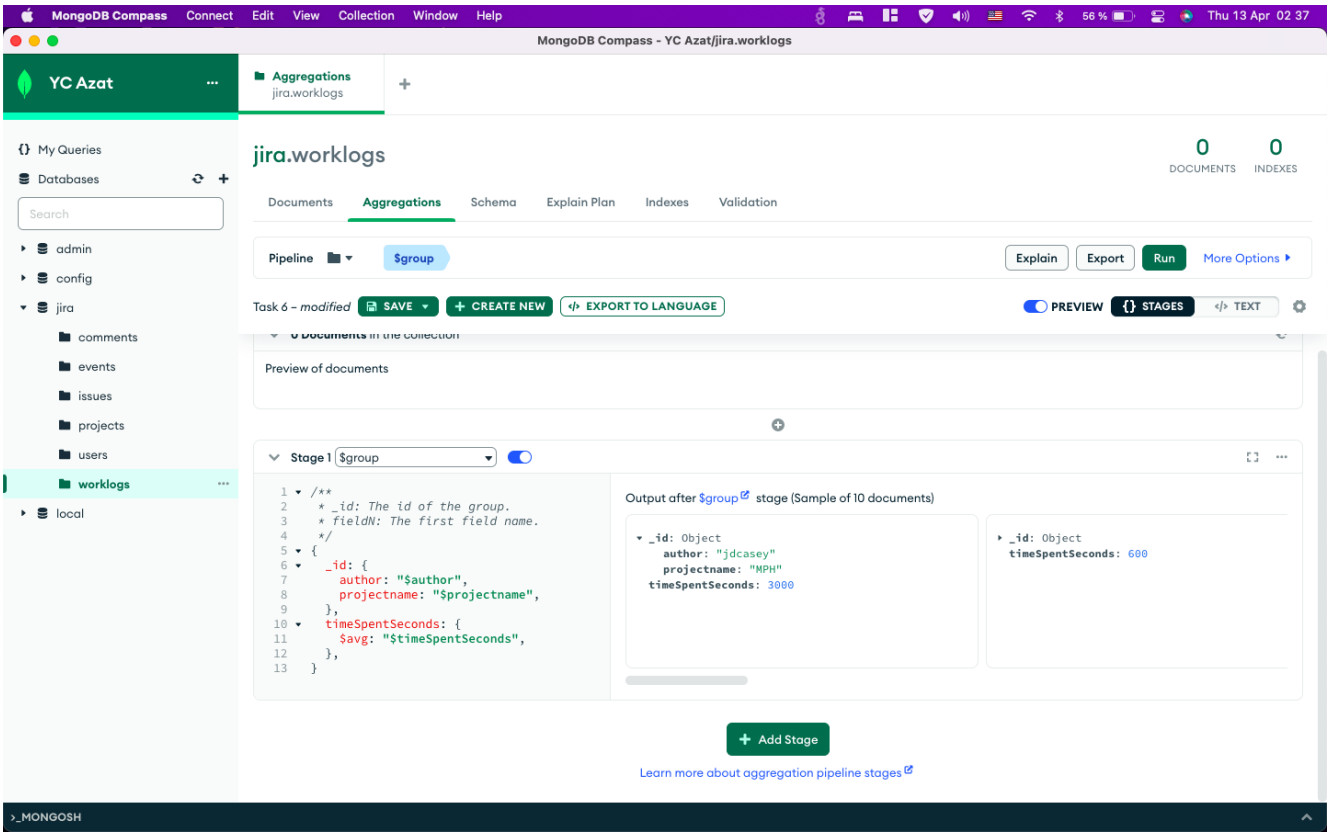


Your comments (optional)

Task 6

Your query as a text	Collection name

[
  {
  $group:
  /**
  * _id: The id of the group.
  * fieldN: The first field name.
  */
  {
  _id: {
  author: "$author",
  projectname: "$projectname",
  },
  timeSpentSeconds: {
  $avg: "$timeSpentSeconds",
  },
  },
  },
]
	worklogs



