



Week 2: Development Tasks

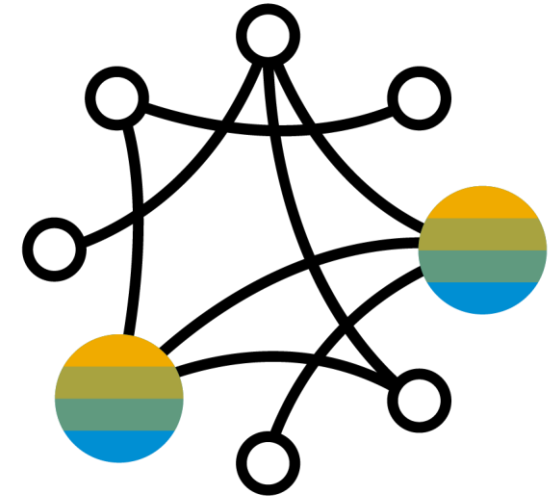
## Unit 2: Model Reuse

For applications, it is recommended to use the common types and aspects provided through **@sap/cds/common**.

This brings the following benefits:

- Concise and comprehensible models
- Foster interoperability between all applications
- Proven best practices captured from real applications
- Streamlined data models with minimal entry barriers
- Optimized implementations and runtime performance

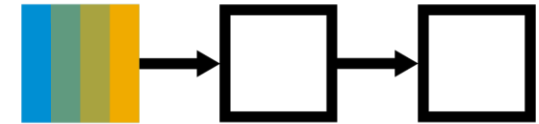
and more ...



## Common aspects

**@sap/cds/common** defines the following aspects for use in your entity definitions:

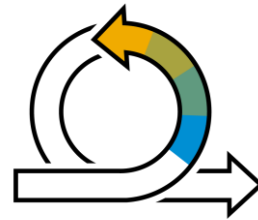
- cuid
- managed
- temporal



### Common aspects

Use **cuid** as a convenient shortcut to add canonical, universally unique primary keys to your entity definitions.

```
using { cuid } from '@sap/cds/common';  
entity Books : cuid {  
  title : String;  
  author : String;  
}
```



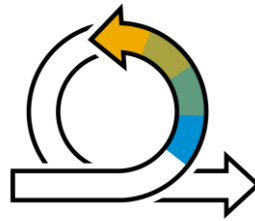
```
entity Books {  
  key ID : UUID;  
  title : String;  
  author : String;  
}
```

## Common aspects

Use **managed** to add four elements to capture *created by/created at* and latest *changed by/changed at* management information for records

```
using { managed } from '@sap/cds/comm  
on';
```

```
entity Books : managed {  
  title : String;  
  author : String;  
}
```



```
entity Books {  
  modifiedAt: DateTime;  
  createdAt: DateTime;  
  createdBy: String;  
  modifiedBy: String;  
  title : String;  
  author : String;  
}
```

## Common aspects

Use **temporal** to take advantage of the built-in support that handles date-effective records and time slices, including time travel.

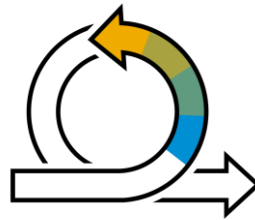
```
using { temporal } from '@sap/cds/common';
```

```
entity WorkAssignments : temporal {
```

```
  employee : String;
```

```
  descr : String;
```

```
}
```



```
entity WorkAssignments {
```

```
  validFrom : DateTime @cds.valid.from;
```

```
  validTo: DateTime @cds.valid.to;
```

```
  employee : String;
```

```
  descr : String;
```

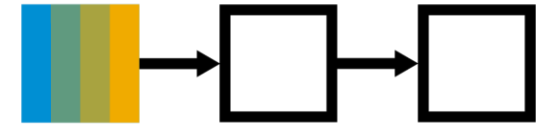
```
}
```

## Model Reuse

### Common types

*@sap/cds/common* provides predefined easy-to-use types for:

- Countries
- Currencies
- Languages



## Common types

The reuse type Country is a simple managed association to the code list for countries as follows:

```
context sap.common {  
  aspect CodeList {  
    name : localized String(255);  
    descr : localized String(1000);  
  }  
}
```

```
entity Countries : CodeList {  
  key code : String(3);  
}  
}
```

```
type Country : Association to sap.common.Countries;
```



## Model Reuse

### Common types

The type **Country** acts as a code list table for the country element in your domain model:

```
type Country : Association to sap.common.Countries;
```



```
using { Country } from '@sap/cds/common';
```

```
entity Addresses {  
    street : String;  
    town : String;  
    country : Country;  
}
```

## Model Reuse ***using directives***

*using* directives allows to import definitions from other CDS models.

