Supporting Filtering and Searching

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Architect

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Coming Up

Passing data to the API

- Binding source attributes
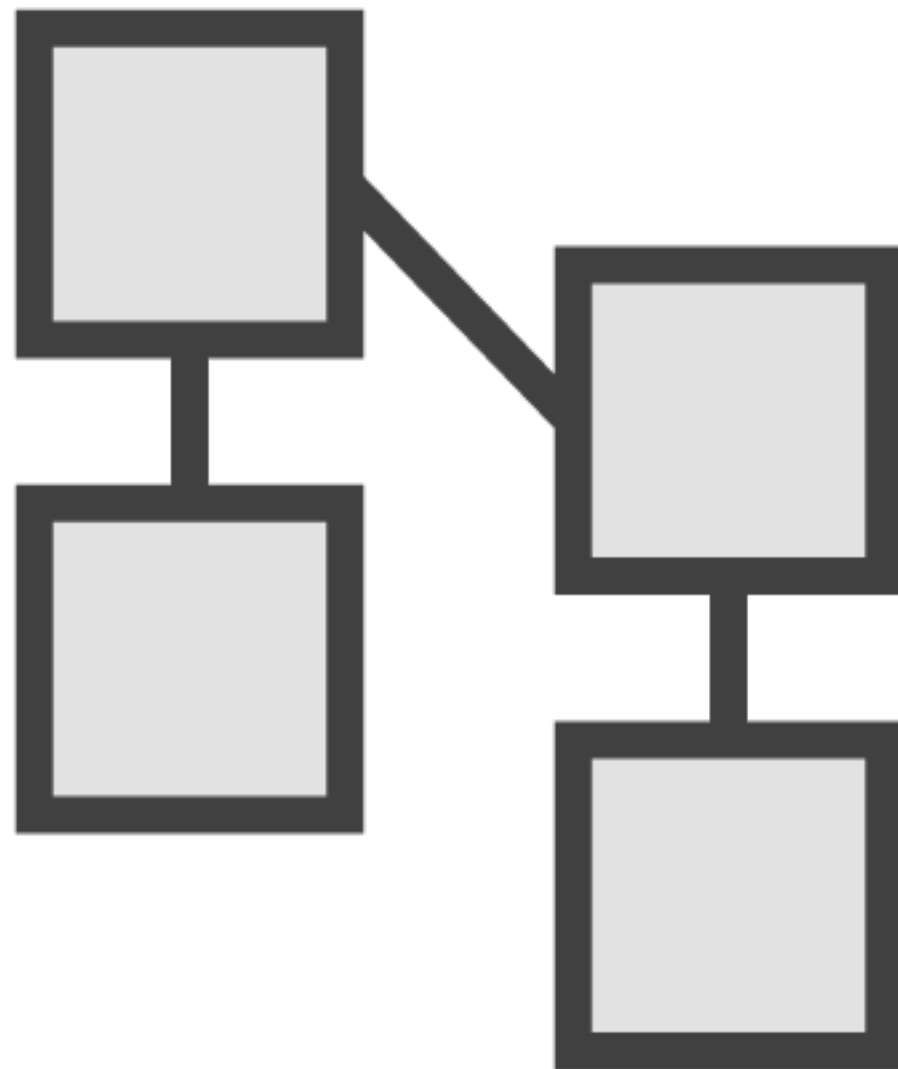- [ApiController]