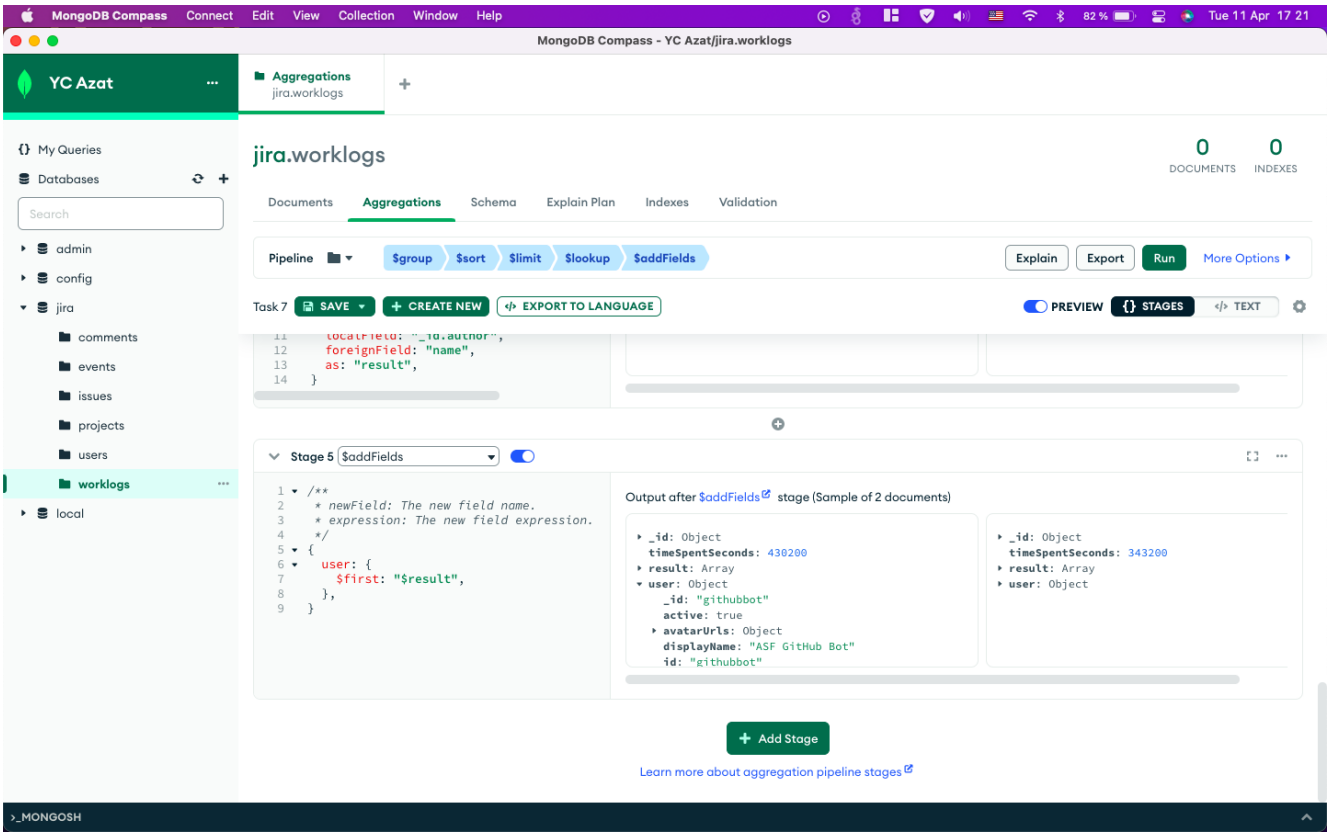
Your comments (optional)
There's a bug in showing the number of documents in the collection.

Task 7

Your query as a text	Collection name

[
{
$group:
/**
* _id: The id of the group.
* fieldN: The first field name.
*/
{
_id: {
author: "$author",
},
timeSpentSeconds: {
$sum: "$timeSpentSeconds",
},
},
},
{
$sort:
/**
* Provide any number of field/order pairs.
*/
{
timeSpentSeconds: -1,
},
},
{
$limit:
/**
* Provide the number of documents to limit.
*/
2,
},
{
$lookup:
/**
* from: The target collection.
* localField: The local join field.
* foreignField: The target join field.
* as: The name for the results.
* pipeline: Optional pipeline to run on the foreign collection.
* let: Optional variables to use in the pipeline field stages.
*/
{
from: "users",
localField: "_id.author",
foreignField: "name",
	worklogs

```
      as: "result",
    },
  },
  {
    $addFields:
    /**
     * newField: The new field name.
     * expression: The new field expression.
     */
    {
      user: {
        $first: "$result",
      },
    },
  },
]
```



Your comments (optional)

Task 8

Your query as a text	Collection name

< put here the screenshot of the output>

Your comments (optional)

