Application Development & Modelling

BSc in Applied Computing

Produced by

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eLearning support unit

Assignments 2 Tips & Tricks

Some Improvements

- Richer information in the data.yaml file
- Simplified Parameter passing from View to Action
- Preloading Images

data.yml: Preload Messages

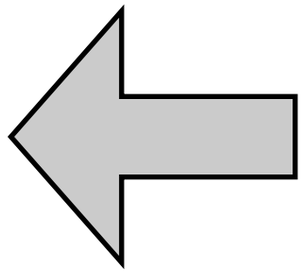
```
Message(message1):
    from : marge
    to   : homer
    messageText: 'how are things going?'

Message(message2):
    from : lisa
    to   : homer
    messageText: 'Get me outta here!'
```

- Specify ‘Message’ objects, including:
  - from and to objects (use pre-defined object names)
  - mesage Text field

data.yml: Preload Friendships

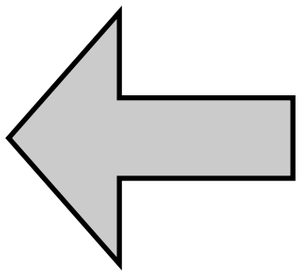
- Define object twice:
  - first time introduces essential attributes
  - second time integrated friendship relationships

```
User(homer):
    firstName: homer
    lastName: Simpson
    email: homer@simpson.com
    password: secret

User(marge):
    firstName: Marge
    lastName: Simpson
    email: marge@simpson.com
    password: secret
```



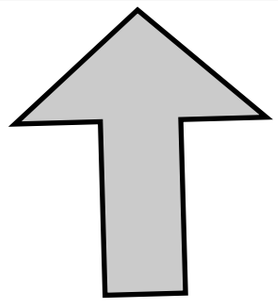
Define User Objects as usual

```
Friendship(friend1):
  sourceUser: homer
  targetUser: marge

Friendship(friend2):
  sourceUser: homer
  targetUser: lisa

Friendship(friend3):
  sourceUser: marge
  targetUser: homer
```



Introduce ‘Friendship’ objects, relating two users

```
User(homer):
    firstName: Homer
    lastName: Simpson
    email: homer@simpson.com
    password: secret
    friendships:
                - friend1
                - friend2

User(marge):
    firstName: Marge
    lastName: Simpson
    email: marge@simpson.com
    password: secret
    friendships:
                - friend3
```



Refefine User objects with Friendship list

```
User(homer):
    firstName: Homer
    lastName: Simpson
    email: homer@simpson.com
    password: secret

User(marge):
    firstName: Marge
    lastName: Simpson
    email: marge@simpson.com
    password: secret

Message(message1):
    from : marge
    to   : homer
    messageText: 'how are things going?'

Message(message2):
    from : lisa
    to   : homer
    messageText: 'Get me outta here!'

Friendship(friend1):
  sourceUser: homer
  targetUser: marge

Friendship(friend2):
  sourceUser: homer
  targetUser: lisa

Friendship(friend3):
  sourceUser: marge
  targetUser: homer

User(homer):
    firstName: Homer
    lastName: Simpson
    email: homer@simpson.com
    password: secret
    friendships:
                - friend1
                - friend2
User(marge):
    firstName: Marge
    lastName: Simpson
    email: marge@simpson.com
    password: secret
    friendships:
                - friend3
```

Simplified Parameter Passing

- ‘name’ field specified in ‘input’ paramater is matched to parameter to action

```
<form action="/register" method="POST">
  <div class="two fields">
    <div class="field">
      <label>First Name</label>
      <input placeholder="First Name" type="text" name="firstName">
    </div>
    <div class="field">
      <label>Last Name</label>
      <input placeholder="Last Name" type="text" name="lastName">
    </div>
  </div>
  <div class="two fields">
    <div class="field">
      <label>Nationality</label>
      <input placeholder="Nationality" type="text" name="nationality">
    </div>
    <div class="field">
      <label>Age</label>
      <input placeholder="Age" type="text" name="age">
    </div>
  </div>    <div class="field">
    <label>Email</label>
    <input placeholder="Email" type="text" name="email">
  </div>
  <div class="field">
    <label>Password</label>
    <input type="password" name="password">
  </div>
  <button class="ui blue submit button">Submit</button>
</form>
```

- Values are copied to the correctly named paramater

```
public static void register(String firstName, String lastName,
                            int    age,       String nationality,
                            String email,     String password)
{
  Logger.info(firstName + " " + lastName + " " + email + " " + password);
  User user = new User(firstName, lastName, age, nationality, email, password);
  user.save();
  index();
}
```

