

# Project of Software Development

Lesson 5 - 11Feb  
Web Development & Website Architecture

# Lab shifts

Reply to the form I sent (<https://forms.office.com/e/R7V5qPze1F>)

# Mid-term test

**Location:** Amphitheatre 3, Francesinhas 2

**Duration:** 45 minutes

**Included content:** Lessons #2 to #6 (including the bibliography and webgraphy defined in each one and:

- Software Engineering: **only** Chapter 1 and Chapter 10 content up to and including “10.3.1 A Brief Taxonomy of Architectural Styles” of [Pressman]
- Data and Database Management: **only** Chapter 1 content up to and including “Components of the Database Environment” of [Hoffer]
- Extract of these books with the content above described available at Teams/General/Files

**Excluded content:** anything specific to OutSystems and homework. These subjects be for the Live Coding Challenge, not for the mid-term test.

**Date:** lesson #8 on February 20<sup>th</sup> (Thursday 11h30 to 13h00)

# Lecture Topic

## Presentation tier:

- Outsystems UI Development 101
- Web Development: Website Design

## Bibliography:

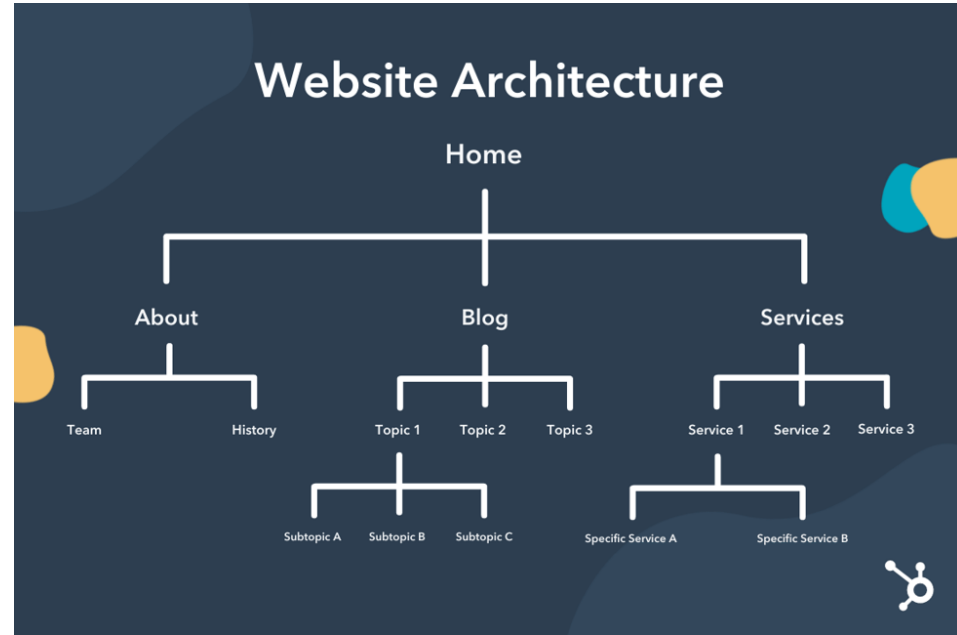
- Learn Web Development: 7 Basic Steps for Beginners  
<https://bootcamp.berkeley.edu/resources/coding/learn-web-development/>
- OutSystems: Modeling data  
<https://www.outsystems.com/training/courses/123/modeling-data/?LearningPathId=18>
- OutSystems: Reactive UI Development 101  
<https://www.outsystems.com/training/courses/124/reactive-ui-development-101/?LearningPathId=18>



# Presentation tier: Website Architecture

Website architecture refers to the structure and organization of a website's content, features, and functionality. It involves designing and planning the website's navigation, user interface, user experience, information hierarchy, and technical specifications

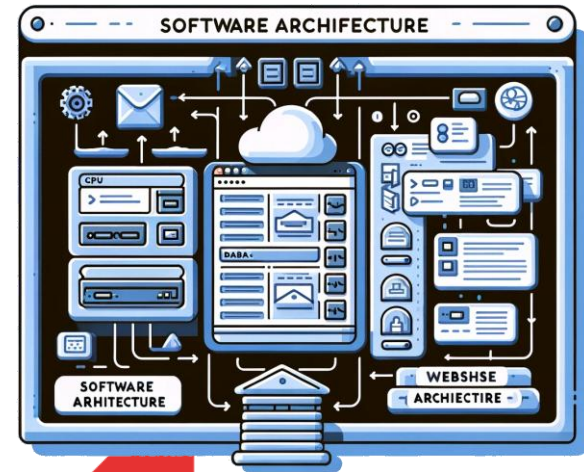
A well-designed website architecture helps to ensure that the website is user-friendly, easy to navigate, and provides a good user experience. It also helps search engines to understand the content of the website and rank it appropriately in search results.



