Aggregation

Aggregation Introduction

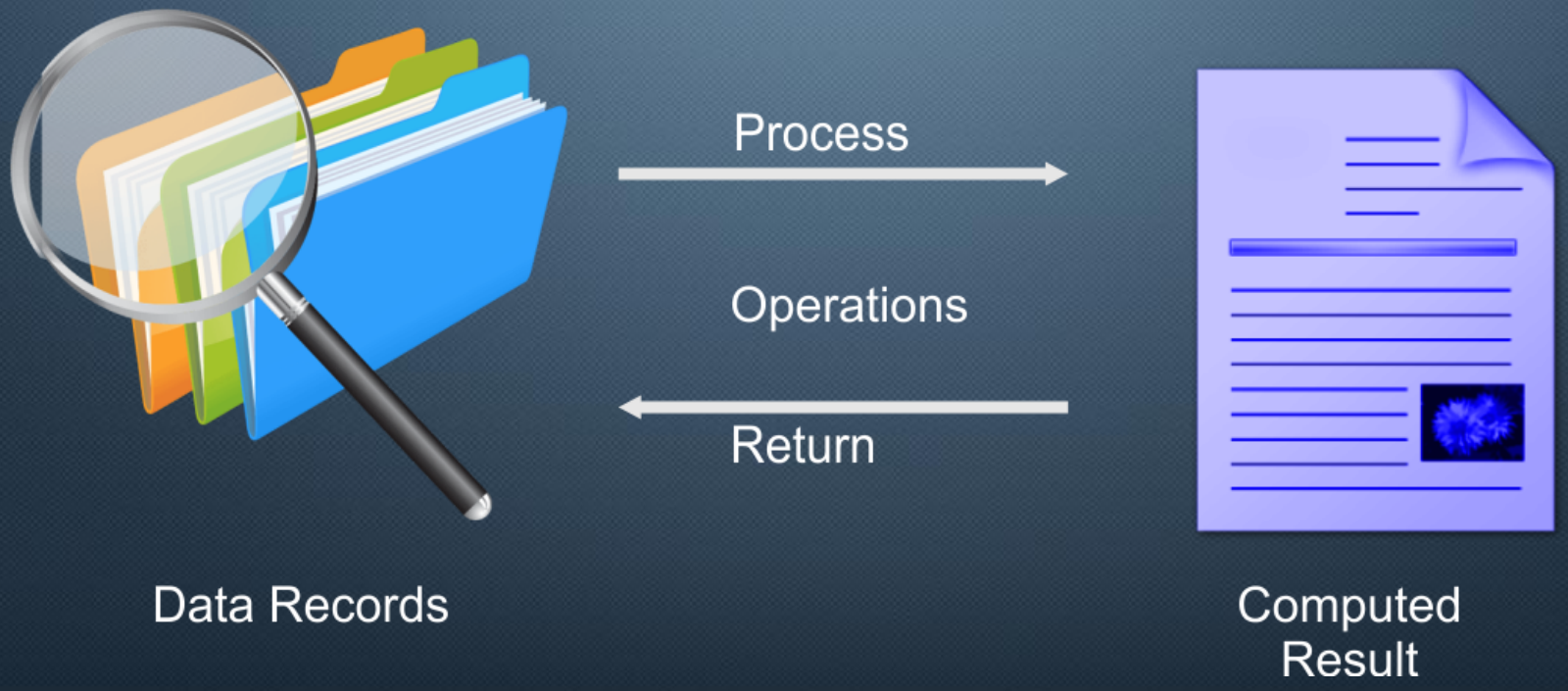
EASYLEARNING.GURU

- Its framework lets you transform and combine documents in a collection.
- Documents are processed through several building blocks.
- Filtering, projecting, grouping, sorting, limiting and skipping.
- Aggregation results are limited to 16MB of data.

Aggregation Introduction Cont..

