

# Java Technologies - Lab 2

[valid 2022-2023]

Starting from this week...:

- Comment and properly format the source code of your programs.
- Use the [naming conventions](#) for writing Java code. "Naming conventions make programs more understandable by making them easier to read."
- Organize your project using appropriate packages.
- Use the API documentation: [Java\(TM\) EE 8 Specification APIs](#)

## Web Components

### Compulsory (1p)

Create a Web application (starting from the previous lab) containing the following components:

- `input.jsp`: **a page** containing a form for introducing some *letters* and a *size*.
- `result.jsp` **a page** describing the response that will be delivered to the client, for example an HTML table containing the words of the given size.

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### Homework (2p)

Organize the application so it contains:

- an object-oriented domain **model**;
- a server-side component responsible with the **business-logic** of the application: writing the words to a file, reading data from a file, etc.
- a server-side component responsible with controlling the **web-flow**.
- A **web filter** that will log all requests received by *input.jsp*.  
A web filter that will decorate the response by adding a specific *prelude* (at the beginning) and a specific *coda* (at the end) to the generated HTML page.

The purpose of the application is to integrate various components, each having a specialized role.

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### Bonus (2p)

- (0.5p) Create a **web listener** that reads a default category specified as a [context init parameter](#) at the application start-up. This default value should be stored in an attribute having application scope and it will be used whenever the request does not contain a category.
  - (0.5p) Use a "hand-made" [cookie](#) to store the category selected by the client. When the user returns to the site (after the current session was invalidated) and presents this cookie, the category will be set automatically. (In case you want to store sensitive data in a cookie, you may read [Improved Persistent Login Cookie Best Practice](#).)
  - (1p) Add an original, geometric-inspired, [CAPTCHA](#) facility to the input form.
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## Bibliography

- [Lab slides](#)
- [JavaServer Pages Technology](#)
- [JavaBeans Components](#)
- [The Essentials of Filters](#)
- [Custom Tags in JSP Pages](#)
- [JavaServer Pages Standard Tag Library](#)

## Additional Readings

- ["Date and Time"](#)
- ["Internationalization"](#)
- [Java API for XML Processing \(JAXP\)](#)
- [Java Google Json \(Gson\) Introduction](#)
- [UTF-8, UTF-16, UTF-32 & BOM](#)