



Week 3: Add Enterprise Qualities

Unit 3: Localization

Localization (i18n)

- Localization
- Localized data

Localization – i18n
(For static content)



Localized Data
(For dynamic content
Ex: Database content)

Internationalization (i18n)

- For static content, example: UI labels
- Adapt your app to different markets
- Externalize literal texts to text bundles
- 1 file per language
 - Example: *i18n_de.properties* for German
 - For each language, a separate *edmx* file is generated
- Default fallback: *i18n.properties* or *i18n_en.properties*
- Default language: English, can be overridden in the project's **package.json** by configuring ***cds.i18n.default_language***.

srv/my-service.1.cds

```
service Bookshop {  
  entity Books @(  
    UI.HeaderInfo: {  
      Title.Label: '{i18n>Book}',  
      TypeName: '{i18n>Book}',  
      TypeNamePlural: '{i18n>Books}',  
    },  
  ) { /* ... */  
}
```

_i18n/i18n.properties

```
Book = Book  
Books = Books  
foo = Foo
```

_i18n/

```
i18n.properties      # dev master -> 'default fallback'  
i18n_en.properties   # English    -> 'default language'  
i18n_de.properties   # German  
i18n_zh_TW.properties # Traditional Chinese  
...
```

Localized data

- Declaring **localized** data
- Maintaining different translations for content stored in the DB
- Creates 1 text table for different languages
- Reuse bundles are imported
- Reuse language bundles can be overridden

Declaring Localized Data

Use the *localized* modifier to mark entity elements that require translated texts.

```
entity Books {  
  key ID : UUID;  
  title : localized String;  
  descr : localized String;  
  price : Decimal;  
}
```

Localized data – Under the hood

1. Creates a separate `<sourceEntity>_texts` for each entity with a localized property
2. Extend SourceEntity with association to `_texts`
3. Add views to read localized texts with fallback

Declaring Localized Data

Use the `localized` modifier to mark entity elements that require translated texts.

```
entity Books {  
  key ID : UUID;  
  title : localized String;  
  descr : localized String;  
  price : Decimal;  
}
```

```
define entity Books_texts @(cds.autoexpose) {  
  key locale : String(5);  
  key ID : UUID; //= source's primary key  
  title : String;  
  descr : String;  
}
```

1

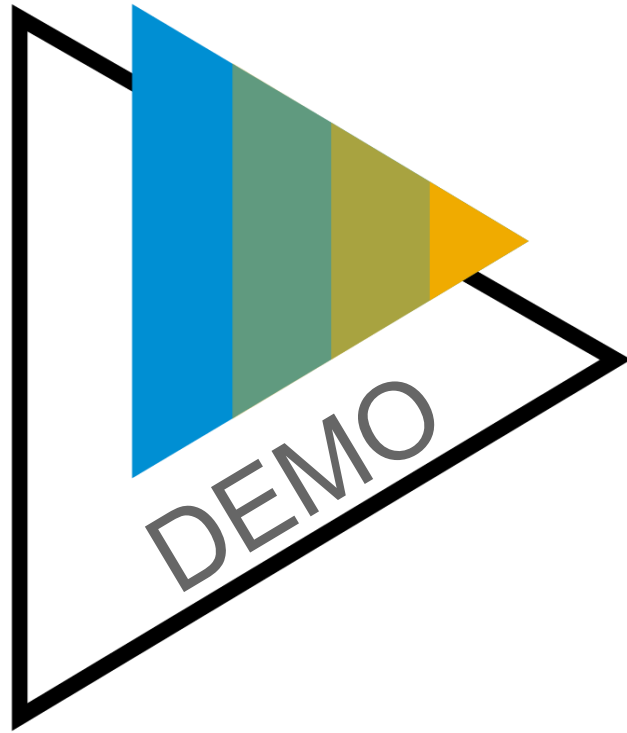
```
extend entity Books with {  
  texts : Composition of many Books_texts on texts.ID=ID;  
  localized : Association to Books_texts on localized.ID=ID  
    and localized.locale = $user.locale;  
}
```

2

```
define entity localized.Books as SELECT from Books {*,  
  coalesce (localized.title, title) as title,  
  coalesce (localized.descr, descr) as descr  
};
```

