The LaunchPad connects PB6 to PD0, and PB7 to PD1. If you wish to use both PB6 and PD0 you will need to remove the R9 resistor. Similarly, to use both PB7 and PD1 remove the R10 resistor. The shorting resistors R9 and R10 were added to make some MSP430 booster packs compatible with this LaunchPad. I remove this resistors if I need to use both PB7,PB6 and PD1,PD0. The following video shows me removing the resistors. The resistors are small, so if you get them hot with the soldering iron, they will fall right off.

REMOVING R9 AND R10

0:00 / 1:33 1.0x

PROFESSOR JONATHAN VALVANO: In this video,

I'm going to show you how to remove R9 and R10.

These two resistors jumper a pin between port D and port B,

and if we want to use both of those pins,

we've got to get those resistors off.

So I've got a soldering iron, and I'm going to heat up both sides.

Let's make hotter.

Let's go a little higher.

See if this works.

Whoa, it's off.

JUSTIN OXFORD: You all right?

PROFESSOR JONATHAN VALVANO: It's off.

It's on.

So the audio wasn't real good, but let me try it again.

There goes R10.

So to get the resistors off, I'm going to use a soldering iron, one's enough.

And the key will be the heat up both sides.

So I'm going to heat up one side until I see the solder flow,

and then I'll heat up the other side until I see the solder flow.

They're pretty small resistors, so they will come off.

And there we go.

R9 is off.

So to repeat, to get it off, I use a soldering iron.

I heat one side until it's hot and I see the solder flowing,

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After this course is over, you will want to make new projects. The simplest way to make a new project is to modify an existing project. First select an existing project most like the one you wish to create. There are a lot of projects as part of the TExaS installation. However, you can find even more example projects at http://users.ece.utexas.edu/~valvano/arm/ (http://users.ece.utexas.edu/~valvano/arm/) Any project with 4F120 in the name will run on the LaunchPad. This next video demonstrates how to create a new project from an existing one.

CREATE A NEW PROJECT FROM AN EXISTING ONE

PROFESSOR JONATHAN VALVANO: Hi.

One way to create a new project is to derive it from an existing project.

So in this video, I will show you how to create a new project.

In this case, we're going to base it on SysTick.

So the first step is to make a copy of the

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directory.

Copy.

Paste.

So I just created this copy.

I'm going to give it a name.

Whatever name you want to give it.

That's fine.

Where'd it go?

There it is.

The next step is to change the name of these 2 files (UVOPT and UVPROJ),

so I'm just going to call it "Example.uvproj",

but you could give it anything that makes sense.

Anything that reminds you what it's for.

Get that one (UVPROJ) and this one (UVOPT).

These are the two files that represent the project.

So I just renamed those two files.

You saw that.

These two files here (UVOPT and UVPROJ).

So I'm going to go ahead and open it up.

One of the first steps I'd like to do when I create a new project

is to clean the old stuff off, so I'll clean it.

That gets rid of the output files.

The next step is to make a couple of changes.

So here in the output tab, I will call this whatever I want.

This will be the name of the executable.

Over here in this one, I can give the name of the project.

Now they don't all have to be the same, but I'm going to change it.

So I've just made 2 changes.

I will build it to make sure that it still builds.

And I will clean it.

Let's say I want to change some names of some files.

So this test main-- I'm going to rename this test main to be "Example."

And I'll do a Save As.

So for any file that you'd like to change

the name of it, you do that.

So I've changed the name of the file.

Now I got to rebuild the source code.

I get rid of the old one.

Delete that one.

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And add the one that I just made.

Add existing files.

"ExampleMain.c" made right there.

Okay, close.

Again, after I make a change, I'll make sure it still compiles.

It builds.

And assuming I'm done with changing the names,

the next step is to clean up all the junk I don't need.

So I will clean.

I go back to the "Example" directory and then

I look for files that I don't need any more.

I don't need this one anymore.

I don't need that one anymore.

Because they're the old SysTick test main.

So I delete those.

This is the old file from the old project name.

I don't need that.

These are the old examples.

I don't need that.

Again to there's a halfway through-- That one SysTick I don't need.

Open it back up.

Make sure it compiles again just to make sure I didn't throw away

too much stuff.

Build again.

There we go, and then we debug.

As you can see, I didn't change any the code.

Use the Logic Analyzer.

Set it up.

Look, it's already got something there.

OK, run.

There we go.

Still runs just like it did before.

That's how to create a new project based

on an old project.

Again, the first step was to make a copy of the directory.

The second step was to change these 2 files

to the new project name (UVOPT and UVPROJ).

Inside of the project, I went to the options.

And I change the output target.

Right there.

The output file.

And then in this one here, the file extensions,

I changed the name of the project target.

And then for each of the files I wanted to change the name, I changed its name.

And then added it and rebuilt the directory as needed.

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In this next video I make a new project from scratch. These steps will vary depending on the compiler version. This video was made with Keil uVision version 4.73. There is a feature in Keil we have not used, but you will notice it when creating new projects from scratch. Keil defines a function named **SystemInit()**. You define this function and it gets called immediately after reset and before main is called.

Again, my favorite way to create new projects is to use an existing project as shown in the previous video.

NEW PROJECT FROM SCRATCH

PROFESSOR JONATHAN VALVANO: Hi, let me show you

how to create a new project from scratch.

Execute project, New Project.

I need to find a place to put it, here, I'm going to find a place to put it.

Let's make a new folder.

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We're going to put it in here, let's make it NewFun Thing.

So my new project is going to be here in this folder here.

Put it in there.

And then we'll give it a name, MyProject.

You can give it whatever name you want so you can remember what it does.

This is where it is, and that's the name of the project.

Save.

This is an important step because, as you can see,

there's a lot of microcontrollers out there made

by lots of different companies, and they're all very nice.

The one that I have is a Texas Instruments, TM4C,

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