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هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي على اقل من 20٪ مما يتم شرحه في الفيديوهات الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات وخبرات كثيره

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Key Differences Between Windows Services & Worker Services



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***WINDOWS
SERVICES***

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What is a .NET Core/5/6+ Worker Service?

- Worker Services are the modern way to build long-running background tasks in .NET Core/5/6+.
- They are cross-platform and designed to run not just as Windows Services but also as Linux daemons, containerized services, and cloud-based tasks.

Key Features:

- Cross-platform (Windows, Linux, macOS).
- Implemented by inheriting from BackgroundService or implementing IHostedService.
- Part of the Generic Host (IHost), providing dependency injection and logging.
- Can run as console apps, Linux daemons, or Windows Services.

Key Differences Between Windows Services and Worker Services:


Feature	.NET Framework Windows Service	.NET Core/5/6+ Worker Service
Platform	Windows-only	Cross-platform (Windows, Linux, macOS)
Implementation	Inherit from <code>ServiceBase</code>	Inherit from <code>BackgroundService</code>
Startup/Stop Events	<code>OnStart</code> , <code>OnStop</code> , <code>OnPause</code> , <code>OnContinue</code>	<code>StartAsync</code> , <code>StopAsync</code> , <code>ExecuteAsync</code>
Deployment	Requires <code>InstallUtil.exe</code> or MSI installers	Deploy with <code>sc create</code> or PowerShell
Service Control	Managed by SCM	Managed by Generic Host or SCM
Dependency Injection (DI)	Not natively supported	Fully supported via <code>IHost</code>
Logging	Custom implementation	Built-in logging (ILogger, Serilog, etc.)
Configuration	<code>App.config</code> (XML-based, static)	<code>appsettings.json</code> (JSON-based, dynamic)
Project Type/Template	Windows Service Application	Worker Service Template
Lifecycle Methods	<code>OnStart</code> , <code>OnStop</code>	<code>StartAsync</code> , <code>ExecuteAsync</code> , <code>StopAsync</code>
Installation	Requires <code>ProjectInstaller</code>	Use <code>sc create</code> or <code>New-Service</code> in PowerShell
Cross-Platform	No	Yes
Containerization	Not supported	Supports Docker and Kubernetes
Shutdown Handling	Requires <code>OnShutdown</code>	Uses <code>StopAsync</code> and <code>CancellationToken</code>
Performance	Higher memory footprint and slower startup	Lightweight, faster startup, and lower memory usage
Use Cases	Windows-specific services	Cloud services, containerized apps, background tasks

Example:

```
public class Worker : BackgroundService
{
    // 1. StartAsync - Triggered when the service starts
    public override async Task StartAsync(CancellationToken cancellationToken)
    {
        Console.WriteLine("Service Starting...");
        await base.StartAsync(cancellationToken);
    }

    // 2. StopAsync - Triggered when the service stops
    public override async Task StopAsync(CancellationToken cancellationToken)
    {
        Console.WriteLine("Service Stopping...");
        await base.StopAsync(cancellationToken);
    }

    // 3. ExecuteAsync - Runs the main background task logic
    protected override async Task ExecuteAsync(CancellationToken stoppingToken)
    {
        while (!stoppingToken.IsCancellationRequested)
        {
            Console.WriteLine("Service running...");
            await Task.Delay(1000, stoppingToken); // Run task every 1 second
        }
    }
}
```





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Thank You

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