

.NET Coding Bootcamp for VOLO Syllabus

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. Top-level statements, methods and parameter modifiers
8. Partial methods features, methods overloading, default parameter

OOP Programming

1. class, constructor, memory allocation
2. this keyword
3. Structs, Records
4. Encapsulation
5. Access modifiers
6. Properties, getter and setter, Init only setters
7. static keyword
8. readonly and const keywords
9. Exception Handling
10. Nested types
11. Inheritance
12. Polymorphism
13. virtual and override keywords
14. Object, Boxing and Unboxing
15. Abstract class
16. 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

1. EF Mapping
2. EF Entities
3. Data Context
4. EF Database First
5. EF Code First

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
7. Authentication and Authorization
8. Configuration files and security

Projects (TBD)Expected Result

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