EASYLEARNING.GURU

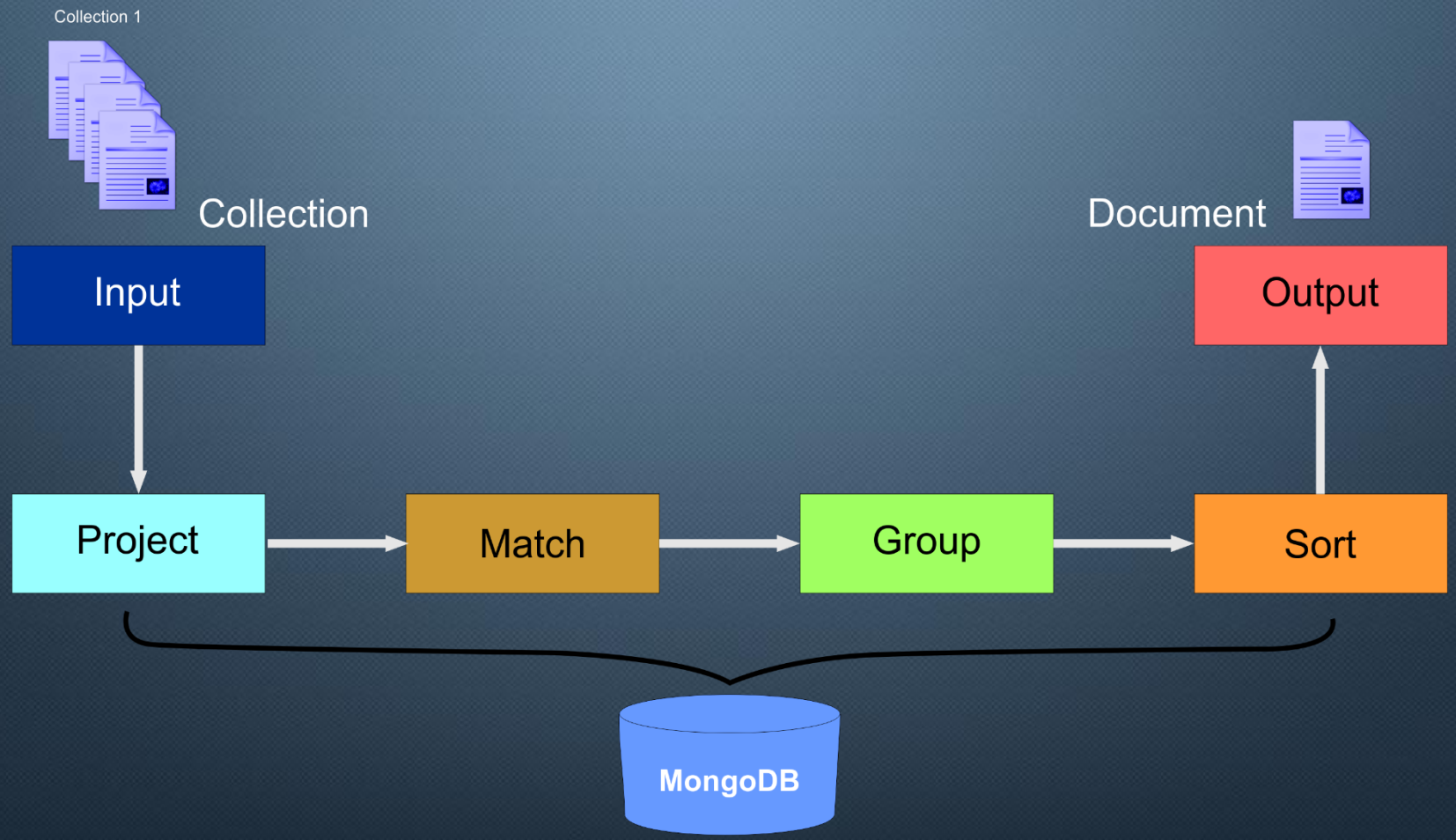
- MongoDB provides a rich set of aggregation operations that examine and perform calculations on data sets.
- Running data aggregation on mongod instance simplifies application code and limits resource requirements.



Aggregation Framework

EASYLEARNING.GURU

Aggregation operations in MongoDB use collections of documents as an input and return results in the form of one or more documents.



Aggregation Concept

EASYLEARNING.GURU

Aggregation Pipeline

EASYLEARNING.GURU

It's a framework for performing aggregation tasks, modeled on the concept of data processing pipelines.

Using this framework, MongoDB passes the documents of a single collection through a pipeline.

The pipeline transforms the documents into aggregated results and is accessed through the aggregate database command.

Aggregation pipeline basically has two phases: **$match** and **$group**.

Aggregation Pipeline

EASYLEARNING.GURU

Student

```
{   Stud_id : "A123",
Fees : 5000,
Section : "A"   }

{   Stud_id : "A123",
Fees : 2500,
Section : "A"   }

{   Stud_id : "B212",
Fees : 3000,
Section : "A"   }

{   Stud_id : "A123",
Fees : 2000,
Section : "D"   }
```

```
db.student.aggregate( [ { $match : { Section : "A"}},
                        {$group : { _id : "stud_id" , Total : { $sum : "$Fees" } } } ] )
```

$match

```
{   Stud_id : "A123",
Fees : 5000,
Section : "A"   }

{   Stud_id : "A123",
Fees : 2500,
Section : "A"   }

{   Stud_id : "B212",
Fees : 3000,
Section : "A"   }
```

$group

```
{
_id : "A123",
Total : 7500
}

{
_id : "B212",
Total : 3000
}
```

Hands-On