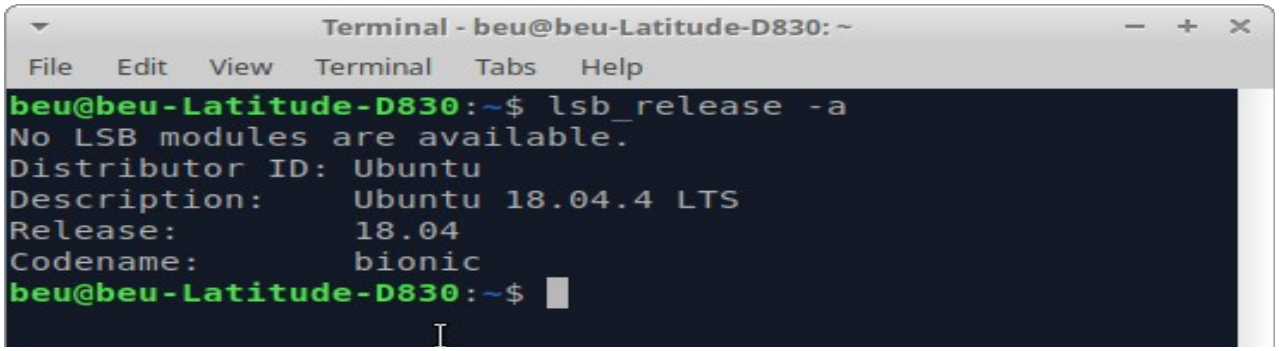
ASP - LbD

1. **Identifying and installing the required software/platform to run the asp.net programs.**

ASP.NET is an open source web framework for building fast and secure web apps and services. ASP.NET Core is a newer version of ASP.NET and it is also an open-source used to develop a web framework. Though .NET Core is compatible with multiple platforms like Windows, Linux, and macOS, it is not a better substitution of .NET framework.



Since I am using Ubuntu Linux 18.04, I chose **Mono** to run my ASP.NET C# Code. Why because, Mono is an open implementation of Microsoft's .NET framework and it also includes compilers for C#.NET and VB.NET. Moreover, it uses the same development libraries on Linux that exist on Windows.

STEPS TO INSTALL MONO

Step 1: Installing neccesary package using the following commands.

```
sudo apt update
sudo apt install gnupg ca-certificates
```

Step 2: Next we need to access the keyserver. And this can be done using apt-key command.

```
sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys 3FA7E0328081BFF6A14DA29AA6A19B38D3D831EF
```

Step 3: Adding the Mono package repository. This can be done using the following command.

```
echo "deb https://download.mono-project.com/repo/ubuntu stable-focal main" | sudo tee /etc/apt/sources.list.d/mono-official-stable.list
```

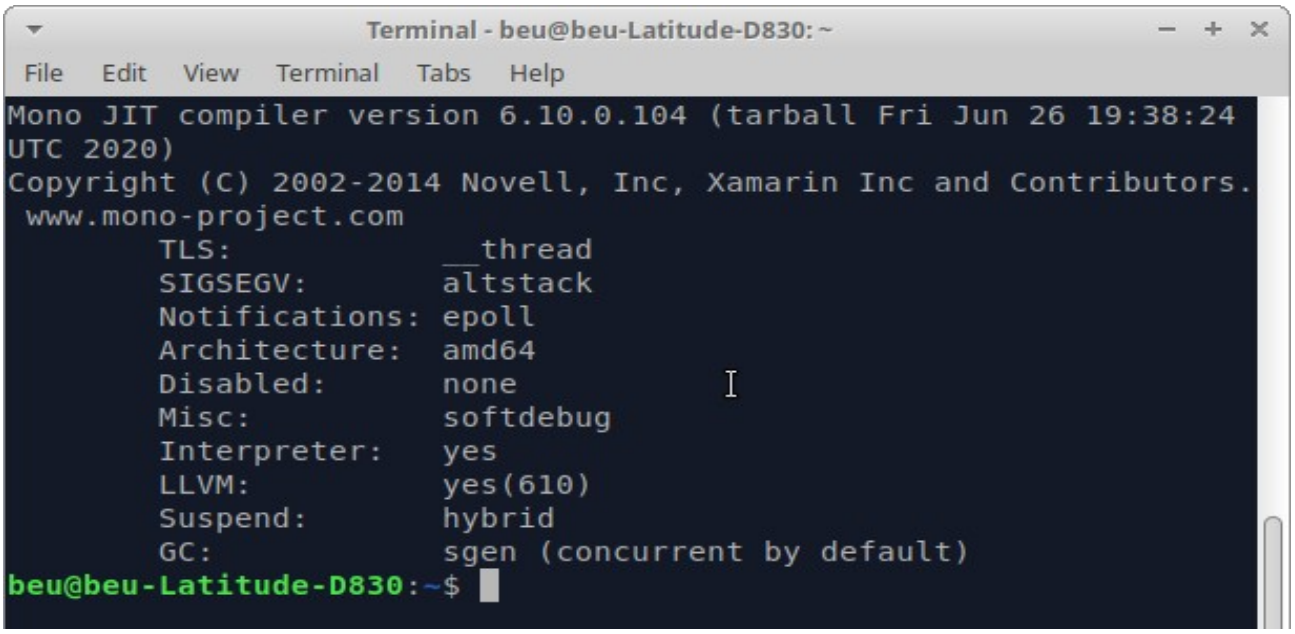
Step 3 produces the output **deb https://download.mono-project.com/repo/ubuntu stable-bionic main.**
So I need create a file in the folder **/etc/apt/sources.list.d** named **mono-official-stable.list** and copy-paste the above line of deb into it.
This actually refers that we have a Debian archive which is based on "**https://download.mono-project.com/repo/ubuntu**" and the suite is "stable" and the components are "bionic" and "main".

Step 4: Once the apt repository is enabled we need to update the packages list and install Mono. For this the following command can be used.

```
sudo apt update
sudo apt install mono-devel
```

By doing all these, the package **mono-devel** is installed to the compile code and also the package **mono-xsp4** for running ASP.NET applications has installed along with some other packages like **mono-complete**, **mono-dbg** and **ca-certificates-mono.**

Step 5: Mono packages were installed, we can verify it by giving **mono --version** command.



2. **Write a simple ASP.NET program to display the following Web Controls:**
   a) A button with text "HI". The button control must be in the center of the form.
   b) A label with a text hello The form name must be Web Controls

```
<%@ Page Language="C#" %>

<!DOCTYPE html>

<script runat="server">
   protected void Button_Click(object sender, System.EventArgs e)
   {
      Label1.Text = "Hello";
   }
</script>

<style>
    div.center {
          height: 10em;
          margin: 0;
          position: absolute;
          top: 50%;
          left: 50%;
          margin-right: -50%;
          transform: translate(-50%, -50%) }
</style>

<html xmlns="http://www.w3.org/1999/xhtml">
       <head runat="server">
       </head>
       <body>
          <form id="form1" runat="server">
          <div class=center>
               <asp:Label ID="Label1" runat="server"/>

               <asp:Button ID="Button1" runat="server" Text="HI"
OnClick="Button_Click"/>
          </div>
          </form>
       </body>
</html>
```

In this code, I have created a 'hi button' and a 'label control'. This hi button has onclick event and I also provided a click event handler. So when we click the hi button, the click event raise and after that the label control displays 'hello'.

OUTPUT:

In order to run ASP.NET code, we need to start **xsp server** within the directory of where we saved the program file. Here I saved my file 'WebControl.aspx' inside the folder 'asp' and it serves the resquest on the port 9000.