

Project Defense

Education Management System RESTful API

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Web Services with Spring 5 Academy

Outline

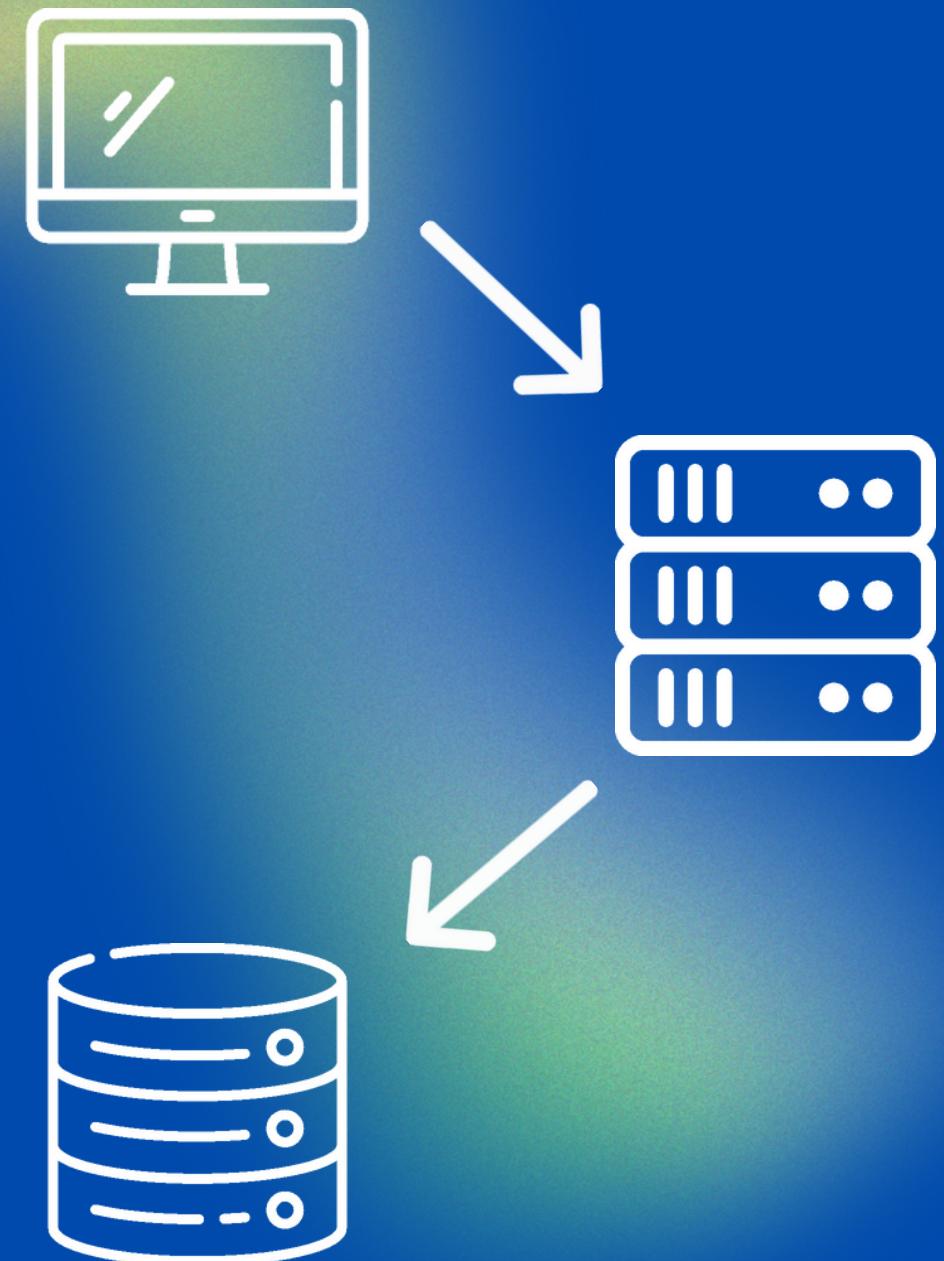
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Introduction

