Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Objectives

- Understand what ASP.NET is and how it fits into the .NET framework.
- Be able to set up an ASP.NET project in Visual Studio.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What Is ASP.NET

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- In this lesson, we'll be exploring what ASP.NET is and how it can help you develop web applications.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- ASP.NET is a web application framework developed by Microsoft. It allows developers to build dynamic, data-driven web applications using a variety of programming languages, such as C# and VB.NET. ASP.NET is a powerful tool for building robust, scalable, and secure web applications.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- ASP.NET is like the foundation of a building, providing a solid structure on which a web application can be built. Just as a building needs a strong foundation to stand tall and endure, a web application needs a robust framework like ASP.NET to support its features and functionality. Without a strong foundation, the building will crumble, and without a powerful framework, a web application will struggle to perform reliably and efficiently.

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

WHAT IS ASP.NET

- One of the main advantages of ASP.NET is its ability to separate the design and functionality of a web application. This separation is like having a team of specialized designers and mechanics working together to build a car. The designers focus on the visual aspects of the car, while the mechanics focus on the technical details. Similarly, developers can focus on the business logic of the application without worrying about the complexities of the user interface, leading to more efficient development and higher quality applications.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- The way it does this is by separating the UI from the application logic, freeing up developers to focus on the core features of the application. This leads to more efficient development, faster time-to-market, and higher quality applications. By using proven design patterns and best practices, ASP.NET ensures stability and reliability, while also allowing for easier maintenance and updates.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- Another benefit of ASP.NET is its support for multiple languages and frameworks. This support is like having a toolbox full of different tools that can be used to build a car. Developers can choose the best programming language or framework for their project, like a mechanic choosing the right tool for the job.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

What is ASP.NET

- In addition, ASP.NET provides developers with a variety of tools and libraries to build web applications quickly and efficiently. These tools are like having a team of experienced mechanics who can help you build your car faster and more efficiently. They can provide guidance and access to specialized tools and equipment, leading to a better end product.

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

WHAT IS ASP.NET

- Overall, ASP.NET is a flexible and powerful web application framework that offers many benefits to developers, making web application development easier and more efficient, like having a well-tuned engine to power your car.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- The .NET framework provides a consistent programming model for building applications and supports a wide variety of programming languages, including C# and Visual Basic.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- The .NET framework consists of two main components: the Common Language Runtime (CLR) and the .NET Class Library. The CLR is the runtime environment that manages the execution of code written in different programming languages. It is responsible for memory management, security, and other system-level services.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- The .NET Class Library, on the other hand, provides a set of pre-built classes and APIs that developers can use to create applications. It includes classes for common tasks such as input/output, database access, and user interface elements.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- Now, let us turn our attention to the difference between the .NET Framework and .NET Core. The .NET Framework is the traditional Windows-only version of the .NET platform, while .NET Core is the cross-platform version that runs on Windows, Linux, and macOS.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- Despite their differences, both versions of the .NET platform share a common set of programming languages and frameworks, making it easy for developers to write code that can run on either platform.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding the .NET Framework

- Finally, let us consider the role of the CLR and the .NET Class Library in the .NET framework. The CLR is responsible for executing code written in different programming languages, providing a unified runtime environment for applications. Meanwhile, the .NET Class Library provides a rich set of pre-built classes and APIs that developers can use to build applications quickly and efficiently.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- There are several different types of ASP.NET projects, each with its own set of characteristics and use cases:

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- ASP.NET MVC: This project type follows the Model-View-Controller pattern, separating the application into three distinct components that provide clear separation of concerns. It is well-suited for large-scale web applications that require a high degree of extensibility, testability, and maintainability. We are going to use this because it is one of the most common design patterns for back-end development.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- ASP.NET Web Forms: This project type uses a drag-and-drop approach to create web pages and user interfaces. It is less structured than ASP.NET MVC, with server-side controls that abstract over HTML and JavaScript. Compared to ASP.NET MVC, Web Forms provides a faster development experience but can lead to tightly coupled code that is difficult to test and maintain.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- ASP.NET Web Pages: This project type is a lightweight and flexible option for creating web pages that use Razor syntax. It is less structured than ASP.NET MVC, with a simpler approach to handling HTTP requests and rendering HTML. Compared to ASP.NET MVC, Web Pages provides a faster development experience but lacks the same level of separation of concerns and flexibility.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- ASP.NET Web API: This project type provides a framework for building RESTful APIs that can be consumed by other applications or services. It is more focused than ASP.NET MVC on providing data and functionality to other applications or devices. Compared to ASP.NET MVC, Web API provides a simpler and more streamlined approach to building APIs, but lacks the same level of flexibility and extensibility for building complex web applications.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- ASP.NET Core: This project type is a cross-platform, open-source framework for building web applications and APIs that can run on Windows, Linux, or macOS. It is more flexible and extensible than ASP.NET MVC, with support for multiple development models and deployment scenarios. Compared to ASP.NET MVC, ASP.NET Core provides a more modern and lightweight approach to building web applications and APIs, but can require more upfront configuration and setup.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

ASP.NET Project Types

- Overall, the different types of ASP.NET projects provide developers with a range of options for building web applications that can meet their specific needs and requirements. While ASP.NET MVC provides a structured and robust approach to building web applications, the other project types may be more suitable for certain use cases or development scenarios.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

INTRODUCTION TO ASP.NET MVC

- Understand the basics of ASP.NET MVC and its advantages
- Learn the Model-View-Controller (MVC) pattern
- Create a new ASP.NET MVC project in Visual Studio

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- Open Visual Studio and click on "Create a new project" on the start page or go to "File" > "New" > "Project".
- In the "Create a new project" dialog, select "ASP.NET Core Web App(Model-View-Controller)" from the list of project templates.
- Call it “Playlist”, then click "Create".
- Visual Studio will create a new MVC application with the necessary files and folders, including a default Home Controller and Index View.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- ASP.NET MVC is a powerful framework for building modern web applications that are scalable, flexible, and maintainable. The framework is built on the Model-View-Controller (MVC) pattern, which separates the application logic into three components: the model, view, and controller. This separation of concerns makes it easier to manage and test different parts of the application.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- The introduction of the Model-View-Controller (MVC) pattern revolutionized web development by providing a modular and scalable architecture that separated the different aspects of an application. This pattern has been widely adopted by web developers due to its many benefits, which we will explore in the next part of this lecture.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- In conclusion, ASP.NET MVC is an important framework in modern web development due to its ability to create scalable and modular web applications. Throughout this lecture, we will explore the different components of this framework and learn how to create web applications using ASP.NET MVC. I hope that by the end of this lecture, you will have a better understanding of ASP.NET MVC and its significance in web development. Let us begin!

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Why ASP.NET MVC

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- Now, you may ask, why use ASP.NET MVC over other web development frameworks? The answer lies in its many advantages, which we will be discussing today.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- First, ASP.NET MVC promotes separation of concerns. By separating the application into distinct components, developers can focus on their specific tasks without interfering with other parts of the code. This promotes a more organized, modular codebase that is easier to maintain and scale.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- Second, ASP.NET MVC is highly testable. With the model, view, and controller separated, developers can write unit tests for each component independently. This ensures that the code is working as intended, and reduces the risk of introducing bugs into the system.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- Lastly, ASP.NET MVC is highly scalable. As your application grows, you can add new features and scale up your infrastructure without having to completely overhaul your codebase. This allows for faster development and deployment times, and ensures that your application can handle increased traffic without any issues.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Introduction to ASP.NET MVC

- In conclusion, ASP.NET MVC is an important framework in modern web development due to its many advantages. By promoting separation of concerns, testability, and scalability, it allows developers to build maintainable, robust applications that can grow with the business. Thank you for attending today's lecture, and I look forward to seeing you in the next one.