- `using foo.bar.scoped.Bar from './contexts';`  
`entity Car : Bar {}`
- `using foo.bar.scoped.nested from './contexts';`  
`entity Moo : nested.Zoo {}` *// Zoo is a definitions from foo.bar.scoped.nested*
- `using foo.bar.scoped.nested as specified from './contexts';`  
`entity Zoo : specified.Zoo {}` *// Zoo is a definitions from foo.bar.scoped.nested*
- `using { Foo as Moo, sub.Bar } from './base-model';` *// Multiple named imports*  
`entity Boo : Moo;`  
`entity Car : Bar;`

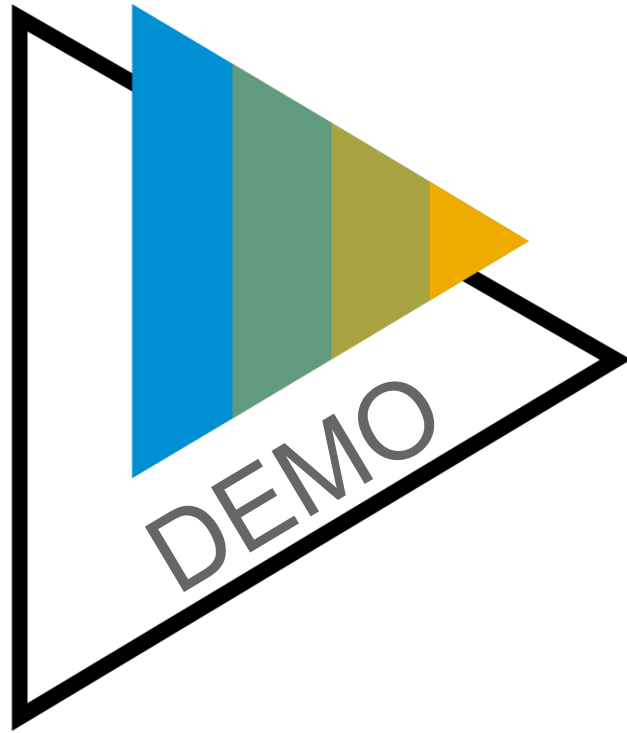
## Model resolution

Working like the "require" function in Node.js and "import" of modules in ES6.

- Names starting with "./" or with "../" are resolved relative to the current model
- If the reference itself is a directory, the reference is loaded from a .../index.<json|cds> file in that directory
- Others are absolute references, fetched for in "node\_modules" folders with either .json or .cds suffixes

