

# Sample Request and response JSON schemas for the APIs.

## **EMPLOYEE CONTROLLER**

### **1. Create Employee**

POST

<http://localhost:8080/employee>

#### **Request Body:**

```
{  
  
  "name": "Paul m",  
  
  "salary": 50000,  
  
  "role": "Tech Support",  
  
  "department": {"id": 1},  
  
  "reportingManager": {"id": 5 },  
  
  "dateOfBirth": "12-08-2000",  
  
  "address": "uk",  
  
  "joiningDate": "12-08-2025",  
  
  "yearlyBonusPercentage": 10  
  
}
```

#### **Response Body:**

```
{
```

```
"id": 19,  
"name": "Paul m",  
"dateOfBirth": "12-08-2000",  
"salary": 50000.0,  
"department": {  
  "id": 1,  
  "name": null,  
  "createdDate": null  
},  
"address": "uk",  
"role": "Tech Support",  
"joiningDate": "12-08-2025",  
"yearlyBonusPercentage": 10.0,  
"reportingManager": {  
  "id": 5,  
  "name": null,  
  "role": null  
}  
}
```

## 2. Get All Employees .

GET

<http://localhost:8080/employee>

**Response Body:**

```
{  
  "content": [  

```

```
{
  "id": 1,
  "name": "Alice Johnson Updated 2.0",
  "dateOfBirth": "20-05-1990",
  "salary": 79000.0,
  "department": {
    "id": 4,
    "name": "procurement",
    "createdDate": "2025-07-03"
  },
  "address": "San Diego",
  "role": "Lead Software Engineer 2",
  "joiningDate": "15-01-2022",
  "yearlyBonusPercentage": 11.5,
  "reportingManager": {
    "id": 7,
    "name": "George Bailey",
    "role": "QA Engineer"
  }
},
{
  "id": 2,
  "name": "Bob Smith",
  "dateOfBirth": "12-07-1988",
  "salary": 80000.0,
  "department": {
    "id": 1,
    "name": "R&D",
```

```
        "createdDate": "2022-01-01"
      },
      "address": "Chicago",
      "role": "Senior Engineer",
      "joiningDate": "10-04-2021",
      "yearlyBonusPercentage": 12.0,
      "reportingManager": null
    }
  ],
  .....truncated the response
```

```
  ],
  "pageNumber": 0,
  "pageSize": 20,
  "totalElements": 19,
  "totalPages": 1,
  "last": true
}
```

### 3. Get Employee Summary

GET

<http://localhost:8080/employee/employeeSummary?lookup=true>

**Response Body:**

```
{
  "content": [
    {
```

```
"id": 1,  
  "name": "Alice Johnson Updated 2.0"  
},  
{  
  "id": 2,  
  "name": "Bob Smith"  
},  
{  
  "id": 3,  
  "name": "Charlie Brown"  
},  
{  
  "id": 4,  
  "name": "Diana Prince"  
},  
{  
  "id": 5,  
  "name": "Ethan Hunt"  
},  
{  
  "id": 6,  
  "name": "Fiona Glenanne"  
},  
{  
  "id": 7,  
  "name": "George Bailey"  
},  
{
```

```
      "id": 8,
      "name": "Hannah Lee"
    },
    {
      "id": 9,
      "name": "Ian Fleming"
    },
    {
      "id": 10,
      "name": "Julia Roberts"
    },
    .....TRUNCATED RESPONSE
  ],
  "pageNumber": 0,
  "pageSize": 20,
  "totalElements": 19,
  "totalPages": 1,
  "last": true
}
```

## 4. update employee

PUT

<http://localhost:8080/employee/1>

**Request Body:**

```
{
  "name": "Alice Johnson Updated ",
}
```

```
"dateOfBirth": "20-05-1990",  
"salary": 79000,  
"address": "San Diego",  
"role": "Lead Software Engineer 2",  
"joiningDate": "15-01-2022",  
"yearlyBonusPercentage": 11.5,  
"department": {  
  "id": 4  
},  
"reportingManager": {  
  "id": 7  
}  
}
```

**ResponseBody:**

```
{  
  "id": 1,  
  "name": "Alice Johnson Updated 2.0",  
  "dateOfBirth": "20-05-1990",  
  "salary": 79000.0,  
  "department": {  
    "id": 4,  
    "name": "procurement",  
    "createdDate": "2025-07-03"  
  },  
  "address": "San Diego",  
  "role": "Lead Software Engineer 2",  
  "joiningDate": "15-01-2022",  
}
```

```
"yearlyBonusPercentage": 11.5,  
"reportingManager": {  
  "id": 7,  
  "name": "George Bailey",  
  "role": "QA Engineer"  
}  
}
```

## 5. Change employee department

PATCH

<http://localhost:8080/employee/2/department/4>

Response Body:

```
{  
  "id": 2,  
  "name": "Bob Smith",  
  "dateOfBirth": "12-07-1988",  
  "salary": 80000.0,  
  "department": {  
    "id": 4,  
    "name": "procurement",  
    "createdDate": "2025-07-03"  
  },  
  "address": "Chicago",  
  "role": "Senior Engineer",  
  "joiningDate": "10-04-2021",  
  "yearlyBonusPercentage": 12.0,
```



```
"reportingManager": null
}
```

## **DEPARTMENT CONTROLLER**

### **6. Create Department**

**POST**

<http://localhost:8080/department>

**Request Body:**

```
{
  "name": "Management",
  "departmentHead": { "id": 11 }
}
```

**Response Body:**

```
{
  "id": 8,
  "name": "Management",
  "createdDate": "2025-07-05",
  "departmentHead": {
    "id": 11,
    "name": null,
    "role": null
  },
  "employees": []
}
```

```
}
```