# Web Architecture vs. Website Architecture

**Web Architecture** (content of previous lessons) **is different** from **Website Architecture** (content of this lesson)

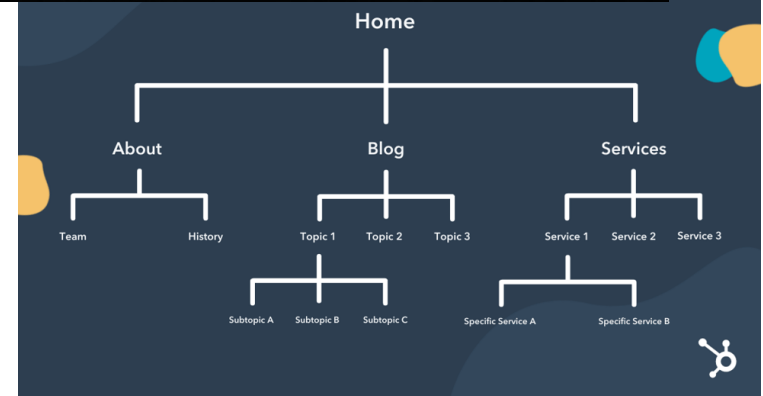
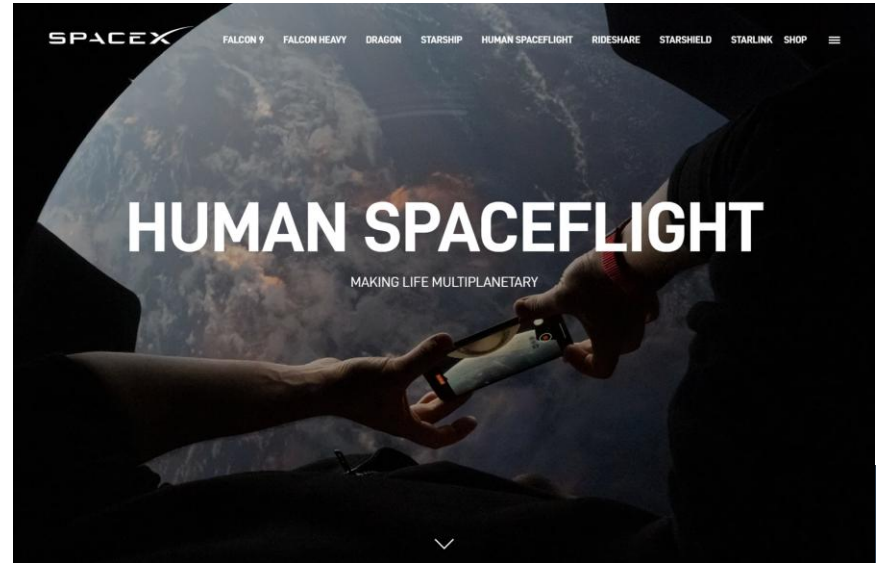
Just as in building construction, architecture (=Web Architecture) is different from interior architecture (=Website Architecture)



# Website Architecture

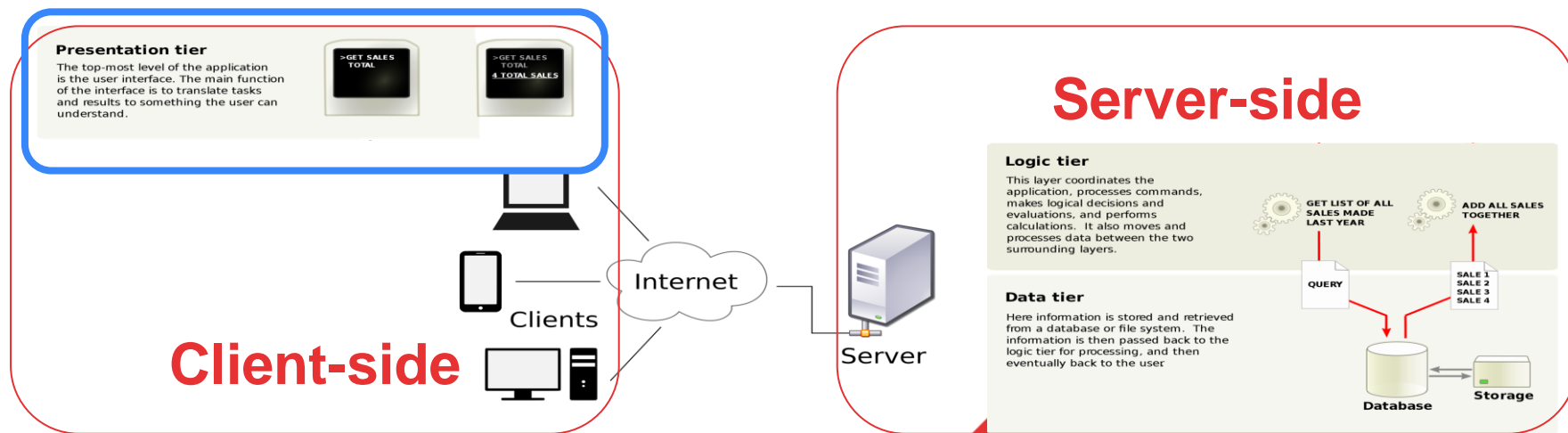
Website architecture: defines a logical layout of a website in line with the user and/or business requirements. It defines the different components that will make up a website and the services each component or the website will provide in whole. Some of the factors that are part of website architecture are:

