

## Documentación técnica Proyecto

### 1. Tecnologías

- C#
- Net 8
- Entity Framework Core 8
- Kafka
- Elasticsearch
- Serilog
- MediatR
- Xunit

### 2. Arquitectura

Se utilizo una arquitectura limpia en capas.

- API: Presentación o servicios web del sistema.
- Application: Encargada de la gestión del Patrón CQRS, reglas de negocio y servicios.
- Infrastructure: Utilizada para la gestión y manipulación de datos.
- Domain: objetos de dominio como entidades e interfaces.
- Test: Proyecto para pruebas unitarias y de integración.

### 3. Patrones Diseño

- CQRS: Divide las operaciones de escritura de las de lectura.
- Mediator: Usando MediatR.
- Repository: Encargado de gestionar el manejo de datos y persistencia.
- Unit Of Work: Unidad de trabajo centralizada para manejo de los repositorios.

### 4. Evidencias Técnicas

- Se realiza ejecución de WebApi para prueba por swagger.

Permissions		^
POST	/api/Permissions/RequestPermission	∨
PUT	/api/Permissions/ModifyPermission/{id}	∨
GET	/api/Permissions/GetPermissions	∨

- Valida servicio RequestPermission el cual permite registrar un nuevo permiso.

POST /api/Permissions/RequestPermission

Parameters: No parameters

Request body: application/json

```
{  "employeeForename": "string",  "employeeSurname": "string",  "permissionTypeId": 1,  "permissionDate": "2025-05-15T04:13:41.958Z"}}
```

Execute Clear

- Se ejecuta el servicio y se valida la respuesta.

200

Response body

```
{  "success": true,  "message": "Operaci3n exitosa",  "data": {    "id": 46,    "employeeForename": "Julian",    "employeeSurname": "Gomez",    "permissionTypeId": 1,    "permissionDate": "2025-05-15T04:13:41.958Z"  }}
```

Download

Response headers

```
content-type: application/json; charset=utf-8date: Thu, 15 May 2025 04:15:07 GMTserver: Kestrel
```

- Continuamos con el servicio ModifyPermission, el cual permite modificar un permiso existente.

PUT /api/Permissions/ModifyPermission/{id}

Parameters

Cancel Reset

Name	Description
id * required	
integer(\$int32)	46
(path)	

Request body

application/json

```
{  "id": 46,  "employeeForename": "Ramiro",  "employeeSurname": "Perez",  "permissionTypeId": 1,  "permissionDate": "2025-05-15T04:15:56.272Z"}
```

- Luego se ejecuta el servicio y se valida la respuesta.

200

Response body

```
{  "success": true,  "message": "Operación exitosa",  "data": {    "id": 46,    "employeeForename": "Ramiro",    "employeeSurname": "Perez",    "permissionTypeId": 1,    "permissionDate": "2025-05-15T04:15:56.272Z"  }}
```

Download

Response headers

```
content-type: application/json; charset=utf-8date: Thu, 15 May 2025 04:16:13 GMTserver: Kestrel
```

- Continuamos con el servicio GetPermissions, el cual permite obtener todos los permisos registrados en la base de datos.

GET /api/Permissions/GetPermissions

Parameters

Cancel

No parameters

Execute Clear

Responses

- Verificamos la respuesta del servicio.

200

Response body

```
{
  "success": true,
  "message": "Operación exitosa",
  "data": [
    {
      "id": 43,
      "employeeForename": "string",
      "employeeSurname": "string",
      "permissionTypeId": 1,
      "permissionDate": "2025-05-15T00:00:00"
    },
    {
      "id": 44,
      "employeeForename": "string",
      "employeeSurname": "string",
      "permissionTypeId": 1,
      "permissionDate": "2025-05-15T00:00:00"
    },
    {
      "id": 45,
      "employeeForename": "string",
      "employeeSurname": "string",
      "permissionTypeId": 1,
      "permissionDate": "2025-05-15T00:00:00"
    },
    {
      "id": 46,

```

 Download

Response headers

```
content-type: application/json; charset=utf-8
date: Thu, 15 May 2025 04:17:33 GMT
server: Kestrel
```