Institute of
Technology
Development
of Canada

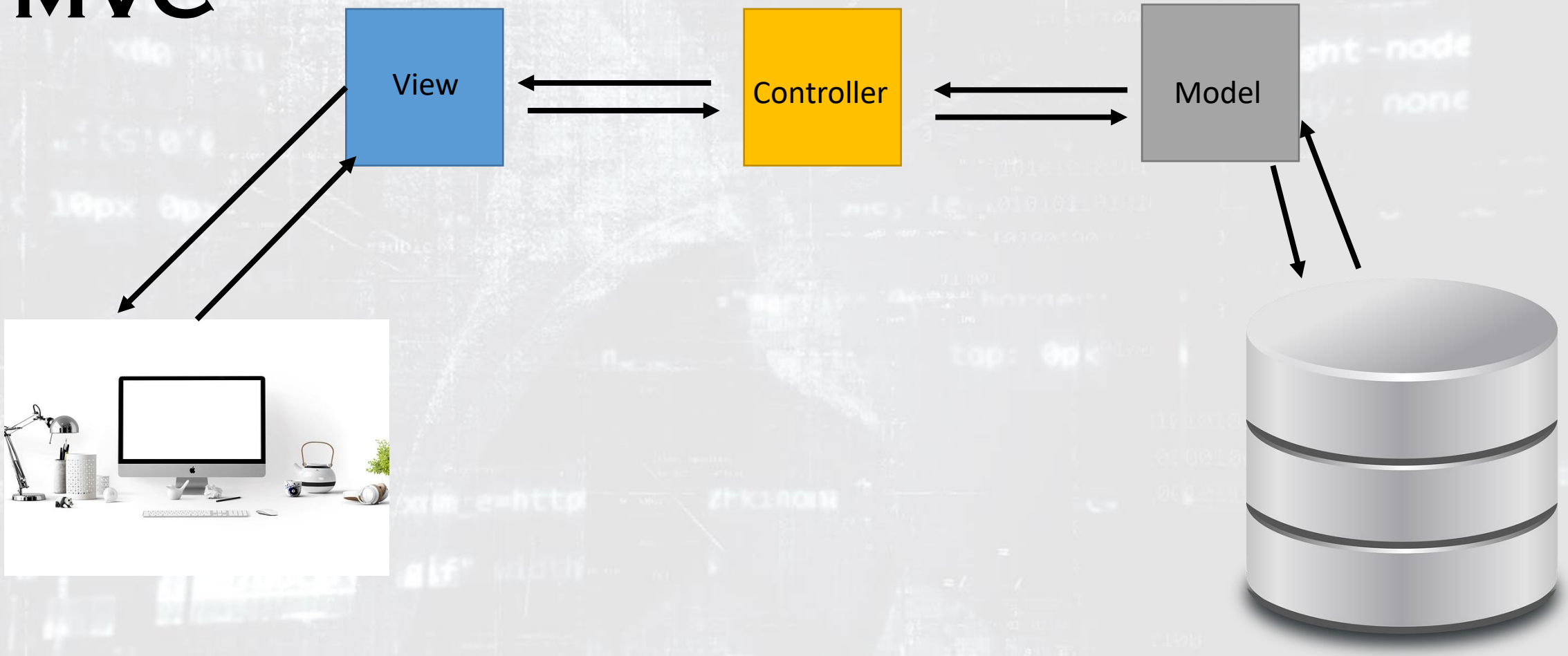
475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding MVC

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

MVC



Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding MVC

- Now, we will be talking about the Model-View-Controller pattern and how it relates to ASP.NET MVC. Let's start with a simple analogy.

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

UNDERSTANDING MVC

- Imagine you are a restaurant manager. You know that success depends on delivering great food and service to happy customers. In the same way, ASP.NET MVC relies on a well-organized team of components: the chef (model) prepares the ingredients and cooks the dishes, the server (controller) coordinates the orders and responses, and the customer (view) enjoys the final presentation. With MVC, you can build web applications that are easy to maintain, test, and scale, while providing a great user experience.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Model

- The model is responsible for managing the data and the interactions with the database or other data sources. It can be thought of as the underlying structure or foundation of the application.
- Just like a chef who prepares and stores ingredients, the model prepares and stores the data that the application will use. This includes data such as user profiles, product information, and other relevant information.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Model

- Without the model, the application would have no way to manage or store the data it needs to function. This is why it is a crucial component in the Model-View-Controller pattern. The model also interacts with the controller and the view, providing the necessary data for these components to function properly.
- In summary, the model is responsible for managing the data and providing the foundation for an ASP.NET MVC application.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Model