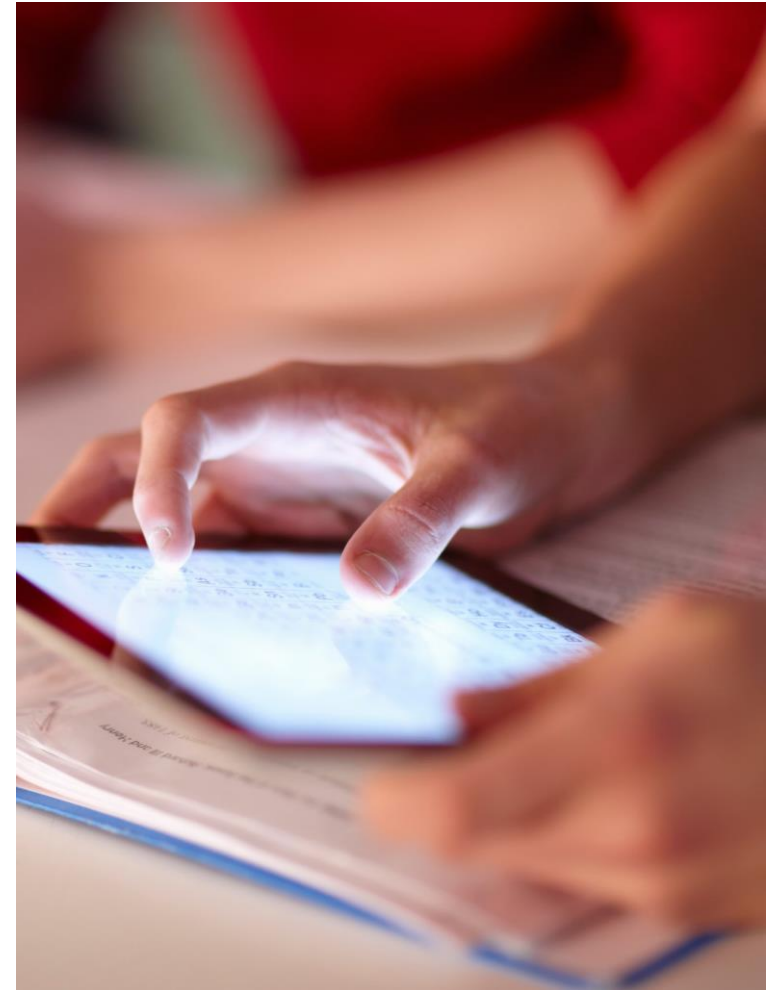
3

Demo – Localization



What you've learned in this unit

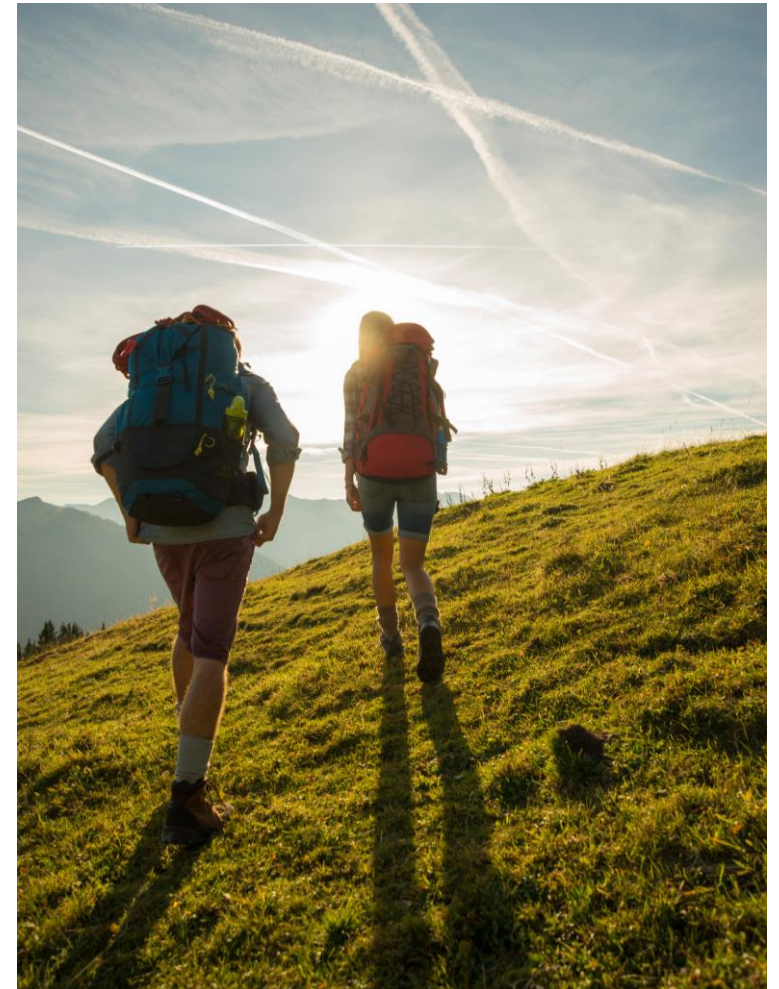
- Localization with i18n (*Internationalization*)
- Localized data
- Under the hood of localized data



Further reading



- [Official documentation on localization](#)
- [Official documentation on localized data](#)
- [Blogs: SAP Cloud Application Programming Model](#)
- [TechEd Replay](#)
- [CAP Starter Template](#)



Thank you.

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