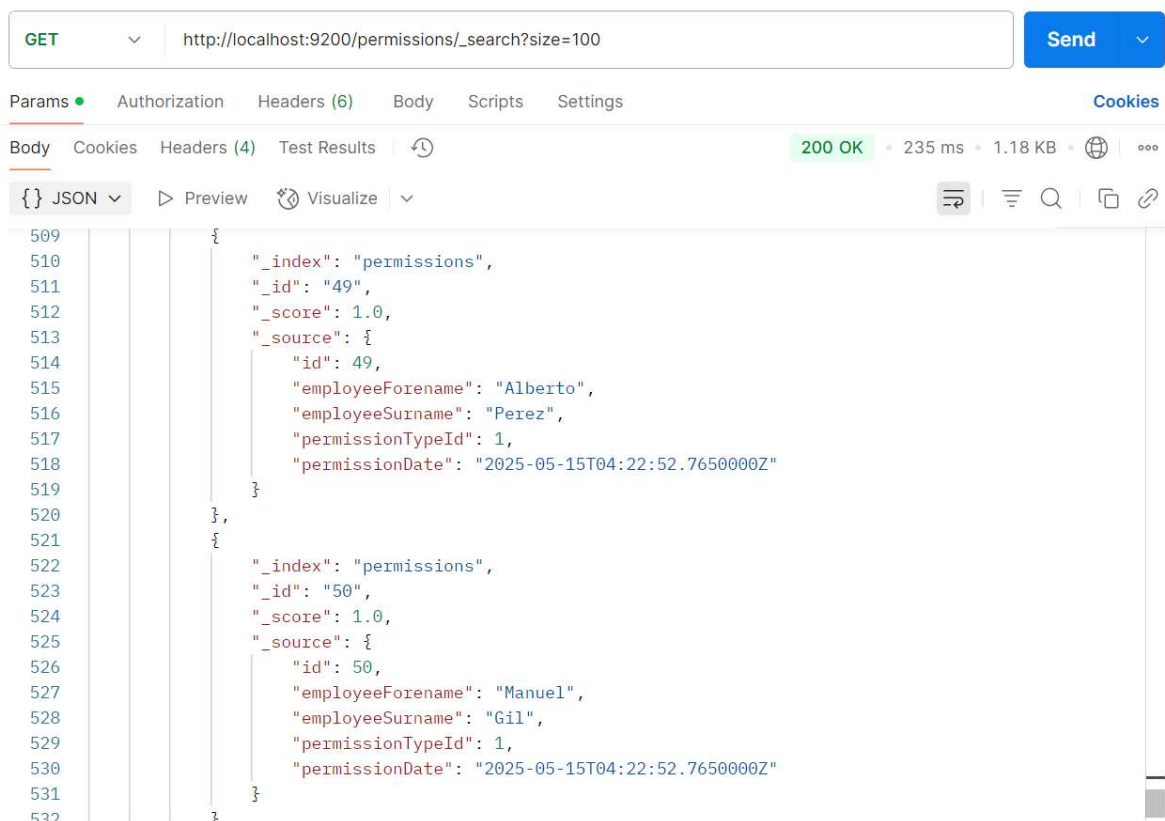
Responses

- Evidencia gestión Kafka

C:\Windows\System32\cmd.exe - .\bin\windows\kafka-console-consumer.bat --bootstrap-server local

```
{"Id": "fdbd346f-c606-4743-a4ad-5df60e7a0c16", "OperationName": "modify"}
{"Id": "77691233-2513-4853-835f-494d3d1860e3", "OperationName": "request"}
{"Id": "1c51f066-ec3b-44f0-93f2-55803bc397b2", "OperationName": "get"}
{"Id": "6071c34c-280a-434a-93ac-0c1c4718be89", "OperationName": "request"}
{"Id": "9a054193-2f22-49b2-b054-f9c95703b8fe", "OperationName": "request"}
{"Id": "6d8b3fb4-73c5-4e6c-98fa-d90573ca2c45", "OperationName": "modify"}
{"Id": "7a887d49-482c-42e6-942a-89ff46dab618", "OperationName": "request"}
{"Id": "9f34ea4e-7bee-4920-9382-6e952fbe4f1a", "OperationName": "get"}
{"Id": "ee2c4e69-2381-46a4-97d1-586a1c004dd9", "OperationName": "request"}
{"Id": "054f6d54-459f-4061-9284-13ce4f217ba4", "OperationName": "request"}
{"Id": "5be8c803-bb3b-4a6d-b6dc-0501ca30ee28", "OperationName": "modify"}
{"Id": "b3a356b8-78fd-41ff-8b1f-379264c6dd29", "OperationName": "request"}
{"Id": "0a7a2029-7ede-4d98-b524-7aa6190ecf9b", "OperationName": "get"}
{"Id": "7746b11a-b433-4763-bc25-5d3f24d6050c", "OperationName": "request"}
{"Id": "8f0b7966-378c-432c-9f2e-1381af01a065", "OperationName": "get"}
{"Id": "094a7353-b45a-45af-a91a-d189a82dc164", "OperationName": "request"}
{"Id": "8af42775-3659-4ff4-9d64-bb25fb5e5fc0", "OperationName": "request"}
{"Id": "3b98c77a-c449-4db0-954c-051d8c5bcefa", "OperationName": "modify"}
{"Id": "f6c73d8f-5253-41ef-ad43-e69794da79e5", "OperationName": "request"}
{"Id": "16d27dc3-f042-42fc-b075-b02fcec594b3", "OperationName": "modify"}
{"Id": "975b2d6b-5fdb-4c3c-935d-ec44f39a37a2", "OperationName": "modify"}
{"Id": "507fafdc-5b0e-4586-8923-a0f090ac8faa", "OperationName": "modify"}
{"Id": "4fbf451a-0509-46cc-8ba0-750fd3d363dd", "OperationName": "modify"}
{"Id": "7ca49785-526d-45fd-894f-b1837fc44026", "OperationName": "get"}
{"Id": "ab5537e0-52a2-456e-a208-18adc5547083", "OperationName": "request"}
{"Id": "1251252d-44cc-4ec6-8b95-51ee619857aa", "OperationName": "request"}
{"Id": "b70ca32d-2bea-4562-9f7e-72ff01cbfa52", "OperationName": "request"}
{"Id": "2e993bc8-cd3c-4f60-86e6-6d9e75d9074a", "OperationName": "modify"}
{"Id": "2e028821-eb26-4bf4-87ca-5aa90e361aa1", "OperationName": "get"}
```