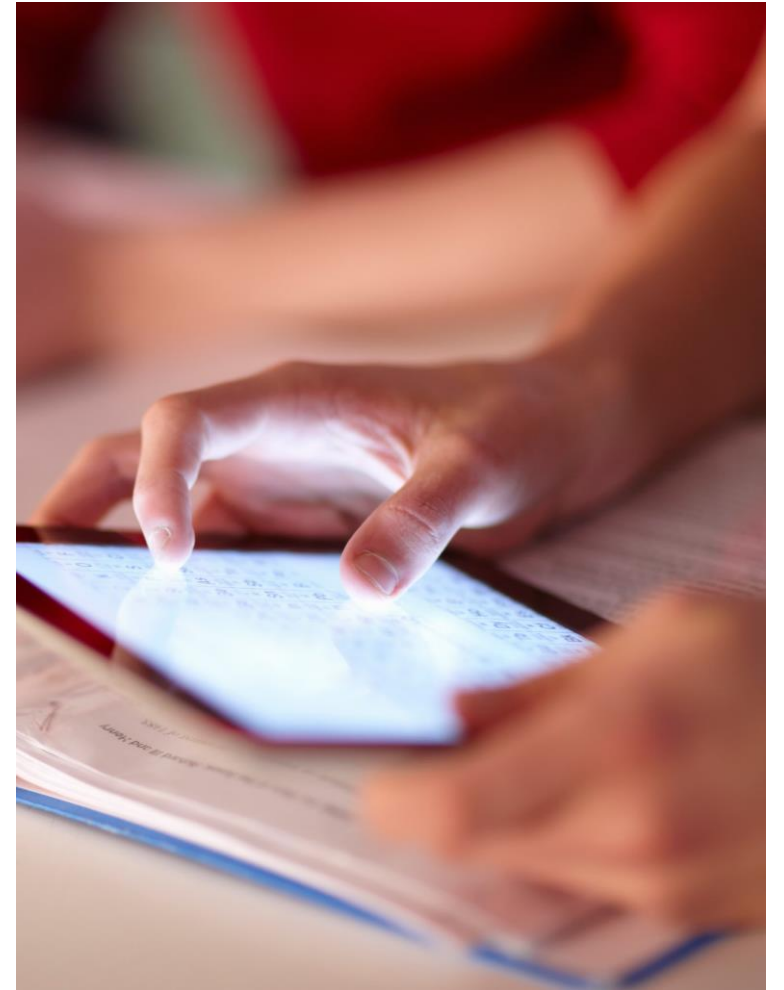
# Model Reuse

## Demo



### What you've learned in this unit

- @sap/cds/common – predefined common:
  - Aspects
  - Types
- *using* directives
- Model resolution



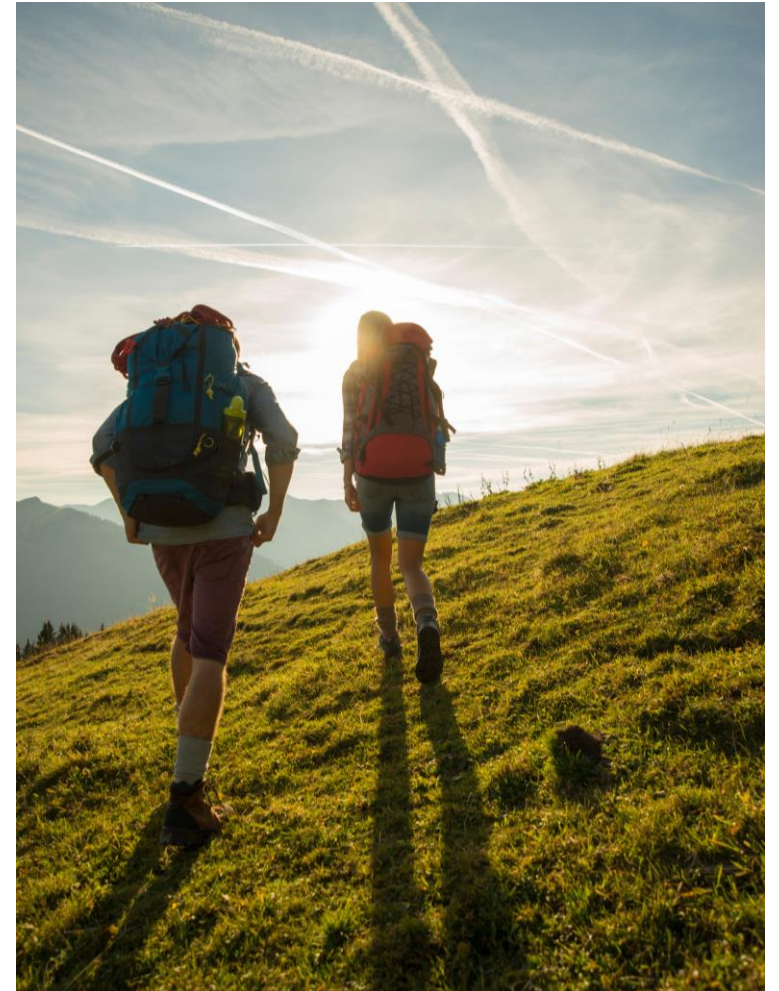
## Model Reuse

### Further reading



Additional Material

- [Official documentation](#)
- [@sap/cds/common](#)
- [Require function in Node.js](#)
- [ES6 imports](#)



# Thank you.

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