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# Mono Basics

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After you get Mono installed, it's probably a good idea to run a quick Hello World program to make sure everything is set up properly. That way you'll know that your Mono is working before you try writing or running a more complex application.

## Console Hello World

To test the most basic functionality available, copy the following code into a file called hello.cs.

```
using System;

public class HelloWorld
{
    static public void Main ()
    {
        Console.WriteLine ("Hello Mono World");
    }
}
```

To compile, use csc:

```
csc hello.cs
```

The compiler will create “hello.exe”, which you can run using:

```
mono hello.exe
```

The program should run and output:

```
Hello Mono World
```

## HTTPS connections

To make sure HTTPS connections work, download and run the [tlstest \(https://raw.githubusercontent.com/mono/mono/master/mcs/class/Mono.Security/Test/tools/tlstest/tlstest.cs\)](https://raw.githubusercontent.com/mono/mono/master/mcs/class/Mono.Security/Test/tools/tlstest/tlstest.cs) tool (needs Mono >= 3.4.0).

```
csc t1stest.cs -r:System.dll
mono t1stest.exe https://www.nuget.org
```

The program prints an error if something is wrong.

## WinForms Hello World

The following program tests writing a System.Windows.Forms application.

```
using System;
using System.Windows.Forms;

public class HelloWorld : Form
{
    static public void Main ()
    {
        Application.Run (new HelloWorld ());
    }

    public HelloWorld ()
    {
        Text = "Hello Mono World";
    }
}
```

To compile, use csc with the -r option to tell the compiler to pull in the WinForms libraries:

```
csc hello.cs -r:System.Windows.Forms.dll
```

The compiler will create “hello.exe”, which you can run using:

```
mono hello.exe
```

NOTE: on macOS you’ll have to wait around a minute the very first time you run this command. You also need to use `mono32` since WinForms isn’t supported on 64bit yet.

## ASP.NET Hello World

Create a text file with the name hello.aspx and the content:

```
<%@ Page Language="C#" %>
<html>
<head>
  <title>Sample Calendar</title>
</head>
<asp:calendar showtitle="true" runat="server">
</asp:calendar>
```

Then run the xsp4 command from that directory:

```
xsp4 --port 9000
```

Use a web browser to contact <http://localhost:9000/hello.aspx> (<http://localhost:9000/hello.aspx>)

## Gtk# Hello World

The following program tests writing a Gtk# application.

```
using Gtk;
using System;

class Hello
{
  static void Main ()
  {
    Application.Init ();

    Window window = new Window ("Hello Mono World");
    window.Show ();

    Application.Run ();
  }
}
```

To compile, use mcs with the -pkg option to tell the compiler to pull in the Gtk# libraries (note that Gtk# must be installed on your system for this to work):

```
mcs hello.cs -pkg:gtk-sharp-2.0
```

The compiler will create “hello.exe”, which you can run using:

```
mono hello.exe
```