- Evidencia gestión de Elasticsearch



GET http://localhost:9200/permissions/\_search?size=100

200 OK • 235 ms • 1.18 KB

```
{
  "_index": "permissions",
  "_id": "49",
  "_score": 1.0,
  "_source": {
    "id": 49,
    "employeeForename": "Alberto",
    "employeeSurname": "Perez",
    "permissionTypeId": 1,
    "permissionDate": "2025-05-15T04:22:52.7650000Z"
  }
},
{
  "_index": "permissions",
  "_id": "50",
  "_score": 1.0,
  "_source": {
    "id": 50,
    "employeeForename": "Manuel",
    "employeeSurname": "Gil",
    "permissionTypeId": 1,
    "permissionDate": "2025-05-15T04:22:52.7650000Z"
  }
}
```

- Evidencia serilog.

```
logPermissions-20250514.txt
402 SELECT TOP(1) [p].[Id], [p].[Description]
403 FROM [PermissionTypes] AS [p]
404 WHERE [p].[Id] = @__id_0
405 2025-05-14 23:27:16.064 -05:00 [INF] Executed DbCommand (4ms) [Parameters=[@p0='?' (Size = 100), @p1='?' (Size =
406 SET IMPLICIT_TRANSACTIONS OFF;
407 SET NOCOUNT ON;
408 INSERT INTO [Permissions] ([EmployeeForename], [EmployeeSurname], [PermissionDate], [PermissionType])
409 OUTPUT INSERTED.[Id]
410 VALUES (@p0, @p1, @p2, @p3);
411 2025-05-14 23:27:23.539 -05:00 [INF] Executing OkObjectResult, writing value of type 'Application.Commons.Respons
412 2025-05-14 23:27:23.542 -05:00 [INF] Executed action WebAPI.Controllers.PermissionsController.RequestPermission (
413 2025-05-14 23:27:23.544 -05:00 [INF] Executed endpoint 'WebAPI.Controllers.PermissionsController.RequestPermissio
414 2025-05-14 23:27:23.547 -05:00 [INF] Request finished HTTP/2 POST https://localhost:7051/api/Permissions/RequestP
415 2025-05-14 23:27:32.253 -05:00 [INF] Request starting HTTP/2 POST https://localhost:7051/api/Permissions/RequestP
416 2025-05-14 23:27:32.258 -05:00 [INF] Executing endpoint 'WebAPI.Controllers.PermissionsController.RequestPermissi
417 2025-05-14 23:27:32.261 -05:00 [INF] Route matched with {action = "RequestPermission", controller = "Permissions"
418 2025-05-14 23:27:32.301 -05:00 [INF] Operación: Registrando permisos
419 2025-05-14 23:27:32.332 -05:00 [INF] Executed DbCommand (2ms) [Parameters=[@__id_0='?' (DbType = Int32)], Command
420 SELECT TOP(1) [p].[Id], [p].[Description]
421 FROM [PermissionTypes] AS [p]
422 WHERE [p].[Id] = @__id_0
423 2025-05-14 23:27:32.338 -05:00 [INF] Executed DbCommand (1ms) [Parameters=[@p0='?' (Size = 100), @p1='?' (Size =
424 SET IMPLICIT_TRANSACTIONS OFF;
425 SET NOCOUNT ON;
426 INSERT INTO [Permissions] ([EmployeeForename], [EmployeeSurname], [PermissionDate], [PermissionType])
427 OUTPUT INSERTED.[Id]
428 VALUES (@p0, @p1, @p2, @p3);
429 2025-05-14 23:27:32.376 -05:00 [INF] Executing OkObjectResult, writing value of type 'Application.Commons.Respons
430 2025-05-14 23:27:32.378 -05:00 [INF] Executed action WebAPI.Controllers.PermissionsController.RequestPermission (
```