- **Technical constraints** such as server, storage, memory and communication interfaces
- **Functional aspects** such as the type of services or processes the website will provide
- **Visual appearance**, i.e. the user interface, colors, buttons and other visual design elements
- **Security parameters** i.e. how the website will ensure secure access control and transactions



## OutSystems Online Training: Becoming a Web Developer

### Short review and Q&A: UI Development 101 & exercise solution





# Learning goals

To understand how and where the Presentations tiers of a Web Application are defined in OutSystems.




To understand the Website Architecture and why it is crucial to be defined before the implementation of the Web Application

To differ Website Architecture from Web Architecture


# Homework

Alternative 1 (Portuguese ) Léo Andrade [Aprenda a programar]

<https://www.youtube.com/playlist?list=PLY-9oEzuBhdfzxLxLeTr56YG8Vqu-Y0dl>

- Aprenda a Programar - #09 Estrutura de Repetição (while): 16 minutes 
- Aprenda a Programar - #10 Estrutura de Repetição (do while): 18 minutes 
- Aprenda a Programar - #11 Estrutura de Repetição (for): 18 minutes 

# Homework

Alternative 2 (English ) CodeWithPraveen [Fundamentals of Programming Languages]

[https://www.youtube.com/watch?v=F7CWjuaC6gw&list=PLb\\_S-rkKhexdiJomXSGeqQ46c\\_MUTPaj](https://www.youtube.com/watch?v=F7CWjuaC6gw&list=PLb_S-rkKhexdiJomXSGeqQ46c_MUTPaj)

- Fundamentals of Programming Languages #5 | Understanding Loops (10 minutes) 
- Fundamentals of Programming Languages #6 | Understanding Functions (12 minutes) 
- Fundamentals of Programming Languages #8 | Understanding Exceptions (6 minutes) 

# Homework outsystems

OutSystems Online Training: Becoming a Web Developer

<https://learn.outsystems.com/training/journeys/web-developer-662>

Logic (60 minutes) 

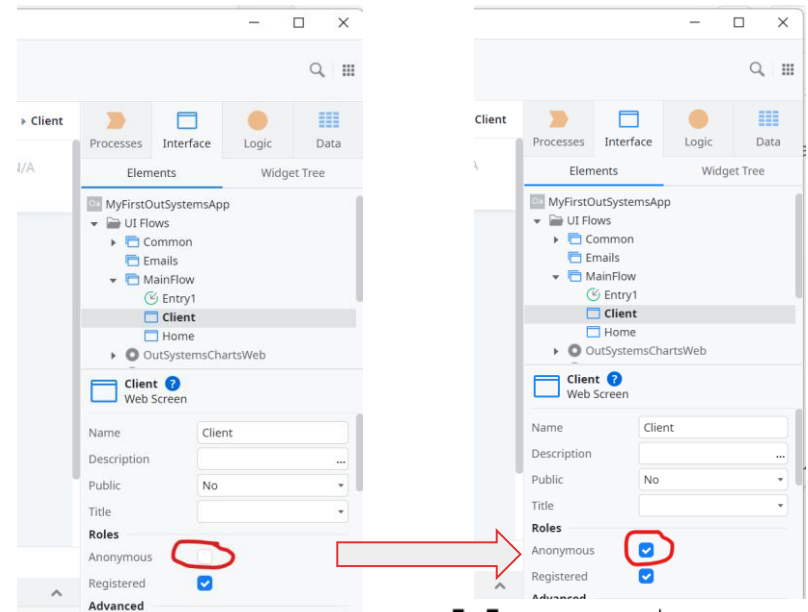
<https://learn.outsystems.com/training/journeys/logic-641/logic-actions/o11/312>

1. Actions and Flows
2. Exceptions
3. Defining Logic Exercise (Scientific calculator)

# Homework outsystems

After having implemented your Web App as described in the OutSystems exercise (item #04), do the following:

1. Add the “anonymous” role to all your Web Screens:
  - a. Click on the Web Screen (widget tree on the right side)
  - b. The attributes area will open. Click on “Anonymous”
  - c. Repeat (a) and (b) for each Web Screen you created
  - d. Publish and test
2. Submit the address of your Web Application by following up on the email



Expected total effort: 60 to 90 minutes