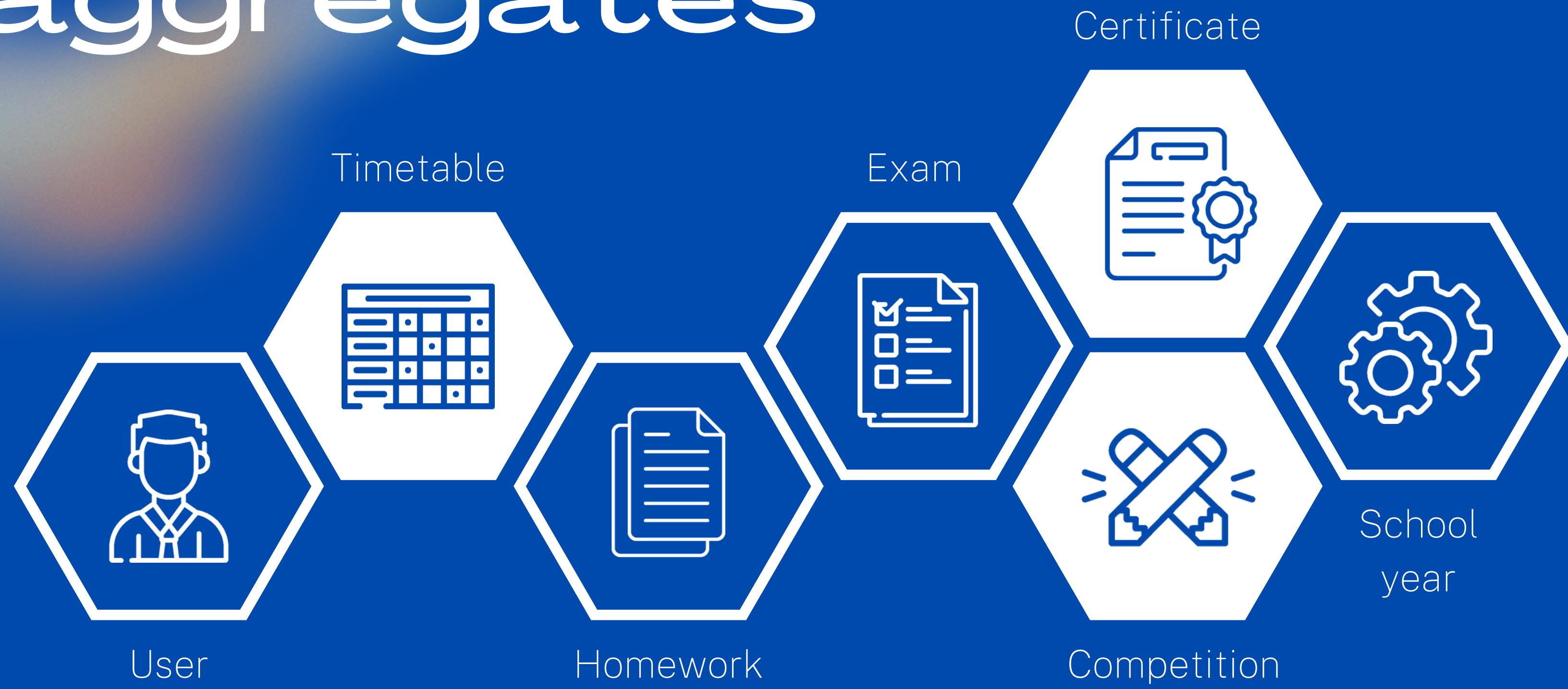
- Education Management System (**EMS**) is a learning content management system. It is a software application which provides a framework that handles some of the key aspects of the learning process.
- **EMS** is a platform that allows you to create, manage, host, and track digital learning content.
- The main objective of **EMS** is to enhance the learning process by saving customers time.

System Architecture

- **Client-server** architecture pattern. Communication happens by using the **HTTP** protocol.
- The management of customer accounts is accompanied by an **SMTP** communication service, provided by Google Workspace.
- EMS data management is operated by using a relational database management system - **MySQL**.
- **JSON** Web Token is used to identify system users without having to send private credentials on every request.



Domain aggregates



Use cases

All

CRUD operations can be applied to each of the top-level aggregates.

Certificate

A student-specific resource that can be received by winning a competition, as well as individually assigned by a Teacher or Headmaster role owner.

Competition

Can be individually assigned to students only by a Teacher or Headmaster role owner. The user with the highest score earns a certificate upon successful completion of the competition.

Timetable

Can be assigned to teachers and school years. Students inherit timetable data from their school year.

Use cases

Homework, Exam

Part of the school year and student resources.

Students inherit both upon uploading such to the school year and may receive individual instances.

School year

It acts as a container for the other aggregates: encapsulates students, teachers, subjects, exams, and homework. Creates groups that divide resources across the system, imitating the natural environment in an educational institution.

Subject

Enumeration values can be assigned to school year instances, and all changes would reflect on student subject collection associated with that instance of the school year.

Grade

Assigned values acquired as a result of either checked homework, passed exams, or teacher input. Competition results won't reflect on student grade collection.

Live Demo

Q&A Session

Thank you for listening!