

# NuGet Package Manager

# Introduction to NuGet Package Manager

- The NuGet package is a zip file that contains the codebase required to integrate an additional feature or functionality in the .NET application.
- Mainly, NuGet packages come with a “.nupkg” extension.
- When you open any of the .nupkg files, it contains the following three components:
  - DLLs (Compiled Code)
  - The code’s descriptive manifest
  - Files associated with DLLs

# NuGet Ecosystem

- **NuGet Package Manager:** Central tool for managing .NET packages.
- **NuGet Gallery:** Centralized repository for publishing and discovering packages.
- **Package Authors:** Developers who create and publish NuGet packages.
- **Consuming Projects:** Applications or libraries that use NuGet packages.
- **Package Consumers:** Developers who utilize NuGet packages in their projects.
- **NuGet CLI:** Command-line interface for package management tasks.
- **Visual Studio Integration:** Seamless integration for managing packages within Visual Studio.
- **Community Collaboration:** Platform for sharing, contributing, and supporting packages within the .NET community.

# Benefits of NuGet Package Manager

- **Efficient Dependency Management:** Simplifies dependency resolution and installation, saving time.
- **Time Savings:** Offers pre-built components for quick integration, reducing development time.
- **Version Control Integration:** Seamlessly integrates with Git, facilitating package management alongside source code.
- **Visual Studio Integration:** Provides a user-friendly interface within Visual Studio for easy package management.
- **Cross-Platform Compatibility:** Supports .NET Framework, .NET Core, and .NET 5/6 for versatile development.
- **Community Collaboration:** Facilitates sharing and contribution within the .NET community through the NuGet Gallery.
- **Flexible Installation Options:** Offers multiple installation methods to accommodate different workflows.
- **Package Restoration:** Automatically downloads missing packages, keeping project files lightweight.

# NuGet Packages Workflow

