
.NET Technologies
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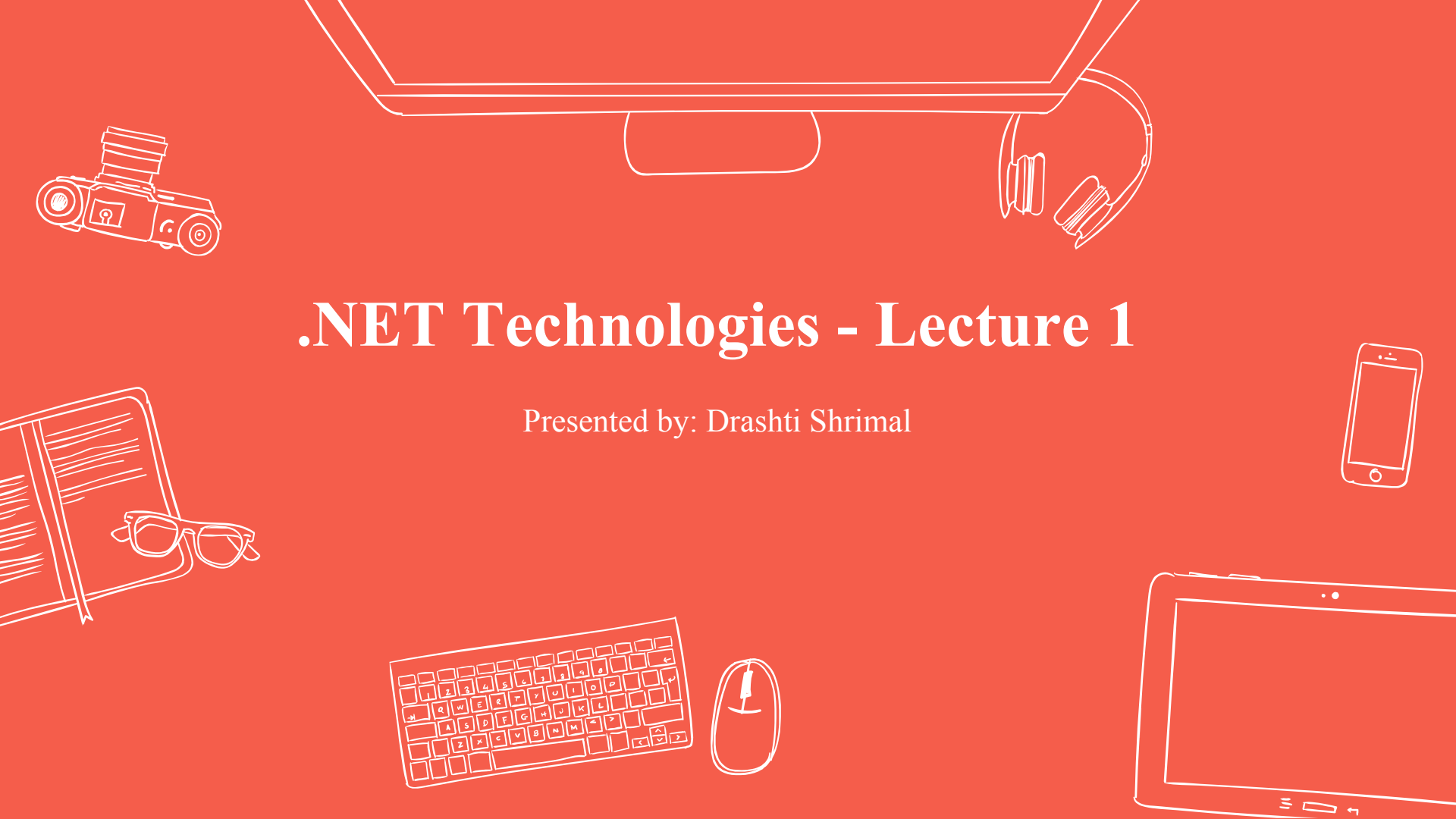

.NET Technologies - Lecture 1

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UNIT 1: Topics in this presentation

.NET Framework:

- Basics
- .NET Languages
- Common Language Runtime
- .NET Class Library

.NET Basics

- .NET is a framework to develop software applications. It is designed and developed by Microsoft and the first beta version released in 2000.
- It is used to develop applications for web, Windows, phone. Moreover, it provides a broad range of functionalities and support.

