Manipulating Resources and Validating Input

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Coming Up

Manipulating resources

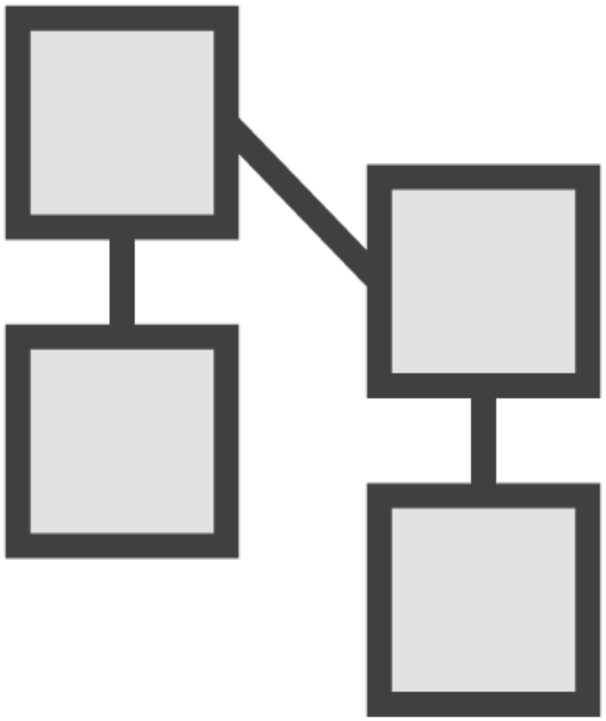
- Creating resources
- Updating resources
- Deleting resources

Validating input

Passing Data to the API

Data can be passed to an API by various means

Binding source attributes tell the model binding engine where to find the binding source



[FromBody]

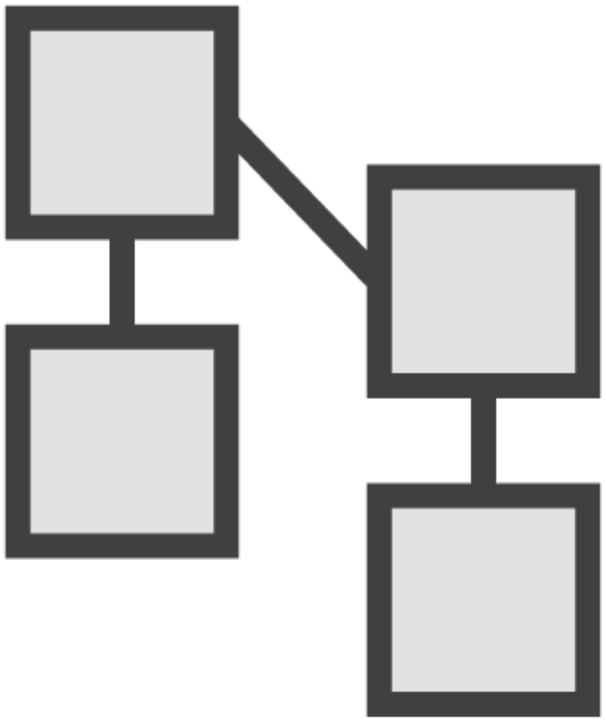
- Request body

[FromForm]

- Form data in the request body

[FromHeader]

- Request header



[FromQuery]

- Query string parameters

[FromRoute]

- Route data from the current request

[FromService]

- The service injected as action parameter

```
public ActionResult<CityDto> GetCity(
    [FromRoute] int cityId)
```

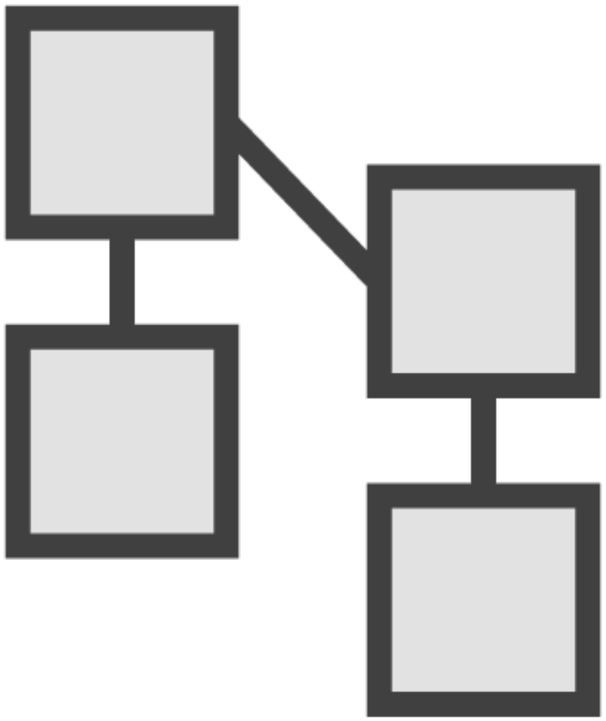
Passing Data to the API

Use binding source attributes to explicitly state where the action parameter should be bound from

