

Creating and running a C# program

Projects

- Before we can write code in C# we must create a project.
 - Each project will be in its own directory.
 - We should create these projects in an organized parent folder such as `sdg` in our *home* directory
- .NET provides a tool for creating new projects!

Introducing dotnet new

- This command creates new projects from a **template**
- Includes starter code for us!
- We'll be using it **A LOT**

Let's make our first C# project together!



Being in the right place at the right time

- In your shell change to the directory where you are going to keep your projects.
- Good options:
 - **sdg** directory in home folder
 - **sdg** directory on your desktop
 - **sdg** directory in your Documents folder
 - Or name the directory code, school or dev; but do keep all your projects together in a folder.

Example:

cd sdg

Create our app!

- Use the dotnet tool to create our application

```
dotnet new sdg-console -o OurDotnetApp
```

What does this do?

| | | | | | |
|---|---------|--------|-------------|--------|--------------|
| # | command | action | template | output | project-name |
| # | | | | | |
| # | v | v | v | v | v |
| | dotnet | new | sdg-console | -o | OurDotnetApp |

Where is our project?

We need to *change directory* into the newly created directory

```
cd OurDotnetApp
```

Open our project in our editor!

Now we can open our project in our editor!

code .

Let's take a look around



`dotnet new` **creates initial files for us**

Let's see what files appear in our folder.

```
|— Program.cs  
└— OurDotnetApp.csproj
```

We may also see an **obj** folder but we will ignore that for a moment.

Run the code

The template `Program.cs` prints out the phrase `Welcome to C#`.

To get `dotnet` to run our program and see if the phrase appears on our screen we will use the **`dotnet run`** command.

```
dotnet run
```

Output

We should see the following output on the screen if everything is correct:

```
Welcome to C#
```

Now as we change our code and add more functionality we can return to our terminal/Powershell and run `dotnet run` again to see our new code in action.

Run our code automatically

We can also use the **dotnet** command to keep track of our code and run it every time we save our code!

```
dotnet watch run
```

```
dotnet watch run  
watch : Started  
Welcome to C#  
watch : Exited  
watch : Waiting for a file to change before restarting dotnet...
```