**Backend-Assessment-Task-API-Documentation**

**Technology Stack:**

For creating this backend I am using express.js (nodejs framework), MongoDB Atlas.

**Create Employee:**

**Endpoint:**

http://localhost:3000/api/employee/create

**Description:**

This API is use for creating employees.

**Headers:**

none

**Method:**

POST

**Request Body:**

{

"name":"string",

"position":"string",

"salary":"string",

"joiningDate":"YYYY-MM-DD"

}

//All the attributes sets required:true

**Response Body:**

//if successfully created

{

"message": "Employee Created Successfully"

}

//if error occured

{

"ErrorMsg": "Employee validation failed: joiningDate: Path `joiningDate` is required."

}

**Load Employee Data:**

**Endpoint:**

[﻿http://localhost:3000/api/employee/read](http://localhost:3000/api/employee/read)

**Description:**

This endpoint is use for load/get/read all employees data in descending order by joiningDate from the database.

**Headers:**

none

**Method:**

GET

**Request Body:**

none

**Response Body:**

[{

"\_id": "65737ff06a48029854f8dd3a",

"name": "Employee-07",

"position": "Frontend Developer",

"salary": "50,000",

"joiningDate": "2023-09-23",

"createdAt": "2023-12-08T20:43:28.031Z",

"updatedAt": "2023-12-08T20:43:28.031Z",

"\_\_v": 0

},

{

"\_id": "657380596a48029854f8dd40",

"name": "Employee-10",

"position": "SQA",

"salary": "80,000",

"joiningDate": "2023-07-23",

"createdAt": "2023-12-08T20:45:13.886Z",

"updatedAt": "2023-12-08T20:45:13.886Z",

"\_\_v": 0

},

{

"\_id": "65737fcb6a48029854f8dd38",

"name": "Employee-06",

"position": "Frontend Developer",

"salary": "40,000",

"joiningDate": "2023-04-09",

"createdAt": "2023-12-08T20:42:51.017Z",

"updatedAt": "2023-12-08T20:42:51.017Z",

"\_\_v": 0

},

{

"\_id": "65737a0a6a48029854f8dd24",

"name": "Employee-01",

"position": "Backend Developer",

"salary": "60,000",

"joiningDate": "2022-03-12",

"createdAt": "2023-12-08T20:18:18.496Z",

"updatedAt": "2023-12-08T20:18:18.496Z",

"\_\_v": 0

},

{

"\_id": "65737a416a48029854f8dd26",

"name": "Employee-01",

"position": "Backend Developer",

"salary": "65,000",

"joiningDate": "2022-03-12",

"createdAt": "2023-12-08T20:19:13.266Z",

"updatedAt": "2023-12-08T20:19:13.266Z",

"\_\_v": 0

},....]

**Calculate Average Salary by Position:**

**Endpoint:**

[﻿localhost:3000/api/employee/readavgsalary?pos=positionName](http://localhost:3000/api/employee/readavgsalary?pos=positionName)

**Description:**

This API calculates the average salary of the given department/position.

**Headers:**

none

**Method:**

GET

**Query Param:**

pos

**Request Body:**

none

**Response Body if error occurred:**

{

"ErrorMessage": "Position is not exists"

}

**Response Body if Success:**

{

"message": "Average salary of the position Backend Developer is 70000"

}

**Filter Employees by Experience Level:**

**Endpoint:**

[﻿localhost:3000/api/employee/filterbyexperience?minVal=10&maxVal=20](http://localhost:3000/api/employee/filterbyexperience?minVal=10&maxVal=20)

**Description:**

This API calculates the employee's experience from their joining dates. And gets the employees data which will be lies between the given range.

**Headers:**

none

**Method:**

GET

**Query Params:**

minVal, maxVal

**Request Body:**

none

**Response Body if data not exists in the given range:**

{

"Message": "Data not exists"

}

**Response Body if data exists in the given range:**

[

{

"\_id": "65737ca96a48029854f8dd2c",

"name": "Employee-01",

"position": "frontend Developer",

"salary": "50000",

"joiningDate": "2020-02-10",

"createdAt": "2023-12-08T20:29:29.433Z",

"updatedAt": "2023-12-08T20:29:29.433Z",

"\_\_v": 0

},

{

"\_id": "65737cb36a48029854f8dd2e",

"name": "Employee-01",

"position": "frontend Developer",

"salary": "50000",

"joiningDate": "2020-02-10",

"createdAt": "2023-12-08T20:29:39.962Z",

"updatedAt": "2023-12-08T20:29:39.962Z",

"\_\_v": 0

},

{

"\_id": "657380156a48029854f8dd3c",

"name": "Employee-08",

"position": "Data Analyst",

"salary": "70000",

"joiningDate": "2018-07-23",

"createdAt": "2023-12-08T20:44:05.330Z",

"updatedAt": "2023-12-08T20:44:05.330Z",

"\_\_v": 0

},

{

"\_id": "657380356a48029854f8dd3e",

"name": "Employee-09",

"position": "Full Stack Developer",

"salary": "100000",

"joiningDate": "2018-07-23",

"createdAt": "2023-12-08T20:44:37.082Z",

"updatedAt": "2023-12-08T20:44:37.082Z",

"\_\_v": 0

}

]

**Get Top N Earners:**

**Endpoint:**

[﻿localhost:3000/api/employee/topnearners?n=5](http://localhost:3000/api/employee/topnearners?n=5)

**Description:**

This API get the top N earners.

