

Aug 31st Lecture and Project Lombok Installation

Download and install Project Lombok. Project Lombok is a java library that automatically plugs into your editor and build tools, spicing up your java. Never write another getter or equals method again, with one annotation your class has a fully featured builder, Automate your logging variables, and much more.

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Project Lombok Installation

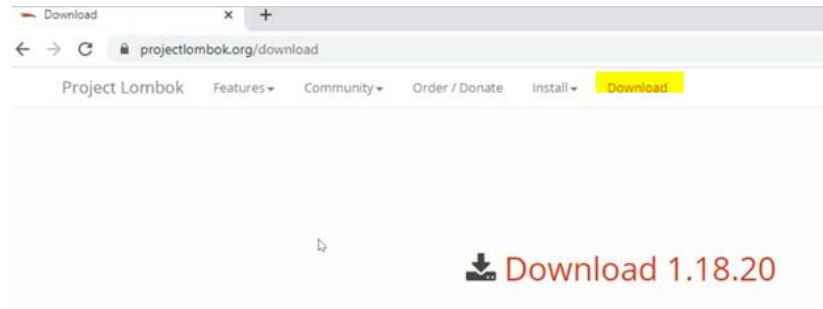
Download Lombok

Best to close Spring Tool Suite before the download and installation

Open the Lombok website in a browser

<https://projectlombok.org/download>

Download the current version

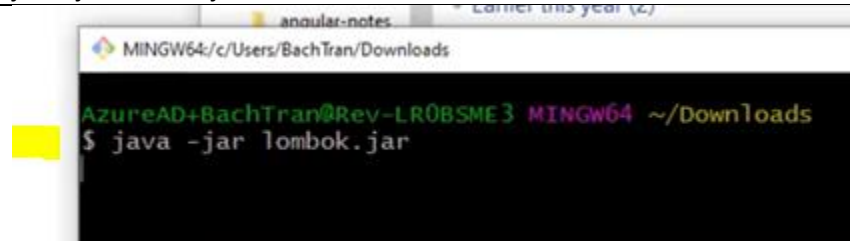


Extract the downloaded file

Open a Git Bash window where the Lombok file was downloaded

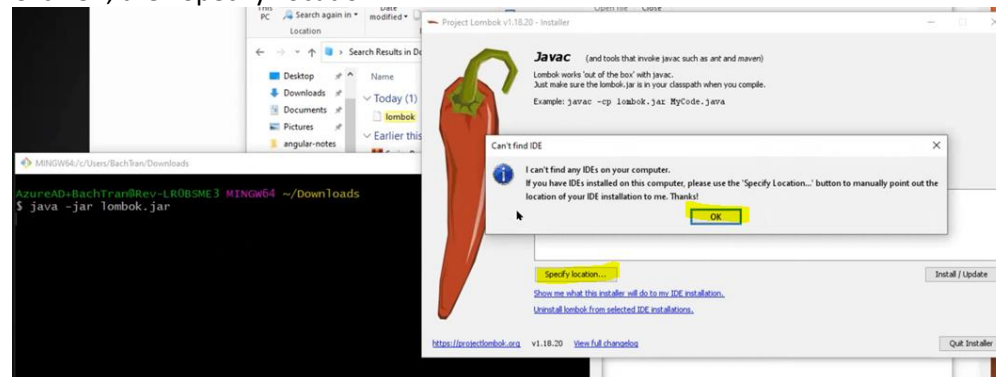
Type the command and press enter

`java -jar lombok.jar`



Can't find the IDE because SpringTool is a folder and not installed.

