Putting it All Together: Installing The Processor

Now that we've learned what the computer components are and how they work, we're going to assemble our very own computer, a full-sized desktop. Computers are incredibly fundamental to the work of an IT support specialist. They're used in pretty much every aspect of the job. Aside from work, knowing how to build a computer might inspire you to try all kinds of cool stuff. You could custom build a gaming rig to play the most advanced game at the highest settings, or like me, make a home media server for all your photos and videos. Knowing how to build a computer is a skill that can be useful in lots of interesting ways. Before we get started, let's lay down some ground rules for this ground-up build. Sorry, I couldn't help myself. We should think about electrostatic discharge and try to prevent unwanted static from harming our very expensive components. Have you ever rubbed your socks on a carpet then accidentally zap someone? That's pretty harmless. But if you do that to your new motherboard, you could completely destroy it. How do we prevent static discharge? We can go about this in two ways. You can touch an electrical device that's plugged in but not powered on. Fyi, you should do this every couple of minutes when assembling a new computer. Another option is to wear an anti-static wristband, like the one I have here. Let me get it.

You connect the end of the clip to a non painted metal service like your computer and then you strap it on to your hands, and you're done. While we're on the subject of anti-static safety, I want to call out that when you buy computer parts, they'll come in anti-static bags to prevent accidental static electricity. Be sure to keep them inside the bags until you need to install them on your computer. Now, let's get making this computer. We'll start by laying down the foundation of our computer. The motherboard. Remember, there are lots of different form factors for motherboards and you want to make sure the one new purchase fits your computer case. We purchased a full-sized desktop case and have a full sized ATX motherboard. The motherboard, there are lots of screw holes which coincide with the holes in the desktop case too. You want to match up the holes on the motherboard to the holes on the desktop. Once you figure out which holes to use, screw in the standoffs. Standoffs are used to raise and attach your motherboard to the case. In this instance, our case has built-in standoffs. Let's start

by adding our components in. We'll start with the CPU. Let's take that out of our anti-static bag. You want to be very careful with these because they're very expensive and you don't want to drop them.

Once we've taken out the bag, let's lineup the CPU with the motherboard socket. Something to note is this marker right here. This has to align with the CPU socket on the motherboard. Also,

don't forget to make sure you get compatible CPUs that fit your motherboard. We have the LGA CPU in the LGA compatible motherboard socket. Let's go ahead and align the correct orientation of the CPU and secure it in place like this.

Like I mentioned before, you want to make sure that the pointers on the CPU and the socket are aligned. The easy part is putting a CPU in, the fun part is securing this. Just note that when you secure the CPU in the socket, you do need to use a bit of force so it's tightly secured in.

Perfect. Now the CPU is secured in the socket. Now that our CPU is in place, we need to add our heat sink on top of it. The heat sink is used to dissipate heat from our CPU. I'll show you some cool things. This part right here, this is what our CPU relies on to stay cool. It takes the heat from there and then uses this fan to blow it out. Before we attach the heat sink, we need to apply an even amount of thermal paste. Let me get that. This is the thermal paste. Thermal paste is used to better connect our CPU and heat sink, so the heat transfers from one to the other better. To get started, apply a dab of thermal paste and spread it evenly with a flat object. Let's do that on our CPU right here. The first thing that you want to do is slowly apply a slat dab on the CPU, like so.

Then with a flat object apply the thermal paste evenly throughout your CPU to go halfway right here, halfway right here, halfway right here, and then halfway right here.

Just make sure that it spread evenly throughout the CPU. You may have to do this multiple times to get this correct.

Once you have that in place, you're going to take your heat sink and then you're going to press it against the CPU. Something to note is these screws right here. They align with the CPU socket so they can guide you while you put the heat sink on.

Great. Once you have all four sockets aligned, go ahead and get your screwdriver and then tighten down the sockets.

One thing to do is to make sure that you screw opposite sides first so you know that the heat sink is attached securely.

One thing I like to do again is just to go over my screws to make sure everything is tightened securely.

Great. Now that our screws are tightly on and our heat sink is secured to the CPU, you have to plug this power cable to the motherboard. This is important because this is what controls the fan speed via the motherboard. Perfect. Now you've fully installed and connected your CPU to the motherboard.

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