**Headers:**

none

**Method:**

GET

**Query Params:**

n

**Request Body:**

none

**Response Body if successful:**

{

"Top\_N\_Eearners": [

{

"\_id": "65737faf6a48029854f8dd36",

"name": "Employee-06",

"position": "Data Scientist",

"salary": "100000",

"joiningDate": "2021-04-09",

"createdAt": "2023-12-08T20:42:23.388Z",

"updatedAt": "2023-12-08T20:42:23.388Z",

"\_\_v": 0

},

{

"\_id": "657380356a48029854f8dd3e",

"name": "Employee-09",

"position": "Full Stack Developer",

"salary": "100000",

"joiningDate": "2018-07-23",

"createdAt": "2023-12-08T20:44:37.082Z",

"updatedAt": "2023-12-08T20:44:37.082Z",

"\_\_v": 0

},

{

"\_id": "65737f8f6a48029854f8dd34",

"name": "Employee-05",

"position": "Project Manager",

"salary": "90000",

"joiningDate": "2021-04-09",

"createdAt": "2023-12-08T20:41:51.814Z",

"updatedAt": "2023-12-08T20:41:51.814Z",

"\_\_v": 0

},

{

"\_id": "65737a7b6a48029854f8dd28",

"name": "Employee-01",

"position": "Backend Developer",

"salary": "85000",

"joiningDate": "2022-03-12",

"createdAt": "2023-12-08T20:20:11.958Z",

"updatedAt": "2023-12-08T20:20:11.958Z",

"\_\_v": 0

},

{

"\_id": "657380596a48029854f8dd40",

"name": "Employee-10",

"position": "SQA",

"salary": "80000",

"joiningDate": "2023-07-23",

"createdAt": "2023-12-08T20:45:13.886Z",

"updatedAt": "2023-12-08T20:45:13.886Z",

"\_\_v": 0

}

]

}

**Response Body if not successful:**

{

"message": "Invalid value of N"

}

**Employee Retention Rate:**

**Endpoint:**

[﻿localhost:3000/api/employee/retentionrate](http://localhost:3000/api/employee/retentionrate)

**Description:**

This API calculates the retention rate of employees for each department. It needs query param, number of employees that stayed during the period and gets total number of employees from database.

**Headers:**

none

**Query Params:**

pos

**Method:**

GET

**Request Body:**

{

"currentEmployeesInDept":"2"

}

**Response Body if success:**

{

"Retention\_Rate": 66.66666666666666

}

**Filter Employees by Salary Range:**

**Endpoint:**

[﻿localhost:3000/api/employee/filterbysalary?min=70000&max=80000](http://localhost:3000/api/employee/filterbysalary?min=70000&max=80000)

**Description:**

This API gets the employees between the given salary range.

**Headers:**

none

**Method:**

GET

**Query Params:**

min, max

**Request Body:**

none

**Response Body:**

{

"empData": [

{

"\_id": "65737a0a6a48029854f8dd24",

"name": "Employee-01",

"position": "Backend Developer",

"salary": "60000",

"joiningDate": "2022-03-12",

"createdAt": "2023-12-08T20:18:18.496Z",

"updatedAt": "2023-12-08T20:18:18.496Z",

"\_\_v": 0

},

{

"\_id": "65737ca96a48029854f8dd2c",

"name": "Employee-01",

"position": "frontend Developer",

"salary": "50000",

"joiningDate": "2020-02-10",

"createdAt": "2023-12-08T20:29:29.433Z",

"updatedAt": "2023-12-08T20:29:29.433Z",

"\_\_v": 0

},

{

"\_id": "65737cb36a48029854f8dd2e",

"name": "Employee-01",

"position": "frontend Developer",

"salary": "50000",

"joiningDate": "2020-02-10",

"createdAt": "2023-12-08T20:29:39.962Z",

"updatedAt": "2023-12-08T20:29:39.962Z",

"\_\_v": 0

},

{

"\_id": "65737f466a48029854f8dd32",

"name": "Employee-04",

"position": "Human Resource Manager",

"salary": "60000",

"joiningDate": "2022-01-09",

"createdAt": "2023-12-08T20:40:38.644Z",

"updatedAt": "2023-12-08T20:40:38.644Z",

"\_\_v": 0

},

{

"\_id": "65737fcb6a48029854f8dd38",

"name": "Employee-06",

"position": "Frontend Developer",

"salary": "40000",

"joiningDate": "2023-04-09",

"createdAt": "2023-12-08T20:42:51.017Z",

"updatedAt": "2023-12-08T20:42:51.017Z",

"\_\_v": 0

},

{

"\_id": "65737ff06a48029854f8dd3a",

"name": "Employee-07",

"position": "Frontend Developer",

"salary": "50000",

"joiningDate": "2023-09-23",

"createdAt": "2023-12-08T20:43:28.031Z",

"updatedAt": "2023-12-08T20:43:28.031Z",

"\_\_v": 0

}

]

}