



**IDM TECHPARK**  
GUIDE'S FOR PERFECT CAREER PATHWAY



# VB.NET Course Syllabus

**VB**  
.net



**N.S.D.C**  
National  
Skill Development  
Corporation



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# About Us

IDMTECHPARK global retail & corporate training solutions provider in Coimbatore, Erode, Trichy & Salem that offers a comprehensive range of training and placement services for both fresher's and professionals seeking new opportunities. The company commenced its IT training business in 2016. A pioneer in IT education, over the years, we have trained over 50k students. Idmtechpark has a wide range of courses, maintains education standards & provides placement assistance.

[www.idmtechparkcoimbatore.com](http://www.idmtechparkcoimbatore.com)  
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# About IDMTECHpark Education Quality

IDMTECHPARK is managed and developed by industry specialists with more than 8 years of expertise in the field. IDMTECHPARK offers a staff of highly skilled professional trainers who deliver effective IT training in a friendly setting, concentrating on the needs of each individual to help them succeed in a demanding work world. In the book of career and success, our staff never leaves a page unturned.

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IDMTECHPARK's versatile instructor-led training class rooms and lower-class sizes enable people to engage more easily and absorb knowledge, resulting in remarkable results for both themselves and the organizations for which they work. Our training programmes are adaptable and customizable to ensure that each participant gets the most out of their time with us. IDMTECHPARK focuses in providing hands-on IT training in over 30 different courses.

- We teach in-demand courses
- We provide impactful learning material
- Our teachers are well-selected & trained
- We follow world-class teaching methods
- Our courses include E-Projects
- We conduct technical workshops
- Exams are held and based on Exams providing Certification
- Certificates are recognized the world over
- Our course timings are flexible





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# Our Recent Placement

Idmtechpark assists students in getting job placements on successful completion of their courses. Idmtechpark also provides recruitment assistance to organizations. Idmtechpark students are shortlisted based on the organization's requirement. To make students job-ready, Idmtechpark conducts workshops e.g. How to do Group Discussions, how to behave in a Personal Interview. From time to time, job fairs & campus recruitments are conducted. Workplace skills such as time management, making effective presentations and communication skills are also provided. All this helps students find appropriate jobs in the IT industry while also helping save companies recruitment costs.

**Krishnaveni M**

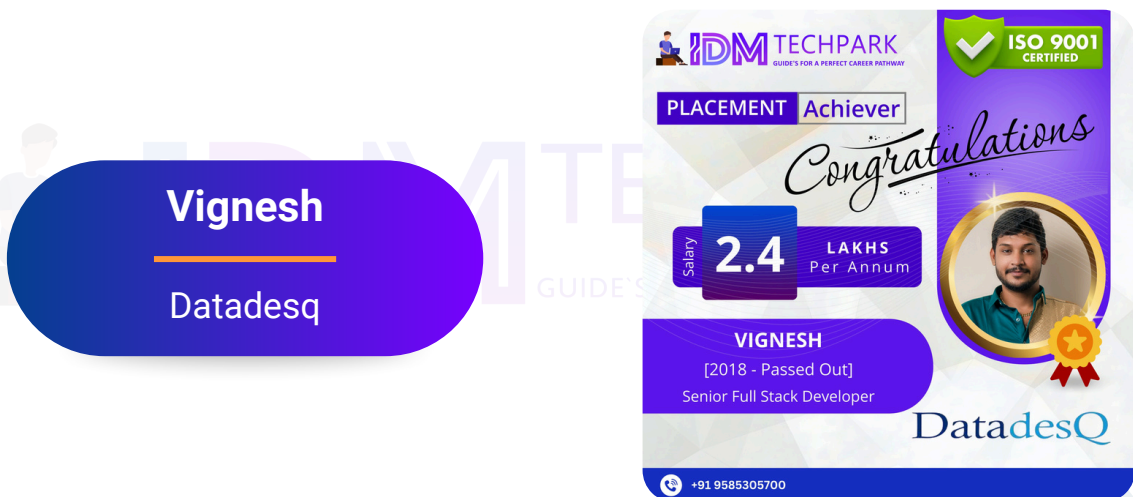
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Xccessor



**Vignesh**

Datadesq



**Madhumitha**

Accenture

**Keerthana**

AJS



**Brindha Boopathi**

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**Kavin Kumar**

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**Ajithkumar**

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**Gowthami**

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**Surya**

ZUCI



**Pavithra**

Vel Info Tech



**Poovitha**

Gray Matter



**Ramesh**

TDT

**Siva Sankar**  
ST Cloudspark tech



**Nabeel Hisham**  
VTail



**Kalayarasan**  
Violet Infotech

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# Our Alumni Working At



## MODULE 1

# Introduction to VB.NET

- Overview of Visual Basic .NET (VB.NET)
- History and evolution of VB.NET
- Setting up the development environment (Visual Studio)
- Basic structure of a VB.NET program
- Writing, compiling, and running a simple VB.NET application



## MODULE 2

# Variables and Data Types

- Declaring and initializing variables
- Primitive data types: Integer, String, Boolean, Double, Char, etc.
- Working with constants and the Const keyword
- Type conversion: Implicit and explicit conversions
- Nullable types (Nullable(Of T))

## MODULE 3

# Operators in VB.NET

- Arithmetic operators (+, -, \*, /, %)
- Relational operators (=, >, <, >=, <=, <>)
- Logical operators (And, Or, Not, Xor)
- Assignment operators (=, +=, -=, \*=, /=)
- String operators and concatenation

## MODULE 4

# Control Flow Statements

- Conditional statements: If, If-Else, Select Case
- Nested conditionals and logical conditions
- Looping constructs: For, For Each, While, Do While
- Continue and Exit statements
- The Goto statement (with caution)