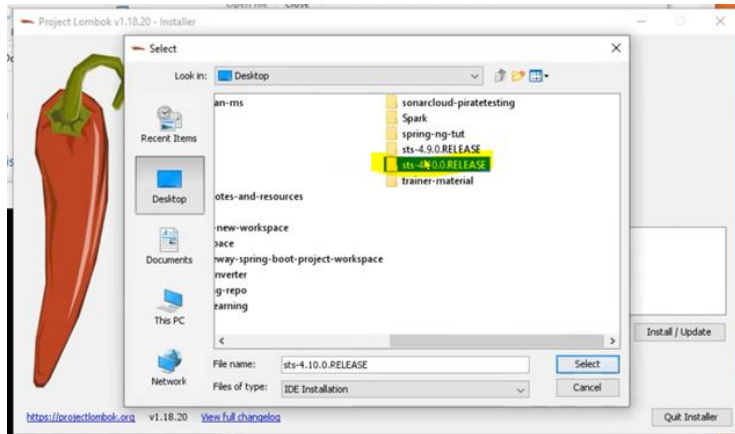
Click Ok, then Specify Location



Navigate and select the sts release folder on your machine.

Select the folder

Click "Select"



Click "Install / Update"



Click "Quit Installer"



Add Lombok to a Spring Tool Maven Project

Open or restart Spring Tool Suite

Update the project's pom.xml file

Add the Lombok dependency

Make sure to use the version of your download

```
<!-- https://mvnrepository.com/artifact/org.projectlombok/lombok -->
<dependency>
  <groupId>org.projectlombok</groupId>
  <artifactId>lombok</artifactId>
  <version>1.18.20</version>
  <scope>provided</scope>
</dependency>
```

Rebuild the Maven projects after adding the dependency.

Add imports to class files

Generally Lombok is used in Model classes

Lombok may be used in any class that makes sense like DTO classes

```
import lombok.EqualsAndHashCode;
import lombok.Getter;
import lombok.NoArgsConstructor;
import lombok.Setter;
import lombok.ToString;
```

Add annotations in the class files

Annotations above class definition

```
@Getter @Setter @NoArgsConstructor @ToString @EqualsAndHashCode
public class Address implements Constants {
```

The class body will have no getter, setter, no args constructor, toString , equals or hashCode methods but they will exists.

If the class has defined methods and the annotation is used then there will be compiler errors.

This ends the Project Lombok download and setup.

Appendix: Recording Transcript for This Document

Bach Tran: So for this next part here before we jump into spring mvc we're actually going to cover about lombok so somebody know what lombok it as they used to Lombard before.

Bach Tran: Alright cool well you actually want to follow along for this one, just because, if your project group decides to use lombok, then you do need to have it installed onto your ID just so that everyone can be working with these annotation.

Bach Tran: But yeah basically what we're going to do is go over to the lombok website.

Nicholas Hailey: So apologize I literally missed that.

Nicholas Hailey: Part so headphone issues so we're doing law.

Bach Tran: Is the law lombok so yeah you're going to want to go over to this website.

Bach Tran: And yeah if your group decides to.

Bach Tran: Use Lombok annotations as you'll see what they are in a minute, then you do need to actually have this configured on your ID otherwise your ID will.

Bach Tran: be throwing syntax errors, because it doesn't know how to deal with these annotations basically so you will want to get this if your project group decides to use lombok.

Bach Tran: So yeah just go over to this website, I put a link into the chat and you'll want to go over to the download section.

Bach Tran: And just download one point 18 point 29 so it's just going to be some kind of JAR file.

Bach Tran: And you'll basically want to be running this jar file here let's see if I can actually run it by Double Click.

Bach Tran: yeah it's going to ask me to open it up.

Bach Tran: In this case, using my jr so profiles Java Jerry been Java w dot pmc so let me try that.

Bach Tran: see if it works.

Nicholas Hailey: i'm not sure about anybody else but it states for me that.

Nicholas Hailey: It can.

Nicholas Hailey: Be in any event, even theatre.

Nicholas Hailey: Hello hello, what is it must be upside down.

Bach Tran: yeah we can we can hear you.

Nicholas Hailey: Oh yeah oh yeah mine is speaking to me that an ID on the computer so i'm not sure.

Bach Tran: that's actually fine.

Bach Tran: My problem here is I can't even get the thing to pop up.

