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Предмет: Навыки XXI века
Класс: Digital Marketing
Раздел: Digital Marketing
Тема: Advanced Java

About the course	This Advanced Java course deepens your Java expertise with modern features, multithreading, design patterns, and performance tuning. You'll learn advanced APIs, modular programming, and best practices for building scalable, efficient, and enterprise-ready applications.
Course Goal(s)	The goal of this course is to help learners master advanced Java concepts and APIs, develop efficient and modular applications, apply design patterns and best practices, implement multithreading for improved performance, and build scalable, enterprise-level Java solutions.
Course Objectives	The course objectives are to enhance learners' understanding of advanced Java programming, including modern language features, multithreading, and concurrency; to strengthen their ability to design modular, maintainable, and high-performance applications; to apply design patterns and software architecture principles effectively; and to prepare them for developing scalable, enterprise-grade Java solutions.
Skills & Competences	Upon completing this course, learners will gain strong skills in advanced Java programming, object-oriented design, multithreading, and concurrent programming. They will be competent in using modern Java APIs, applying design patterns, optimizing application performance, and developing scalable, modular, and enterprise-ready Java applications following industry best practices.
Course Learning Outcomes	By the end of this course, learners will be able to apply advanced Java features and APIs to build complex applications, implement multithreading and concurrency for efficient processing, design and refactor software using established design patterns, optimize and debug Java programs for performance, and develop scalable, secure, and maintainable enterprise-level solutions.

Ход урока

Этапы урока	**Запланированная деятельность на уроке**	**Ресурсы**
Data types in C++ and in Java. "Pointers" in Java. (45 minutes 49 seconds)	This lesson explains the differences between data types in C++ and Java, highlighting how Java simplifies memory management by eliminating direct pointer usage. It clarifies how references in Java work compared to pointers in C++, helping learners understand object handling, memory safety, and Java's approach to managing data efficiently.	https://youtu.be/tJTLZ1FcPDQ?si=UWlGbepxrVk5uoKY
Generics in java (27 minutes 56 seconds)	This lesson introduces Generics in Java, explaining how they enable type-safe, reusable, and flexible code. It covers the syntax and use of generic classes, interfaces, and methods, illustrating how generics eliminate type-casting and improve code reliability through compile-time type checking.	https://youtu.be/-cmHUcAVhgA?si=2y3aJetHB2GAEZdb
Collections in java (1 hour)	This lesson covers the Collections Framework in Java through several parts: Collections in Java, List in Java, Maps in Java, and Comparable, Comparator, and the Collections class in Java. It explains how these components provide powerful tools for storing, sorting, and managing data efficiently, emphasizing type safety, flexibility, and performance in real-world applications.	https://youtu.be/a37-R1XBMz0?si=62l9H2cSMswk4SOt https://youtu.be/0wxf2_JliQQ?si=5TOlNhDD6bSpSxT8 https://youtu.be/NGtyVoklSUQ?si=szIvofRQ1DJqtuGJ https://youtu.be/Gikf199ueBI?si=sC4wBiovYyyFgJ0w ..

Этапы урока	Запланированная деятельность на уроке	Ресурсы
Annotations injava (15 minutes)	This lesson introduces Annotations in Java, explaining their purpose in providing metadata for classes, methods, and variables. It covers built-in annotations, custom annotation creation, and practical use cases such as code documentation, runtime processing, and integration with frameworks toenhance code readability and automation.	https://youtu.be/P4tOrHm02bM?si=vQcbuEETNHqv5fKW …
Threads in java (35 minutes)	This lesson covers Threads in Java, focusing on how multithreading enables concurrent execution of tasks. It explains thread creation using the Thread class and Runnable interface, thread lifecycle, synchronization, and common concurrency issues, helping learners write efficient and safe parallel programs.	https://youtu.be/JjPxsQoo9mk?si=Q6EA0GVvad8E9bgn …