- Example: ‘age’
  - ‘name’ attribute in html element must be same as age parameter in action

```
    <div class="field">
      <label>First Name</label>
      <input placeholder="First Name" type="text" name="firstName">
    </div>
    <div class="field">
      <label>Last Name</label>
      <input placeholder="Last Name" type="text" name="lastName">
    </div>
  </div>
  <div class="two fields">
    <div class="field">
      <label>Nationality</label>
      <input placeholder="Nationality" type="text" name="nationality">
    </div>
    <div class="field">
      <label>Age</label>
      <input placeholder="Age" type="text" name="age">
    </div>
  </div>    <div class="field">
    <label>Email</label>
    <input placeholder="Email" type="text" name="email">
  </div>
  <div class="field">
```

```
public static void register(String firstName, String lastName,
                            int    age,       String nationality,
                            String email,     String password)
{
  Logger.info(firstName + " " + lastName + " " + email + " " + password);
  User user = new User(firstName, lastName, age, nationality, email, password);
  user.save();
  index();
}
```

Simplification

- Prefix each name attribute with ‘user.’

```
<form action="/register" method="POST">
  <div class="two fields">
    <div class="field">
      <label>First Name</label>
      <input placeholder="First Name" type="text" name=“user.firstName">
    </div>
    <div class="field">
      <label>Last Name</label>
      <input placeholder="Last Name" type="text" name=“user.lastName">
    </div>
  </div>
  <div class="two fields">
    <div class="field">
      <label>Nationality</label>
      <input placeholder="Nationality" type="text" name=“user.nationality">
    </div>
    <div class="field">
      <label>Age</label>
      <input placeholder="Age" type="text" name=“user.age">
    </div>
  </div>    <div class="field">
    <label>Email</label>
    <input placeholder="Email" type="text" name=“user.email">
  </div>
  <div class="field">
    <label>Password</label>
    <input type="password" name=“user.password">
  </div>
  <button class="ui blue submit button">Submit</button>
</form>
```

```
public static void register(User user)
{
  Logger.info(user.firstName + " " + user.lastName + " " + user.email + " " + user.password);
  user.save();
  index();
}
```

- Action now take an object!

- Fields already filled with data from form

```
    <div class="field">
      <label>First Name</label>
      <input placeholder="First Name" type="text" name="user.firstName">
    </div>
    <div class="field">
      <label>Last Name</label>
      <input placeholder="Last Name" type="text" name="user.lastName">
    </div>
  </div>
  <div class="two fields">
    <div class="field">
      <label>Nationality</label>
      <input placeholder="Nationality" type="text" name="user.nationality">
    </div>
    <div class="field">
      <label>Age</label>
      <input placeholder="Age" type="text" name="user.age">
    </div>
  </div>    <div class="field">
    <label>Email</label>
    <input placeholder="Email" type="text" name="user.email">
  </div>
  <div class="field">
    <label>Password</label>
    <input type="password" name="user.password">
  </div>
  <button class="ui blue submit button">Submit</button>
</form>
```

```
public static void register(User user)
{
  Logger.info(user.firstName + " " + user.lastName + " " + user.email + " " + user.password);
  user.save();
  index();
}
```

Preloading Images

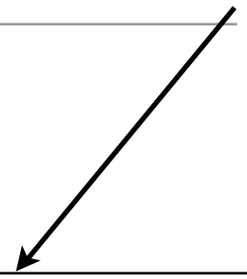
- Images cannot loaded from the data.yaml file
- Recall, the yaml file is loaded in bootstrap:
- We can intervene here, and load specific extra information - including images!

```
@OnApplicationStart
public class Bootstrap extends Job
{
  public void doJob()
  {
    Fixtures.deleteDatabase();
    Fixtures.loadModels("data.yml");
  }
}
```

```
@OnApplicationStart
public class Bootstrap extends Job
{
  public void doJob() throws FileNotFoundException
  {
    Fixtures.deleteDatabase();
    Fixtures.loadModels("data.yml");

    String photoName = "homer.gif";
    Blob blob = new Blob ();
    blob.set(new FileInputStream(photoName), MimeTypes.getContentType(photoName));
    User homer = User.findByEmail("homer@simpson.com");
    homer.profilePicture = blob;
    homer.save();
  }
}
```

Preloading Images Example

The image file must be in the folder of your app



```
String photoName = "homer.gif";
```

Preloading Images Example

The image file must be in the folder of your app

Create an empty Blob object

```
String photoName = "homer.gif";

Blob blob = new Blob ();
```

Preloading Images Example

The image file must be in the folder of your app

Create an empty Blob object

Read the image and store in the blob

```
String photoName = "homer.gif";

Blob blob = new Blob ();

blob.set(new FileInputStream(photoName), MimeTypes.getContentType(photoName));
```

Preloading Images Example

The image file must be in the folder of your app

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String photoName = "homer.gif";

Blob blob = new Blob ();

blob.set(new FileInputStream(photoName), MimeTypes.getContentType(photoName));

User homer = User.findByEmail("homer@simpson.com");

;
```

Locate a specific model object

Preloading Images Example

The image file must be in the folder of your app

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```
String photoName = "homer.gif";

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```

Locate a specific model object

Set the blob in that mode

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User homer = User.findByEmail("homer@simpson.com");

homer.profilePicture = blob;

homer.save();
```

Locate a specific model object

Set the blob in that mode

Save the model