Passing Data to the API

By default ASP.NET Core attempts to use the complex object model binder

The [ApiController] attribute changes the rules to better fit APIs

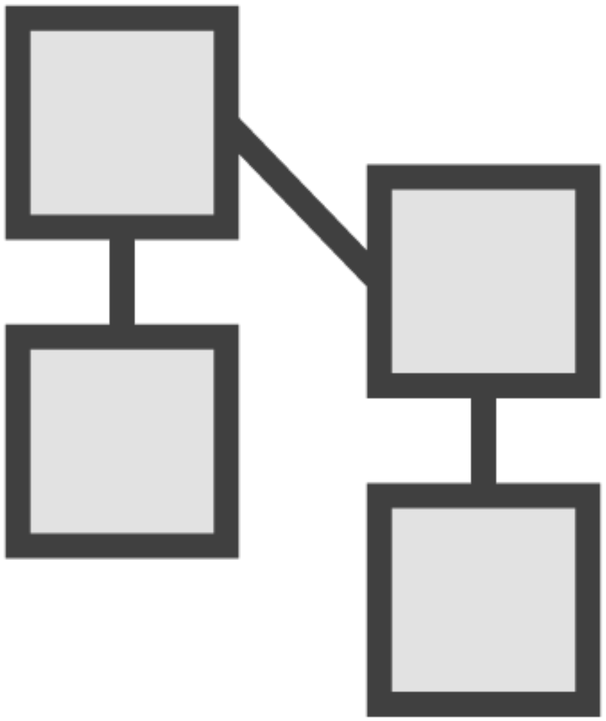


[FromBody]

- Inferred for complex types

[FromForm]

- Inferred for action parameters of type IFormFile and IFormFileCollection



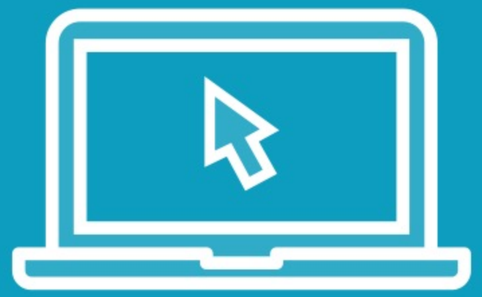
[FromRoute]

- Inferred for any action parameter name matching a parameter in the route template

[FromQuery]

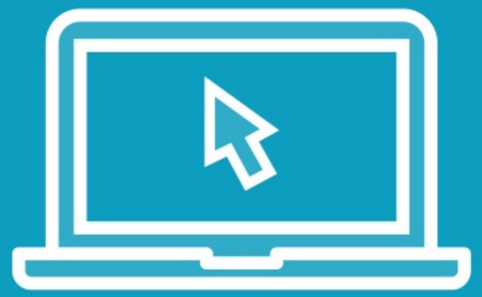
- Inferred for any other action parameters

Demo



Creating a resource

Demo



Validating input

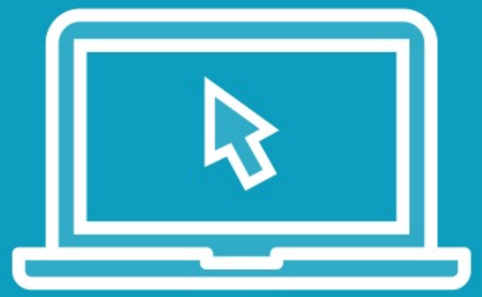
A Validation Alternative

The built-in approach is ok for simple use cases

For complex rules, consider FluentValidation

- https://fluentvalidation.net/

Demo



Updating a resource

Partially Updating a Resource

Json Patch (RFC 6902)

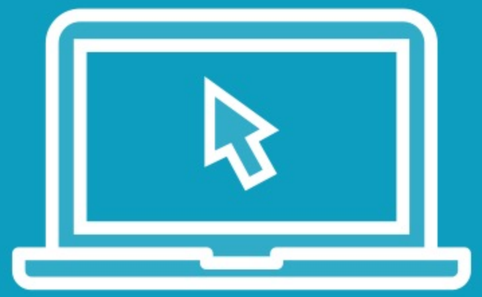
- https://tools.ietf.org/html/rfc6902

Describes a document structure for expressing a sequence of operations to apply to a JSON document

```
[
    {
        "op": "replace",
        "path": "/name",
        "value": "new name"
    }
    ,
    {
        "op": "replace",
        "path": "/description",
        "value": "new description"
    }
]
```

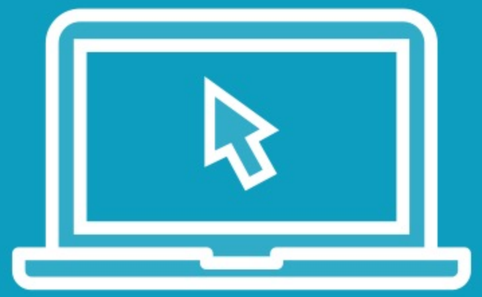
- array of operations
- “replace” operation
- “name” property gets value “new name”
- “replace” operation
- “description” property gets value “new description”

Demo



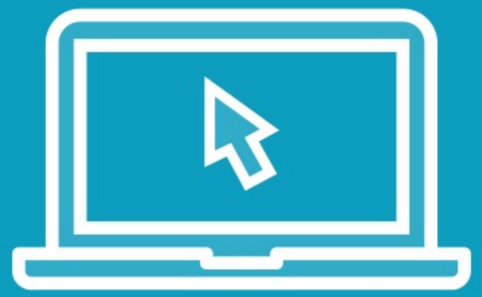
Adding support for JsonPatchDocument

Demo



Partially updating a resource

Demo



Deleting a resource

Summary

Use POST for creating a resource

- 201 Created
- Header: `Content-Type`

Validation

- Data annotations
- `ModelState`

Summary

Use PUT for full updates, PATCH for partial updates

- JsonPatch standard
- 204 NoContent or 200 Ok

DELETE is for deleting resources

- 204 NoContent

Up Next:

Working with Services and Dependency Injection