## MODULE 5

# Functions and Procedures

- Introduction to functions and procedures
- Declaring and calling functions and subroutines
- Function parameters (ByVal and ByRef)
- Return types in functions
- Scope and lifetime of variables
- Function overloading and default arguments



## MODULE 6

# Arrays and Collections

- Introduction to arrays and multi-dimensional arrays
- Array operations: access, iteration, resizing, and sorting
- Arrays in VB.NET: Array, ArrayList, and List(Of T)
- Collection types: Dictionary(Of TKey, TValue), Queue(Of T), Stack(Of T)
- Working with collections in .NET

## MODULE 7

# Strings in VB.NET

- Declaring and manipulating strings
- String methods: Length, Substring, Replace, IndexOf, Split
- String concatenation and formatting
- Working with string builders (StringBuilder)
- Regular expressions with System.Text.RegularExpressions

## MODULE 8

# Object-Oriented Programming (OOP) Basics

- Introduction to OOP concepts
- Defining classes and creating objects
- Member variables and methods
- Constructors and destructors
- Access modifiers: Public, Private, Protected, Friend

## MODULE 9

# Working with Properties and Methods

- Understanding properties in VB.NET
- Property Get and Set
- Methods with parameters and return types
- Overloading and Overriding methods
- Shadows keyword and method hiding



## MODULE 10

# Inheritance in VB.NET

- Understanding inheritance and base/derived classes
- Using the Inherits keyword
- Overriding base class methods with Overrides
- Using MyBase to call base class methods and constructors
- Constructor chaining with MyBase.New()

## MODULE 11

# Polymorphism and Interfaces

- Understanding polymorphism in VB.NET
- Virtual methods and Overrides
- Interfaces in VB.NET: Defining and implementing interfaces
- Using the Implements keyword
- Polymorphism through interfaces and base class references

## MODULE 12

# Exception Handling

- Introduction to error handling in VB.NET
- Using Try, Catch, Finally blocks
- Exception types and handling specific exceptions
- Custom exceptions: Creating and throwing exceptions
- Best practices in exception handling

## MODULE 13

# Delegates and Events

- Introduction to delegates
- Declaring and using delegates in VB.NET
- Events and event handlers
- Understanding the Event keyword
- Multicast delegates and event-driven programming

## MODULE 14

# LINQ (Language-Integrated Query)

- Introduction to LINQ in VB.NET
- LINQ syntax: Query expression vs method syntax
- LINQ to Objects, LINQ to SQL, LINQ to XML
- Filtering, sorting, and grouping data using LINQ
- Deferred execution and LINQ performance considerations

## MODULE 15

# File Handling and Streams

- Introduction to file I/O in VB.NET
- Reading from and writing to files
- Working with streams: StreamReader, StreamWriter, FileStream
- Handling binary and text files
- Directory and file manipulation (FileInfo, DirectoryInfo, Path)



## MODULE 16

# Working with Databases

- Introduction to ADO.NET
- Connecting to a database using SqlConnection, OleDbConnection
- Executing SQL commands: SELECT, INSERT, UPDATE, DELETE
- Data readers (SqlDataReader, OleDbDataReader)
- Binding data to controls using DataGridView

## MODULE 17

# User Interface Design

- Windows Forms applications in VB.NET
- Controls: Buttons, Textboxes, Labels, ListBoxes, ComboBoxes, DataGridView
- Event handling in GUI applications
- Handling layout and design using the Visual Studio Designer
- Validation of user inputs using events

## MODULE 18

# Working with Threads

- Introduction to multithreading in VB.NET
- Creating and managing threads using Thread class
- Using the BackgroundWorker class
- Thread synchronization with Mutex and Semaphore
- Handling thread exceptions and canceling threads

## MODULE 19

# Networking in VB.NET

- Introduction to networking in VB.NET
- Creating TCP/IP and UDP clients and servers
- TcpListener, TcpClient, UdpClient classes
- Sockets in VB.NET
- Web requests using HttpClient and WebRequest

## MODULE 20

# Collections and Generic Collections

- Introduction to collections and generic collections
- Working with List(Of T), Dictionary(Of TKey, TValue), Queue(Of T), Stack(Of T)
- Collection manipulation: Adding, removing, searching, sorting
- Comparing generic and non-generic collections
- Performance considerations with collections

## MODULE 21

# Reflection in VB.NET

- Introduction to reflection and its use cases
- Inspecting types, properties, methods, and fields using reflection
- Using Type and Assembly objects
- Dynamic method invocation using MethodInfo
- Accessing metadata for runtime code analysis



## MODULE 22

# Working with XML

- Introduction to XML handling in VB.NET
- Using XmlDocument and XmlReader for XML parsing
- LINQ to XML for querying and manipulating XML data
- Serializing and deserializing objects to XML
- Working with XML schemas

## MODULE 23

# Serialization and Deserialization

- Introduction to serialization in VB.NET
- Serializing objects to binary and XML formats
- Using BinaryFormatter and XmlSerializer
- Deserializing objects back into memory
- Custom serialization and ISerializable interface

## MODULE 24

# Advanced Features of VB.NET

- Working with dynamic types using DynamicObject
- Using the WithEvents keyword and custom event handling
- The CallerMemberName, CallerFilePath, and CallerLineNumber attributes
- Creating custom attributes and reflection
- Using the Me keyword and handling Nothing values

## MODULE 25

# Best Practices and Final Project

- Writing clean and maintainable code
- Code commenting, debugging, and optimization techniques
- Introduction to design patterns: Singleton, Factory, etc.
- Final project: Building a real-world application with VB.NET
- Testing, deploying, and distributing VB.NET applications

# Thank You

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