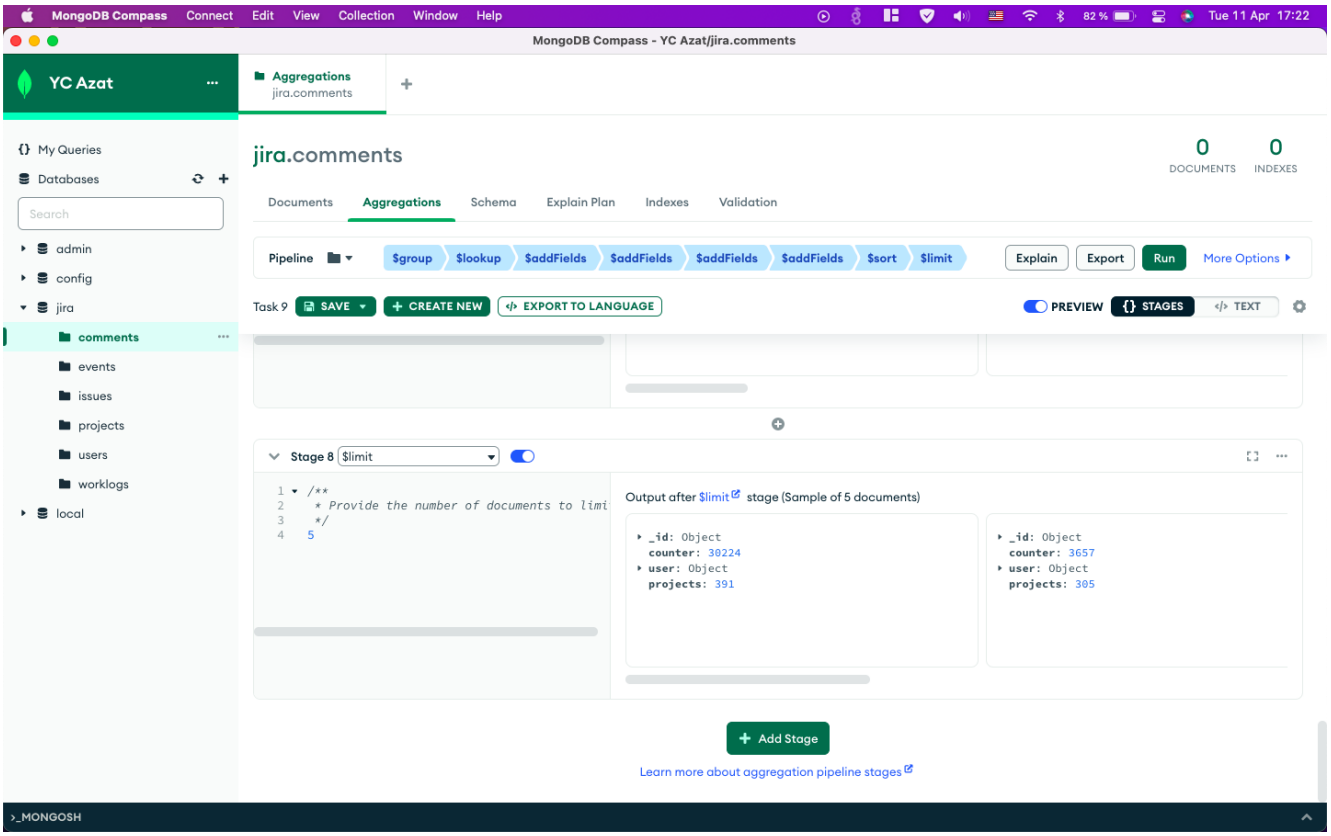
Task 9

Your query as a text	Collection name

[
{
$group:
/**
* _id: The id of the group.
* fieldN: The first field name.
*/
{
_id: {
user: "$author",
},
counter: {
$sum: 1,
},
},
},
{
$lookup:
/**
* from: The target collection.
* localField: The local join field.
* foreignField: The target join field.
* as: The name for the results.
* pipeline: Optional pipeline to run on the foreign collection.
* let: Optional variables to use in the pipeline field stages.
*/
{
from: "users",
localField: "_id.user",
foreignField: "id",
as: "user",
},
},
{
$addFields:
/**
* newField: The new field name.
	comments

```
     * expression: The new field expression.
     */
    {
      projects: {
        $first: "$user",
      },
    },
},
{
  $addFields:
    /**
     * newField: The new field name.
     * expression: The new field expression.
     */
    {
      projects: "$projects.projectname",
    },
},
{
  $addFields:
    /**
     * newField: The new field name.
     * expression: The new field expression.
     */
    {
      projects: {
        $size: "$projects",
      },
    },
},
{
  $addFields:
    /**
     * newField: The new field name.
     * expression: The new field expression.
     */
    {
      user: {
        $first: "$user",
      },
    },
},
{
  $sort:
    /**
     * Provide any number of field/order pairs.
     */
    {
      counter: -1,
      projects: -1,
    },
},
```