- In this example, the model is simply a class that defines the properties of the data that the application will be working with. The model could also include methods for retrieving or modifying the data, depending on the needs of the application.

```
namespace Club.Models
{
    0 references
    public class MemberModel
    {
        0 references
        public int Id { get; set; }
        0 references
        public string Name { get; set; }
        0 references
        public string Email { get; set; }
        0 references
        public DateTime Birthdate { get; set; }
    }
}
```

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Controller

- The server, or the controller, takes the orders from the customers and delivers them to the chef. The server is also responsible for managing the flow of the restaurant by directing customers to their tables and ensuring that orders are delivered in a timely manner. The controller in ASP.NET MVC similarly manages the flow of the application, by handling user requests and directing them to the appropriate part of the application.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Controller

- In the context of the Model-View-Controller pattern, the controller acts as the intermediary between the model and the view. It receives user input from the view, such as a button click or form submission, and processes that input by interacting with the model. The controller may manipulate the model, retrieve data from the model, or store new data in the model, depending on the specific task.

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

UNDERSTANDING CONTROLLER

- Just like how the server in a restaurant manages the flow of the establishment by directing customers and orders, the controller manages the flow of the application by directing user requests to the appropriate part of the application. It also ensures that the data passed between the model and the view is in the correct format and appropriately sanitized.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Controller

- Additionally, the controller in ASP.NET MVC can also handle other tasks, such as authentication, authorization, and caching, making it a versatile component of the pattern. Ultimately, the controller is an essential part of the Model-View-Controller pattern, responsible for managing the flow and logic of the application.

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

UNDERSTANDING CONTROLLER

- In the context of code, a controller in ASP.NET MVC is typically implemented as a class that inherits from the Controller base class. The controller contains action methods that handle incoming HTTP requests and return an appropriate HTTP response. This is where the more complicated code is executed.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding Controller

```
0 references
public IActionResult Index()
{
    // GET: Member
    List<MemberModel> members = new List<MemberModel>
    {
        // Add some sample data
        new MemberModel { Id = 1, Name = "John Doe", Email = "johndoe@example.com", Birthdate =
          new DateTime(1990, 1, 1) },
        new MemberModel { Id = 2, Name = "Jane Smith", Email = "janesmith@example.com", Birthdate
           = new DateTime(1995, 2, 14) },
        new MemberModel { Id = 3, Name = "Bob Johnson", Email = "bjohnson@example.com", Birthdate
           = new DateTime(1985, 5, 22) }
    };
    return View(members);
}
```

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding View

- In MVC, the "view" is like a customer at a restaurant who interacts with the server to place an order and receive food. Similarly, the "view" in MVC displays the application's data to the user in a way that is easy to understand and interact with. The "view" is the user interface, such as the buttons and text fields you see on a website or app, and it's where the user interacts with the application to access its functionality and receive data.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding View

- In the same way that a customer can place an order or request a specific item from the menu, a user can interact with the view to access specific features or request specific data from the application. The view then communicates with the controller to retrieve the necessary data and perform the required actions.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding View

- In the context of a web application using MVC, the view is typically implemented using HTML, CSS, and JavaScript, and is responsible for presenting the application's data to the user in a user-friendly format. The view is also responsible for handling user input and transmitting it back to the controller for processing. For example, if a user fills out a form on a web page, the view would capture the user's input and send it to the controller for validation and processing.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding View

- Another way to get a view in ASP.NET is by using Razor View.
- Razor View is a tool used in ASP.NET Core to create web pages that display data in a dynamic way. It works by combining HTML markup with C# or Visual Basic code to create dynamic content that is sent to the user's web browser.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding View

```
@model IEnumerable<Club.Models.MemberModel>

@{
    ViewData["Title"] = "Index";
}

<h1>Index</h1>

<p>
    <a asp-action="Create">Create New</a>
</p>
<table class="table">
    <thead>
        <tr>
            <th>
                @Html.DisplayNameFor(model => model.Id)
            </th>
            <th>
                @Html.DisplayNameFor(model => model.Name)
            </th>
            <th>
                @Html.DisplayNameFor(model => model.Email)
            </th>
            <th>
                @Html.DisplayNameFor(model => model.Birthdate)
```