Filtering and searching resources

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

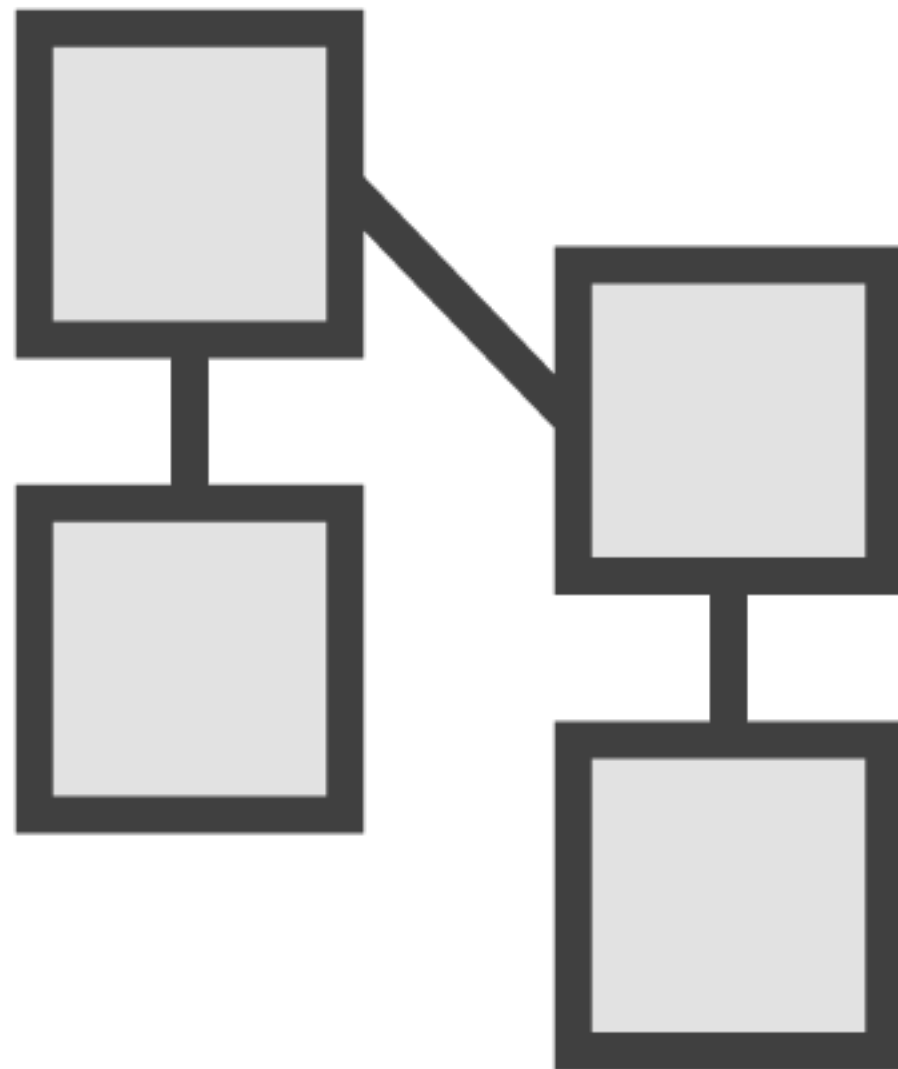**[FromHeader]**

– Request header

[FromQuery]

– Query string parameters

[FromRoute]

– Route data from the current request

[FromService]

– The service injected as action parameter

[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

Filtering

Filtering a collection means limiting the collection taking into account a predicate

```
https://host/api/authors?mainCategory=Singing
```

Filtering

Pass field name and value via the query string

Searching

Searching a collection means adding matching items to the collection based on a predefined set of rules

```
https://host/api/authors?searchQuery=pirate
```

Searching

Pass text to search for via the query string

Filtering and Searching

Filtering allows you to be precise by adding filters until you get exactly the results you want

Searching allows you to go wider – it's used when you don't exactly know which items will be in the collection

```
https://host/api/authors?mainCategory=Singing
&searchQuery=pirate
```

Filtering and Searching

Filter and search options are not part of the resource
Only allow filtering on fields that are part of the resource

Demo

Filtering collection resources

Demo

Searching through collection resources

Deferred Execution

Query execution occurs sometime after the query is constructed

Deferred Execution

A query variable stores query commands, not results

- `IQueryable<T>`: creates an expression tree

Execution is deferred until the query is iterated over

- `foreach` loop
- `ToList()`, `ToArray()`, `ToDictionary()`
- Singleton queries

Demo

Grouping action parameters together into one object

Summary

[ApiController]

– Complex type parameters are inferred from the request body

– Action parameters of type `IFormFile` & `IFormFileCollection` are inferred as coming from a form

– Any action parameter name matching a parameter in the route template is inferred from the route

– Any other action parameters are inferred from the query string

Summary

When required, override default binding source behavior with binding source attributes

Summary

Filtering allows you to be precise by adding filters until you get exactly the results you want

Searching allows you to go wider – it's used when you don't exactly know which items will be in the collection

Summary

Deferred execution means query execution occurs sometime after the query is constructed

Up Next:
Supporting Paging