# .Net Foundation (week 1 – 5)

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| **Week** | **Work done** |
| 1 | -Morning Orientation with management  -RDBMS intro |
| -Introduction to .Net Introduction to C# |
| -OOPS Inheritance, polymorphism, Interface and Abstract classes |
| -Strings, StringBuilder, Handling Errors and Exceptions in C# |
| -Exceptions, DateTime Enum LinkedIn E-learning |
| **Weekend Certification :**  Career Essentials in Generative AI by Microsoft and LinkedIn  Top skills covered : Computer Ethics, Artificial Intelligence, Generative AI |
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| 2 | -Module Test Arrays and Collections |
| -Dictionary, Generic Collections, GetHashCode(), Method Parameters, Inner Classes, Assignments, Delegates |
| -Lambdas, and Events Introduction to Threading and in C# |
| -Tasks, File I/O, Stream Management and Serialization in C# |
| -Understanding Memory Management in C# Working with Libraries, Assemblies, NuGet |
| **Weekend Certification:**  Foundational C# With Microsoft Developer Certification |
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| 3 | -Microsoft Certification Test, First test Corrections Introduction to ASP.NET Core, Setting up ASP.NET Core Project |
| -ASP.Net MVC, Routing, Controllers, and Actions, Views, Razor page Syntax, Model Binding and Validation |
| -SQL Server - TSQL |
| -Entity Framework Core- Introduction to Entity Framework Core, Setting up Entity Framework Core |
| -Entity Framework Core - Creating Models and Database Context, Querying Data, Relationships and Navigation Properties |
| **Weekend Certifications:** GS Lab | GAVS LMS compliance course |
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| 4 | -Module Test |
| -Introduction to Web API |
| -Creating Web API Project HTTP Methods and Controllers Testing Web API with Postman |
| -HTML Helper Classes, and Advanced Razor |
| -SQL Server - Joins, SP, Views, Functions |
| -Assignment - MVC Online Session Create repository For Customer GetAllCustomerID -> List<int> FindCustomerByID -> Customer GetCustomerOrders -> List<Order> Create Customer Controller Show all Customer Name in DropdownList Show the selected Customer in a Detail View with all Orders of the Customer as Partial View Upload RepositoryCustomer.cs, CustomerController.cs and the View as a zip file in folder <CustomerMVC> Add your Name and ID in the zip file |
| 5 | **Weekend Certifications:** GS Lab | GAVS LMS compliance course |
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| -Intro to GIT - Installing Git Configuring Git (username, email) git init, git add, git commit |
| -git status, git log git branch, git checkout, git merge git remote, git clone, git pull, git push --Working with others on GitHub Resolve merge conflicts Commit messages, branching -----strategies Case studies of Git in real-world projects |
| -Buffer day - Module Test |
| **Weekend Certifications:** GS Lab | GAVS LMS compliance course |
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# Web-Development (Week 5 -10)

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| Week | Topic | Sub Topic |
| 1 | Introduction to Web | -What is the web?  -Importance of HTML  -Introduction to HTML  - Basic concepts (tags, elements, attributes)  - HTML Document Structure  - Basic HTML Tags  -HTML Forms |
| HTML Tables | -Creating tables with HTML  -HTML Semantics  -Multimedia in HTML  -HTML5 Features  -HTML Validation  -Responsive Design  -Practical Use Cases |
| Introduction to CSS5 | -Overview of CSS5 and its evolution  -Basics of CSS5  -Box Model & Layout  -Responsive Design |
| 2      2 | Advanced Layout & Visual Effects | -Grid layout, Shadows, Blending, Filters  -Transitions, Animations & Motion Graphics  -Cross Browser Compatibility  -Practice Work & Review |
| Introduction to JavaScript | -Overview of JavaScript, History, and Evolution  -Basics of JavaScript  -Control Flow |
| Functions and Scope | -Declaring Functions, Function Expressions, Scope and Closures  -Objects and Arrays  -DOM Manipulation |
| 3 | Advanced JavaScript Concepts | -Prototypes, Promises, Async/Await  -Error Handling  -ES6+ Features |
| Fetch API, FAST API, Local Storage      Introduction to ReactJS | -Web APIs  -Project Work & Review    -What is ReactJS, Why Use ReactJS, Setting up the Development Environment  -React Basics |
| State and Lifecycle | -Understanding State, Handling State with use State Hook, Class Component State, Component -Lifecycle Methods |
| Handling Events and Forms |
|  | - Understand the role of Express.js in web development.  - Learn about the basics of Node.js as a runtime environment.  - Set up a basic Express.js application.  - Handle routes and requests using Express.js. |
| Middleware and Routing in Express.js | - Learn about middleware functions in Express.js.  - Implement custom middleware for request handling.  - Understand routing and create RESTful APIs with Express.js. |
| Templating Engines and Views in Express.js | - Introduce templating engines like EJS or Pug.  - Set up views and dynamic rendering in Express.js.  - Learn about layout and partials in templating engines. |
| 4 | Database Integration with Express.js | - Connect and interact with databases (e.g. MySQL) in Express.js.  - Implement CRUD operations with database models.  - Handle data validation and error handling. |
| User Authentication and Authorization | - Implement user authentication using middleware like Passport.js.  - Set up role-based access control for routes.  - Understand security best practices for user authentication. |
| Introduction to Angular 14 | -Overview of Angular 16, Setup and Installation  -Angular 16 Components  -Angular 16 Directives  -Angular 16 Services  -Routing and Navigation |
| Forms | -Template-driven Forms, Reactive Forms |
| Internationalization | -Implementing Internationalization |
| -Service Workers & PWA |
| Web Workers | -Understanding Web Workers, Implementing Web Workers |
| -Server-side Rendering |
| -Prerendering |
| 5 | Final Project & Review | -Building a Simple Angular App using Concepts Learned |
| MongoDB | -Installation , setup of MongoDB ,  Working MongoDB commands , -connecting MongoDB with Express, -access MongoDB through angular. |
| Revision Class  Styling and CSS & Data Fetching | -Inline Styles, CSS Modules, Styled Components  Routing , Advanced Concepts , Hooks |
| - Fetch API, Axios, Handling Loading State  Deployment  -Final Project & Review |