{ $limit: /** * Provide the number of documents to limit. */ 5, },]	



Your comments (optional)

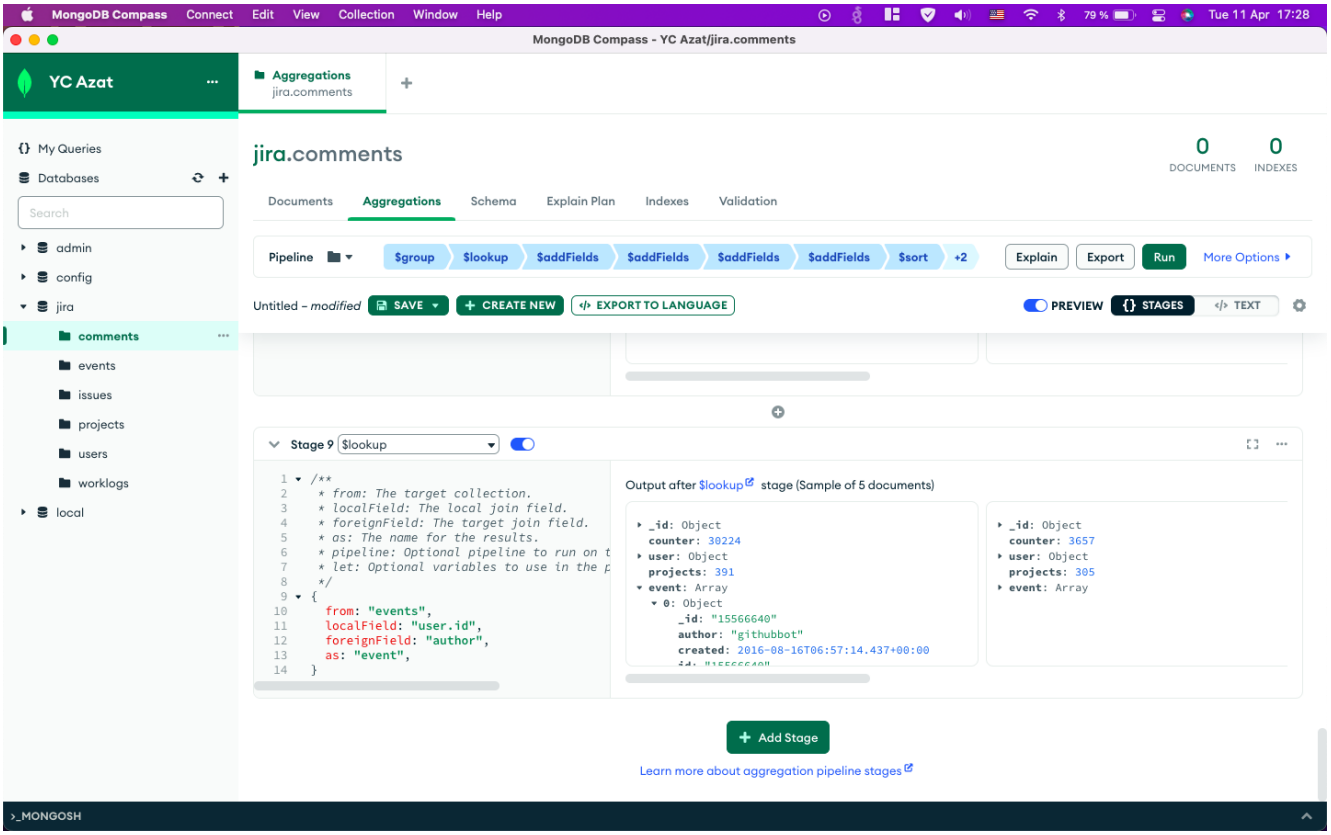
Task 10

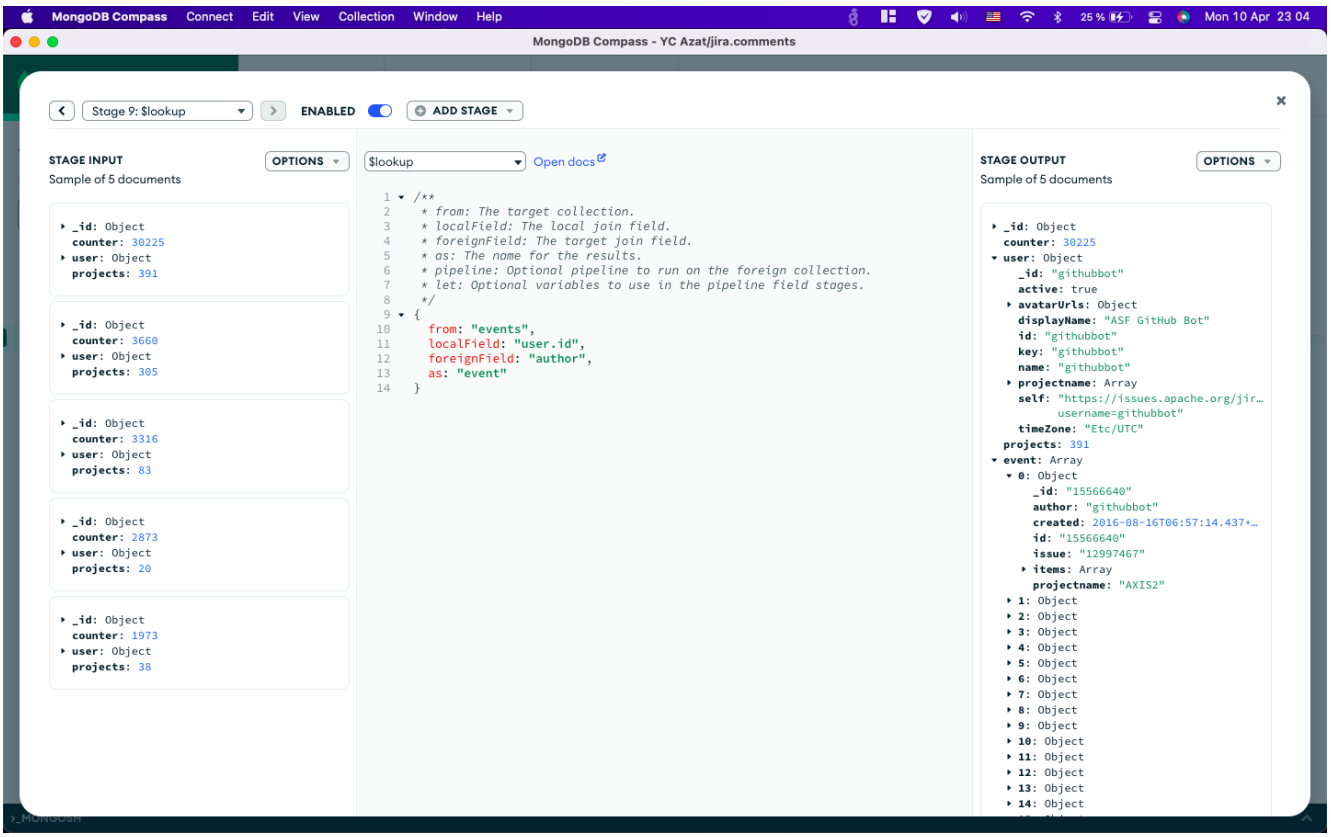
Your query as a text	Collection name
[{ $group: /** * _id: The id of the group. * fieldN: The first field name. */ {	comments

```
      _id: {
        user: "$author",
      },
      counter: {
        $sum: 1,
      },
    },
  },
  {
    $lookup:
      /**
       * from: The target collection.
       * localField: The local join field.
       * foreignField: The target join field.
       * as: The name for the results.
       * pipeline: Optional pipeline to run on the foreign collection.
       * let: Optional variables to use in the pipeline field stages.
       */
      {
        from: "users",
        localField: "_id.user",
        foreignField: "id",
        as: "user",
      },
  },
  {
    $addFields:
      /**
       * newField: The new field name.
       * expression: The new field expression.
       */
      {
        projects: {
          $first: "$user",
        },
      },
  },
  {
    $addFields:
      /**
       * newField: The new field name.
       * expression: The new field expression.
       */
      {
        projects: "$projects.projectname",
      },
  },
  {
    $addFields:
      /**
       * newField: The new field name.
       * expression: The new field expression.
```

```
    */
    {
      projects: {
        $size: "$projects",
      },
    },
  },
  {
    $addFields:
    /**
     * newField: The new field name.
     * expression: The new field expression.
     */
    {
      user: {
        $first: "$user",
      },
    },
  },
  {
    $sort:
    /**
     * Provide any number of field/order pairs.
     */
    {
      counter: -1,
      projects: -1,
    },
  },
  {
    $limit:
    /**
     * Provide the number of documents to limit.
     */
    5,
  },
  {
    $lookup:
    /**
     * from: The target collection.
     * localField: The local join field.
     * foreignField: The target join field.
     * as: The name for the results.
     * pipeline: Optional pipeline to run on the foreign collection.
     * let: Optional variables to use in the pipeline field stages.
     */
    {
      from: "events",
      localField: "user.id",
      foreignField: "author",
      as: "event",
    },
```

```
  },
]
```