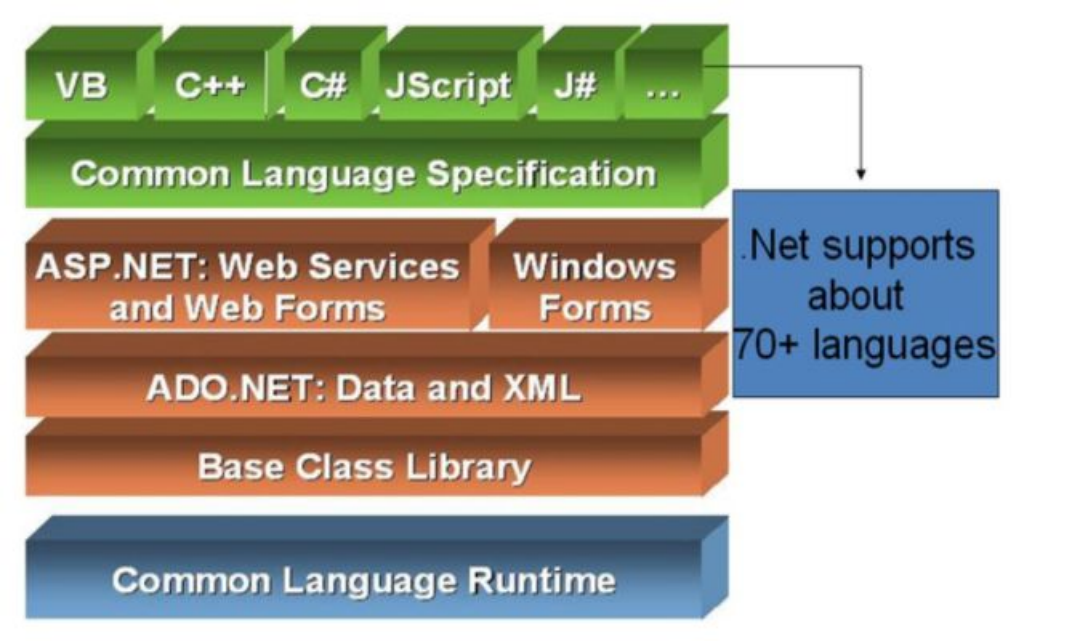
.NET Basics

- .NET Core is the latest general purpose development platform maintained by Microsoft.
- It works across different platforms and has been redesigned in a way that makes .NET fast, flexible and modern.
- .NET Core happens to be one of the major contributions by Microsoft.
- Developers can now build Android, iOS, Linux, Mac, and Windows applications with .NET, all in Open Source.

.NET Characteristics

- Open Source - .NET Core is an open source implementation.
- Cross platform - Application implemented in .NET Core can be run and its code can be reused regardless of your platform target.
- Flexible deployment - It can be framework dependent or self contained deployment.
- Modular - .NET applications are released thru smaller packages called NuGets.

.NET Framework



.NET Framework - CLR

- It is a program execution engine that loads and executes the program.
- It converts the program into native code.
- It acts as an interface between the framework and operating system. It does exception handling, memory management, and garbage collection.
- Moreover, it provides security, type-safety, interoperability, and portablility.

.NET Framework - CTS

- Common Type System - The common type system defines how types are declared, used, and managed in the common language runtime, and is also an important part of the runtime's support for cross-language integration.
- All types in .NET are either value types or reference types.
- The common type system in .NET supports the following five categories of types:

Classes Structures Enumerations Interfaces Delegates

.NET Framework - FCL

- It is a standard library that is a collection of thousands of classes and used to build an application. The BCL (Base Class Library) is the core of the FCL and provides basic functionalities.
- Examples of FCL - System.Web, System.Data, System.Xml, System.Drawing, System.windows.form

.NET Framework -Common Language System

It describes the minimal and complete set of features to produce code that can be hosted by CLR. It ensures that products of compilers will work properly in .NET environment.

Sample Rules:

1. Representation of text strings
2. Internal representation of enumerations
3. Definition of static members and this is a subset of the CTS which all .NET languages are expected to support.
4. Microsoft has defined CLS which are nothing but guidelines that language to follow so that it can communicate with other .NET languages in a seamless manner.




Thanks!

Any questions?

You can post your questions on Google Classroom.