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding MVC

- Putting it all together: Let's say a user wants to view a list of products on an e-commerce website. They would navigate to a specific URL, which would trigger the corresponding controller action to handle that request. The controller would then fetch the necessary data from the model, format that data as needed, and pass it to the view to be rendered as HTML that can be displayed in the user's browser.
- Similarly, if the user wants to submit a form with new product information, the controller would receive that form data, validate it, and then use the model to update the database with the new product information.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Understanding MVC

- So, to sum it up: the Model-View-Controller pattern is like managing a restaurant. The chef is the model, the server is the controller, and the customer is the view. In ASP.NET MVC, the model stores and retrieves data, the controller manages the flow of the application, and the view presents the data to the user.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

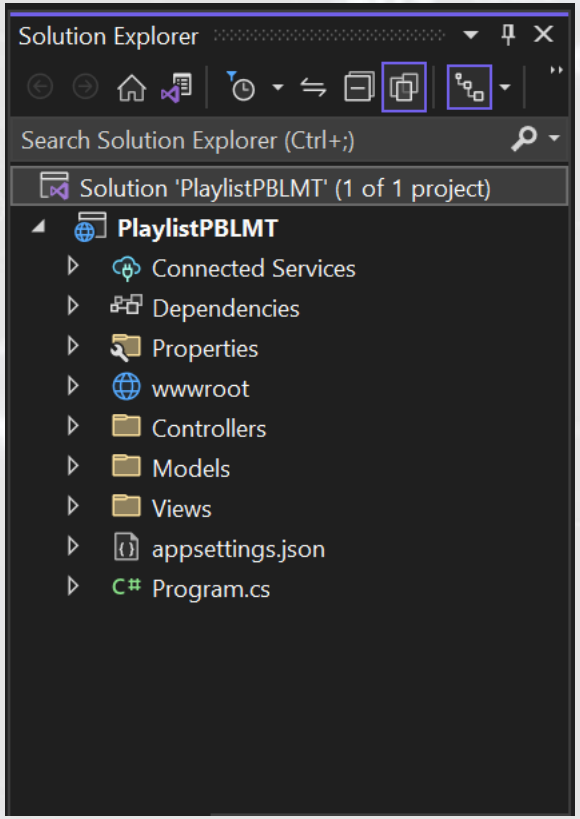
Folders

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Folders

- The main folders we will be working with in our project are:
  1. Controllers
  2. Models
  3. Views

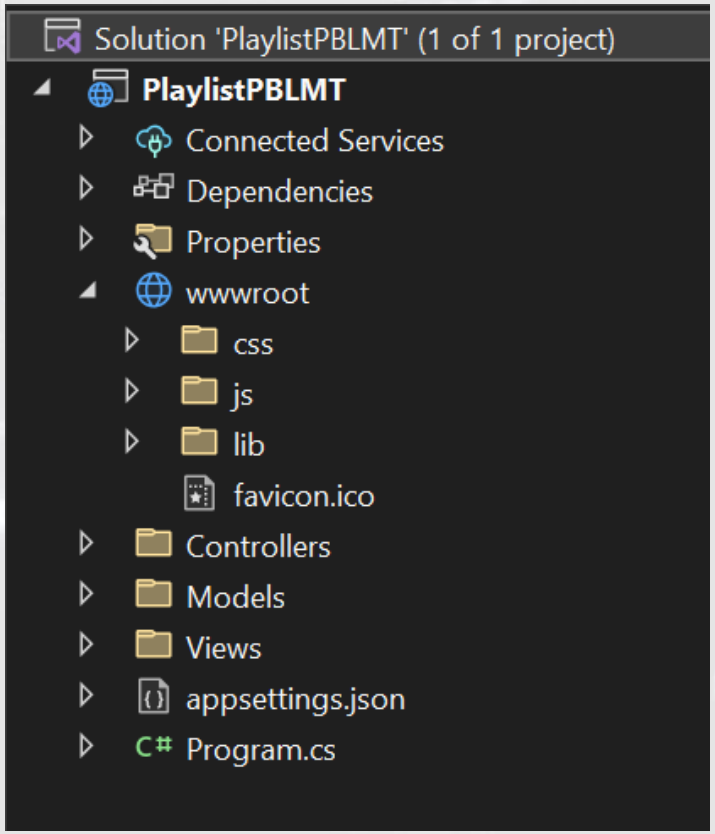


Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Folders

- Some others that have use are:
  1. wwwroot which contains css, js, lib.
     - Lib is the library for things like bootstrap and jQuery
  2. Properties, which contains a json file to help launch our application



Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

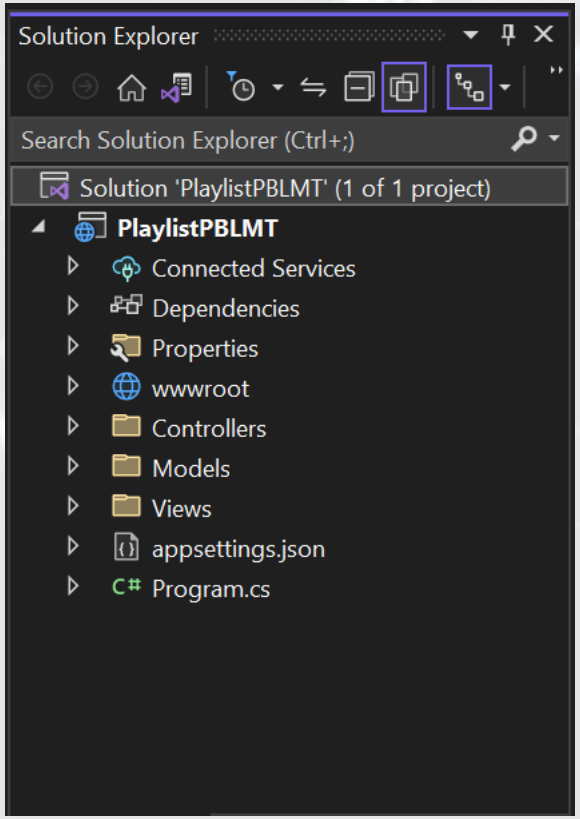
Files

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Files

- The Program.cs file in an ASP.NET project is the entry point for the application. It contains the Main method, which sets up the host and starts the web application.



Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Making The MVC

INSTITUTE OF
TECHNOLOGY
DEVELOPMENT
OF CANADA

475 GRANVILLE STREET, VANCOUVER, BC, V6C 1T1
PHONE: +1(604)558-8727, +1(604)409-8200
TOLL FREE: +1(888) 880-4410
FAX: +1(888) 881-6545
WEB: WWW.ITDCANADA.CA
EMAIL: STUDYING@ITDCANADA.CA

MAKING MVC

1. Define the Model: This involves designing the data and business logic of your application in the form of Model classes.
2. Set up the database: This involves mapping the Model to the database schema and creating the necessary tables and columns.
3. Create the Controller: This involves creating the Controller classes that handle requests and manage the flow of data between the Model and View components.
4. Implement the Views: This involves creating the View templates that render the data and user interface of your application.

Institute of
Technology
Development
of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Making The Model

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Making Model

- In the Model folder Right click > Add > New Item:

1. Add a new class for the Song table. Define the properties for the Song object; int SongId, string Title, string Artist, int Duration, Playlist Playlists.

2. Add a new class for the Playlist table. Define the properties for the Playlist object; int PlaylistId, string Name, ICollection<Song> Songs.

Institute of Technology Development of Canada

475 Granville Street, Vancouver, BC, V6C 1T1
Phone: +1(604)558-8727, +1(604)409-8200
Toll Free: +1(888) 880-4410
Fax: +1(888) 881-6545
Web: www.itdcanada.ca
Email: studying@itdcanada.ca

Making Model

```
namespace PlaylistPBLMT.Models
{
    1 reference
    public class Song
    {
        0 references
        public int SongId { get; set; }
        0 references
        public string Title { get; set; }
        0 references
        public string Artist { get; set; }
        0 references
        public int Duration { get; set; }
        0 references
        public Playlist Playlists { get; set; }
    }
}
```

```
namespace PlaylistPBLMT.Models
{
    1 reference
    public class Playlist
    {
        0 references
        public int PlaylistId { get; set; }
        0 references
        public string Name { get; set; }
        0 references
        public ICollection<Song> Songs { get; set; }
    }
}
```