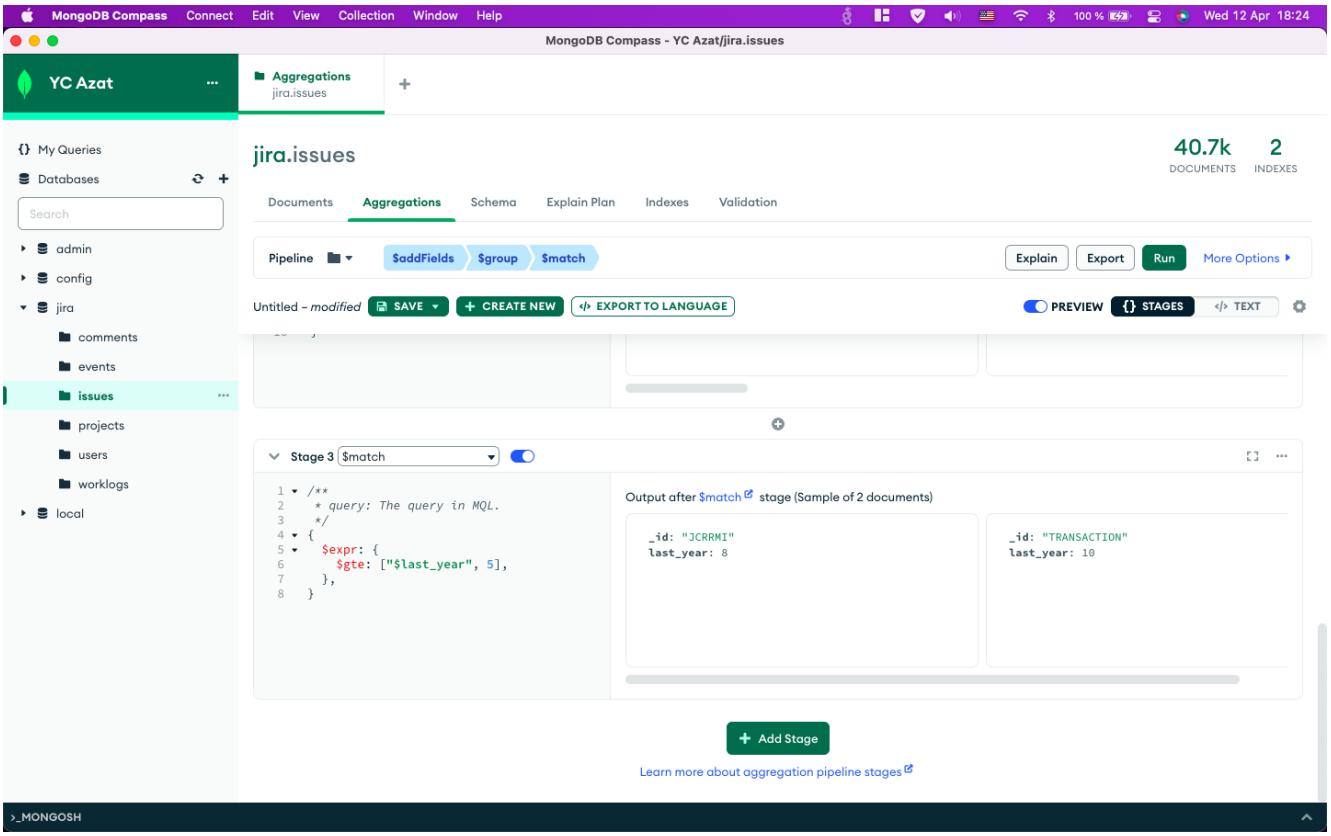


Your comments (optional)

