There is a data visualization tool to display various analytical data in a dashboard. The data consist of units sold for a particular item in a specified area by different distributors for each year.

Write a webservice to provide data to the dashboard in the required format.

Database table structures and sample data is listed below.

Distribution

product_id	distributor_id	place	quantity sold	year
1	1	Ernakulam	100	2019
2	1	Ernakulam	100	2019
3	1	Kottayam	100	2019
1	2	Ernakulam	100	2019
2	2	Ernakulam	200	2019
3	2	Kottayam	100	2019
1	3	Thrissur	100	2019
2	3	Thrissur	100	2019
3	3	Thrissur	500	2019

Product

id	name
1	Books
2	Pen
3	Pencil

Distributor

id	name
1	Classmates
2	Camlin
3	Nataraj

Data format of each chart is listed below.

1. Area distribution map.

```json
{
  "name": "Ernakulam",
  "distributor": [
    {
      "name": "Classmates",
      "product": [
        { "name": "Books", "quantity": 100 },
        { "name": "Pen", "quantity": 100 }
      ]
    },
    {
      "name": "Camlin",
      "product": [
        { "name": "Books", "quantity": 100 },
        { "name": "Pen", "quantity": 200 }
      ]
    }
  ]
}
```

2. Product distribution Chart

```json
{
  "name": "Books",
  "distributor": [
    {
      "name": "Camlin",
      "place": [
        { "name": "Ernakulam", "quantity": 100 }
      ]
    },
    {
      "name": "Nataraj",
      "place": [
        { "name": "Thrissur", "quantity": 100 }
      ]
    }
  ]
}
```

3. Distributor performance graph

```json
{
    "name": "Camlin",
    "place": [
        {
            "name": "Ernakulam",
            "product": [
                { "name": "Books", "quantity": 100 },
                { "name": "Pen", "quantity": 200 }
            ]
        },
        {
            "name": "Kottayam",
            "product": [
                { "name": "Pencil", "quantity": 100 }
            ]
        }
    ]
}
```

The project must contain the following features.
1. Request authentication
2. Suitable APIs for getting the data in the format specified above.

Evaluation of the project will be based on the following aspects
- Project structure and design
- Performance optimizations
- Code readability

Brownie points for:
- Production readiness
- Test coverage
- Scalability
- Add an additional API endpoint to get the top N selling items in each place for a given distributor.