

Sorting Resource Collections



Kevin Dockx

ARCHITECT

@KevinDockx <https://www.kevindockx.com>



Coming Up



Sorting resource collections

- One or more fields
- Ascending and descending



Sorting Resource Collections

<http://host/api/authors?orderBy=age>



Outer Facing vs. Entity Model

The entity model represents database rows as objects

The outer facing model represents what's sent over the wire



Outer Facing Model vs. Entity Model

Outer facing model (Author)

```
Guid Id  
string FirstName  
string LastName  
int Age
```

Entity model (Author)

```
Guid Id  
string FirstName  
string LastName  
DateTimeOffset DateOfBirth
```



Outer Facing Model vs. Entity Model

Outer facing model (Author)

```
Guid Id  
string Name  
int Age
```

Entity model (Author)

```
Guid Id  
string FirstName  
string LastName  
DateTimeOffset DateOfBirth
```



Outer Facing Model vs. Entity Model

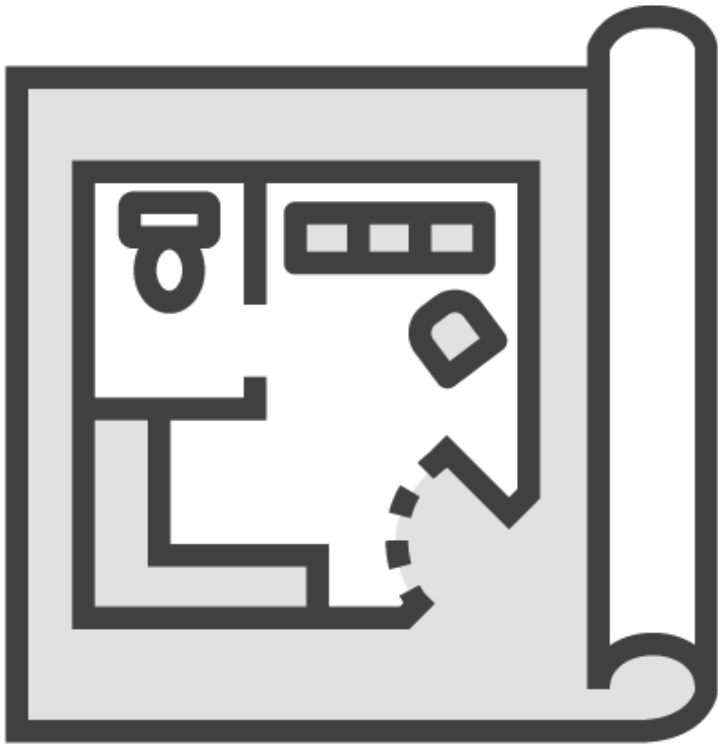
Outer facing model (Author)

```
Guid Id  
string Name  
int Age  
float Royalties
```

Entity model (Author)

```
Guid Id  
string FirstName  
string LastName  
DateTimeOffset DateOfBirth
```





Separating outer and entity models leads to more robust, reliable, and evolvable code



Sorting Resource Collections

<http://host/api/authors?orderBy=age>

- Resource fields, not entity (or other) fields

<http://host/api/authors?orderBy=age desc>

- Take direction into account

<http://host/api/authors?orderBy=age desc, name>

- Sort on multiple fields



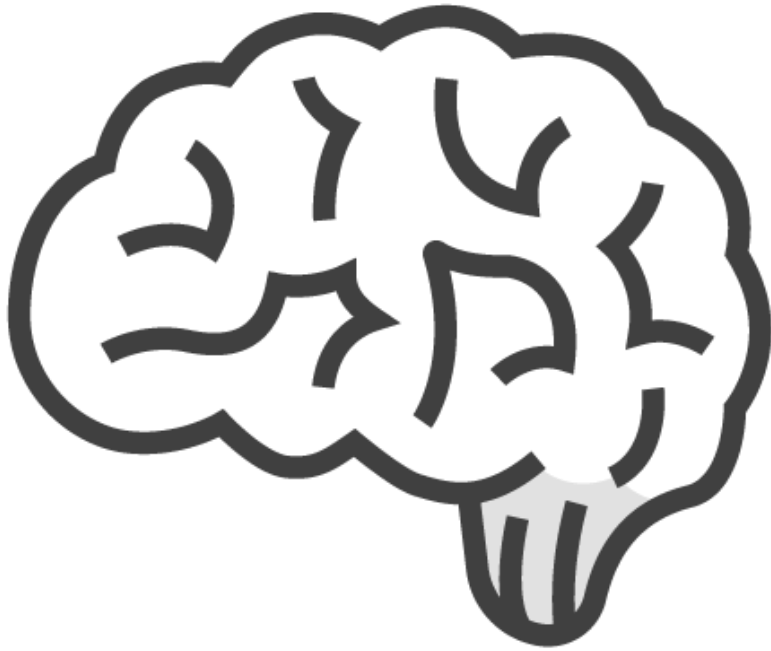
Demo



Sorting resource collections



Creating a Property Mapping Service



A resource property might map to multiple properties on underlying objects

- Name maps to FirstName, LastName

A mapping might require reversing the sort order

- Sorting ascending by Age maps to sorting descending by DateOfBirth

Property Mapping Service Overview

PropertyMappingService : IPropertyMappingService

IList<IPropertyMapping> propertyMappings

eg: from AuthorDto to Author

PropertyMapping<TSource, TDestination> : IPropertyMapping

Dictionary<string, PropertyMappingValue>

PropertyMappingValue

DestinationProperties

eg: FirstName, LastName

Revert

eg: true for Age => DateOfBirth

GetPropertyMapping <TSource, TDestination>()

eg: from AuthorDto to Author



Demo



Creating a property mapping service



Demo



Creating a reusable ApplySort method



Demo



Adding `OrderBy` clauses to pagination links



Demo



Taking consumer errors into account
when sorting



Summary



Collection resources are typically sorted on multiple fields

Take the sorting direction into account

Allow sorting on resource fields, not on fields that lie beneath that layer

Return the OrderBy clause as query string in pagination links

Errors should be returned as level 400 errors