Task 11

Your query as a text	Collection name

[
  {
  $addFields:
  /**
  * newField: The new field name.
  * expression: The new field expression.
  */
  {
  date: {
  $dateDiff: {
  startDate: "$created",
  endDate: new ISODate(),
  unit: "year",
  },
  },
  },
  },
  {
  $group:
  /**
  * _id: The id of the group.
  * fieldN: The first field name.
  */
  {
  _id: "$projectname",
  last_year: {
  $min: "$date",
  },
  },
  },
  {
  $match:
  /**
  * query: The query in MQL.
  */
  {
  $expr: {
  $gte: ["$last_year", 5],
  },
  },
  },
]
	issues

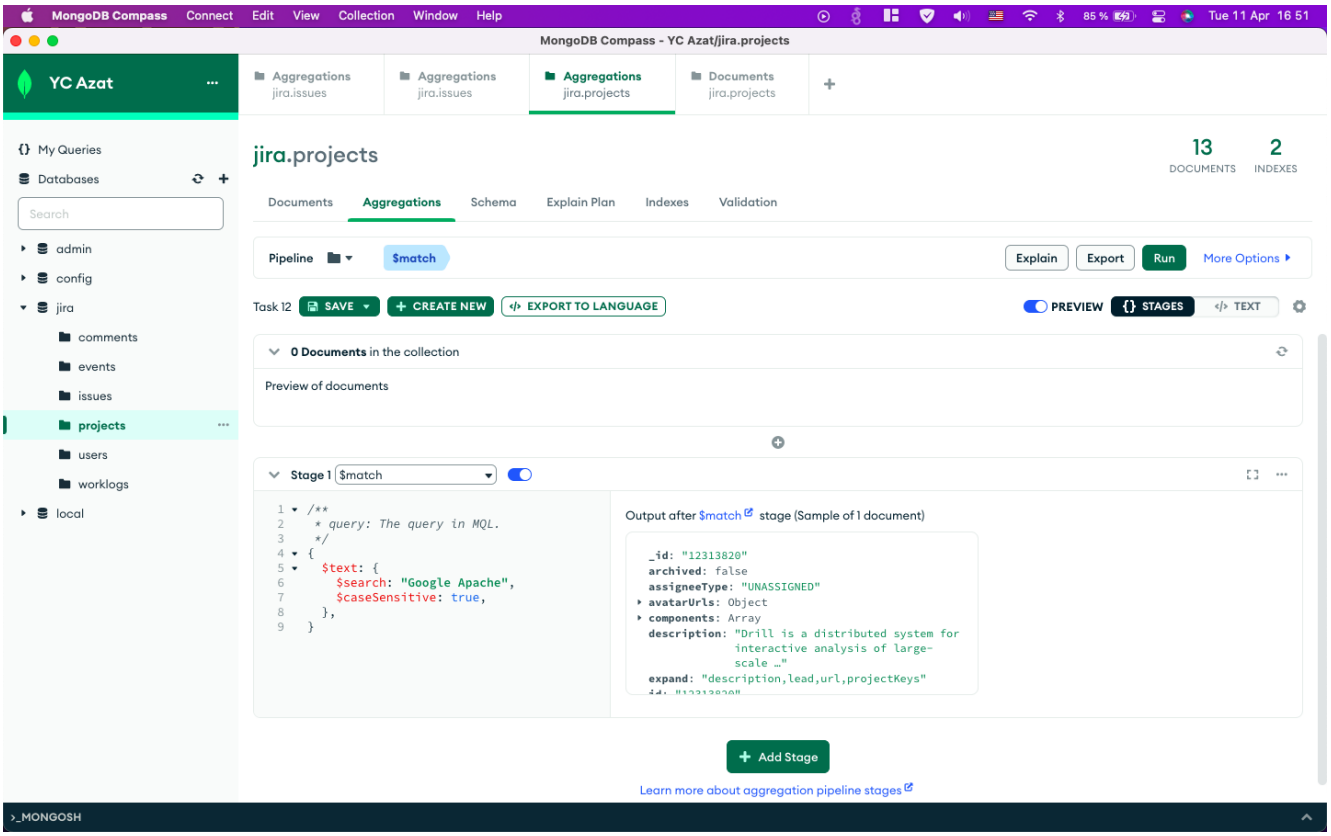


Your comments (optional)

