

Coding Bootcamp

Full Stack .NET Development

Back-end Programming

C# and .NET Framework

Fundamentals

1. System Data Types
2. Value and Reference types, Nullable types
3. String, Immutable types, String Builder
4. Arrays, Enum
5. Iteration constructs
6. Decision constructs
7. Methods and parameter modifiers
8. Methods overloading, default parameter

OOP Programming

1. class, constructor, memory allocation
2. this keyword
3. Encapsulation
4. Access modifiers
5. Properties, getter and setter
6. static keyword
7. readonly and const keywords
8. Exception Handling
9. Nested types
10. Inheritance
11. Polymorphism
12. virtual and override keywords
13. Object, Boxing and Unboxing
14. Abstract class
15. Interface

Advanced Programming

1. Operator Overloading, Indexer Methods, Extension Methods
2. Generic Programming
3. Reflection, Attributes
4. IEnumerable and IEnumerator Interfaces
5. Delegates, Events, Lambda Expressions
6. LINQ fundamentals
7. IDisposable Pattern, GC
8. Threading fundamentals
9. TPL, async, await

Algorithms and Data Structures

1. Measuring Performance
2. Linked List
3. Stack
4. Queue
5. Binary Trees
6. Hash Tables
7. Sorting Algorithms
8. Set Collection and Algorithms

T-SQL and SQL Server

1. Background to T-SQL Querying and Programming
2. Single-Table Queries
3. Joins
4. Subqueries
5. Table Expressions
6. Set Operators
7. Data Modification

ADO.NET

1. Commands
2. Data Reader
3. Data Set
4. Transactions

Entity Framework

5. EF Mapping
6. EF Entities
7. Data Context
8. EF Database First
9. EF Code First

Front-end Programming

HTML, CSS

JavaScript, JQuery

Full Stack Programming**ASP.NET Core**

1. MVC Pattern
2. Routes and URLs
3. Controllers and Actions
4. Views, Layouts, HTML Helpers and Data Validation
5. Data Access Layer
6. Middleware



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7. Authentication and Authorization
8. Configuration files and security

Networking

10. OSI MODEL
11. IP
12. TCP UDP
13. HTTP
14. REST

Development and collaboration

1. Agile development principles
2. Unit Testing
3. Visual Studio Team Services
4. GitHub

Projects (TBD)

Expected Results

1. Ready for interview
2. GitHub based portfolio
3. Team working skills
4. Comprehensive knowledge in software development