## 7. Get all Departments.

GET

<http://localhost:8080/department/all>

Response Body:

```
{
  "content": [
    {
      "id": 1,
      "name": "R&D",
      "createdDate": "2022-01-01",
      "departmentHead": {
        "id": 2,
        "name": "Bob Smith"
      },
      "employees": [
        {
          "id": 7,
          "name": "George Bailey"
        },
        {
          "id": 12,
          "name": "Steve Jobs"
        }
      ]
    }
  ]
}
```

```
{
  "id": 13,
  "name": "Elon Musk"
},
{
  "id": 14,
  "name": "Sundar Pichai"
},
{
  "id": 15,
  "name": "Satya Nadella"
},
{
  "id": 16,
  "name": "Grace Hopper"
},
{
  "id": 17,
  "name": "john s"
},
{
  "id": 18,
  "name": "john s"
},
{
  "id": 19,
  "name": "Paul m"
}
```

```
]
},
{
  "id": 2,
  "name": "HR",
  "createdDate": "2022-02-01",
  "departmentHead": {
    "id": 4,
    "name": "Diana Prince"
  },
  "employees": [
    {
      "id": 3,
      "name": "Charlie Brown"
    },
    {
      "id": 4,
      "name": "Diana Prince"
    },
    {
      "id": 8,
      "name": "Hannah Lee"
    },
    {
      "id": 11,
      "name": "Kevin Peterson"
    }
  ]
}
```

```
}
```

Truncated response.....

```
],  
  "pageNumber": 0,  
  "pageSize": 20,  
  "totalElements": 5,  
  "totalPages": 1,  
  "last": true  
}
```

## 8. Get Department by Id

**GET**

<http://localhost:8080/department/1>

```
{  
  "id": 1,  
  "name": "R&D",  
  "createdDate": "2022-01-01",  
  "departmentHead": {  
    "id": 2,  
    "name": "Bob Smith"  
  },  
  "employees": [  
    {
```

```
"id": 7,  
  "name": "George Bailey"  
},  
{  
  "id": 12,  
  "name": "Steve Jobs"  
},  
{  
  "id": 13,  
  "name": "Elon Musk"  
},  
{  
  "id": 14,  
  "name": "Sundar Pichai"  
},  
{  
  "id": 15,  
  "name": "Satya Nadella"  
},  
{  
  "id": 16,  
  "name": "Grace Hopper"  
},  
{  
  "id": 17,  
  "name": "john s"  
},  
{
```

```
    "id": 18,  
    "name": "john s"  
  },  
  {  
    "id": 19,  
    "name": "Paul m"  
  }  
]  
}
```

## 9. Get Department With Employees

GET

<http://localhost:8080/department/details/2?expand=employee>

```
{  
  "id": 2,  
  "name": "HR",  
  "createdDate": "2022-02-01",  
  "departmentHead": {  
    "id": 4,  
    "name": "Diana Prince",  
    "role": "HR Manager"  
  },  
  "employees": [  
    {  
      "id": 3,  
      "name": "Charlie Brown",
```

```
    "role": "HR Executive"
  },
  {
    "id": 4,
    "name": "Diana Prince",
    "role": "HR Manager"
  },
  {
    "id": 8,
    "name": "Hannah Lee",
    "role": "HR Analyst"
  },
  {
    "id": 11,
    "name": "Kevin Peterson",
    "role": "Procurement Specialist"
  }
]
```

## 10. update Department

**PUT**

<http://localhost:8080/department/2>

**Request Body:**

```
{
```



```
"name": "R&D",
"departmentHead": {
  "id": 12
}
}
```

### **Response Body :**

```
{
  "id": 2,
  "name": "R&D",
  "createdDate": "2022-02-01",
  "departmentHead": {
    "id": 12,
    "name": "Steve Jobs",
    "role": "CEO"
  },
  "employees": [
    {
      "id": 3,
      "name": "Charlie Brown",
      "role": "HR Executive"
    },
    {
      "id": 4,
      "name": "Diana Prince",
```

```
    "role": "HR Manager"
  },
  {
    "id": 8,
    "name": "Hannah Lee",
    "role": "HR Analyst"
  },
  {
    "id": 11,
    "name": "Kevin Peterson",
    "role": "Procurement Specialist"
  }
]
```

## 11. Delete Department

DELETE

**<http://localhost:8080/department/3>**

**Response Body:**

```
{
  "error": "Bad Request",
  "message": "Cannot delete department with assigned employees.",
  "timestamp": "2025-07-05T15:01:59.4511116",
  "status": 400
}
```

## **ANALYTICS CONTROLLER**

### **12. Get Employee Analytics**

GET

<http://localhost:8080/analytics/employee-analytics>

**Response Body:**

```
{
  "totalEmployees": 19,
  "averageSalary": 84368.42105263157,
  "averageBonusPercentage": 9.192307692307692,
  "maxSalary": 200000.0,
  "minSalary": 10000.0,
  "employeesPerDepartment": {
    "R&D": 13,
    "Sales": 3,
    "procurement": 3,
    "Management": 0
  }
}
```

### **13. Get Reporting Chain**

GET

<http://localhost:8080/analytics/reporting-chain/15>

**Response Body:**

```
{
  "employee": "Satya Nadella",
  "chain": [
    {
      "id": 14,
      "name": "Sundar Pichai",
      "role": "VP Engineering"
    },
    {
      "id": 13,
      "name": "Elon Musk",
      "role": "CTO"
    },
    {
      "id": 12,
      "name": "Steve Jobs",
      "role": "CEO"
    }
  ]
}
```