Task 12

Your query as a text	Collection name

[
{
$match:
/**
* query: The query in MQL.
*/
{
$text: {
$search: "Google Apache",
$caseSensitive: true,
},
},
},
]
	projects



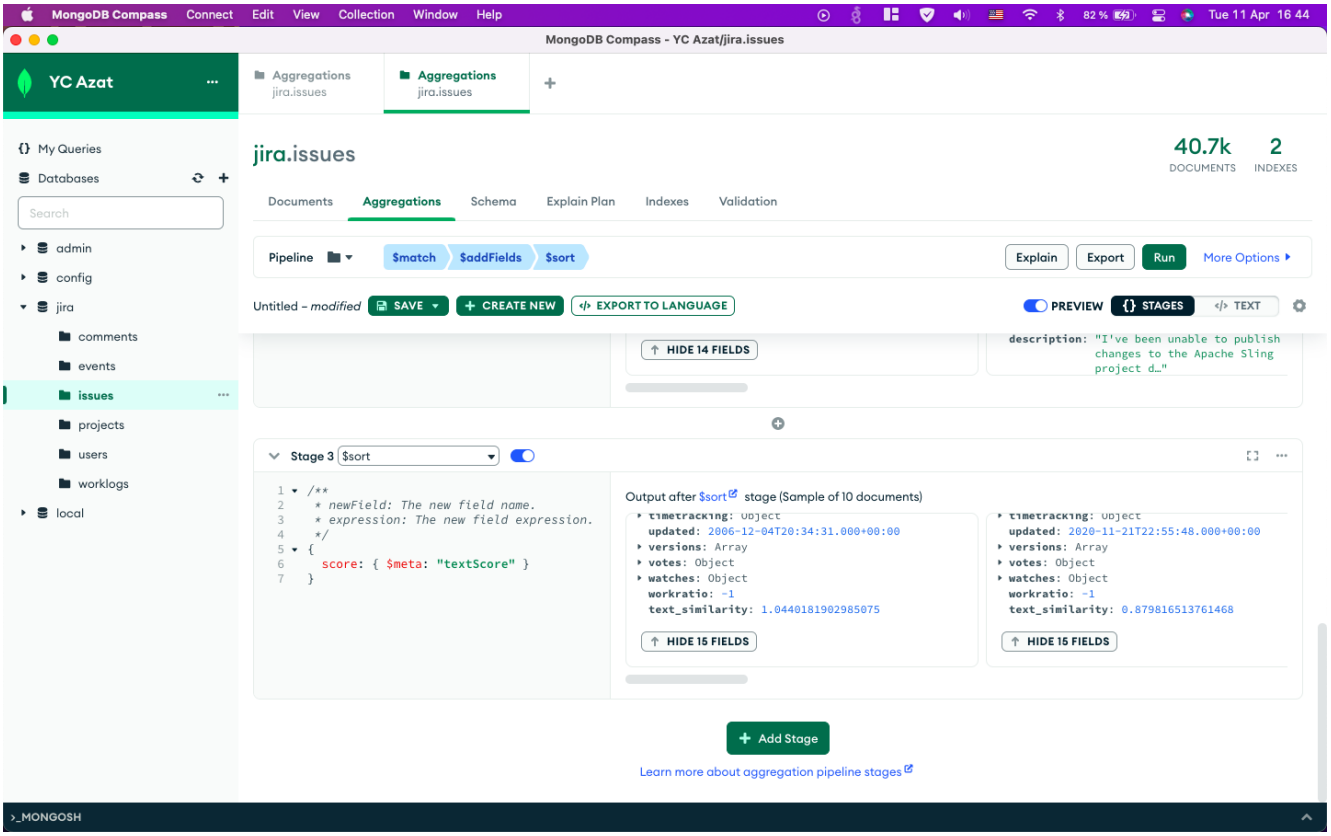
Your comments (optional)

Task 13

Your query as a text	Collection name

[
{
$match:
/**
* query: The query in MQL.
*/
{
$text: {
$search: "game",
$caseSensitive: false,
$diacriticSensitive: false,
},
},
},
{
$addFields:
/**
* newField: The new field name.
* expression: The new field expression.
	issues

```
      */
     {
       text_similarity: {
         $meta: "textScore",
       },
     },
  },
  {
    $sort:
     /**
      * newField: The new field name.
      * expression: The new field expression.
      */
     {
       score: {
         $meta: "textScore",
       },
     },
  },
]
```



Your comments (optional)