Bach Tran: let's see if I can figure out a way to do it.

David Huynh: Nick you might just need to go into your C drive and their file program files and just click on Java and then specify it you just find the location.

Bach Tran: Let me figure this out let's see.

Bach Tran: Like clinic Java platform, as the primary.

Sonia Sam: He plucked i'm not able to open that installed file that Java, can you take a look on that.

Bach Tran: yeah that's the same on me, let me.

Bach Tran: Because of the way that we're.

Bach Tran: The way that we are basically executing this file.

Is the problem.

Bach Tran: In the past, I never ran the issue, but now I actually am as well, I do remember early on, when we were installing spring tool suite it was a pretty similar problem of just.

Bach Tran: I basically need to figure out how to.

Bach Tran: get this to Papa.

john davi.

Bach Tran: d all right let's see.

Bach Tran: What if I do.

Bach Tran: Java jar lombok.

Bach Tran: have too many long box here, let me.

Bach Tran: delete.

Bach Tran: Alright let's delete these ones.

McCabe Sommers: is intact entire man.

Yves Bouele: you read the article and press file.

Bach Tran: I don't think this will work but we're going to try it Oh, it does all right oh yeah just if you can't open it up, then just do Java dash jar.

Bach Tran: Law ball jar from your command line, and then it will pop this up and it'll say I can't find any ideas on your computer.

Bach Tran: The reason that's the cases because spring tool suite start actually installed on the computer right it's just a folder sitting somewhere on your computer, so you will need to specify the location basically.

Bach Tran: So just click on specify location and then just navigate over to.

Bach Tran: Your spring tool suite folder so this wouldn't be mine right here sts four point 10.0 point.

Bach Tran: Release so i'll just select that it's going to pop up right here.

Bach Tran: And from there, all you need to do is click install an update.

Bach Tran: And it will say install successful.

Bach Tran: And that's pretty much it.

Bach Tran: Its installed at that point and you'll just need a quick quick install it.

Bach Tran: So yeah if you can't run lombok jar by double clicking just to do from the command line like i'm doing right here and it's going to work.

Nicholas Hailey: trying to find that my release one there it is.

Nicholas Hailey: So when I Double Click it it goes straight into the metadata.

Nicholas Hailey: um.

Bach Tran: You just want to select the folder so like right here, select and that's it.

Bach Tran: So it's your actual spring tool suite folder it's not the workspace.

Bach Tran: So yeah don't confuse it with the workspace folder.

Bach Tran: If you're using a shortcut then yo you need to go to the location of the shortcut and it's going to be that folder.

Bach Tran: So yeah you'll just click install and then boom that is pretty much it does it extremely quickly.

Bach Tran: So it's not even like your typical installation where you see the progress bar anything it's just going to be like what you're doing.

Bach Tran: And then you just gotta quit out of the installer.

Bach Tran: So.

Bach Tran: yo where we need to.

Bach Tran: restart your spring tool suite as well, in fact.

Bach Tran: I should have probably had this close when I did that so just to double check i'm gonna run the install the installation again because maybe it didn't work properly with that open so i'm gonna do this real quick.

Bach Tran: So yeah just make sure your sprinkler closed when they're doing it.

Bach Tran: Alright, so once that's done you'll basically want to open up for spring tool suite.

Bach Tran: When they say specify location where do we go to you go to the location of your spring tool suite folder.

Bach Tran: So my folder is like on my desktop here right that's where my strengths we're.

Nicholas Hailey: Oh so once you get this install successful Okay, it was in my downloads yeah.

Bach Tran: it's probably going to be in your downloads yeah yeah if you didn't move it anywhere.

Nicholas Hailey: Yes, i'm building my downloads for those who can't find it.

Nicholas Hailey: It should know it's now should it say, like all installed on installed on select the ID installation don't forget to add lombok bed jar to your projects.

Bach Tran: yeah yeah so once you click on the quit installer.

Nicholas Hailey: I should move it out of there.

Nicholas Hailey: We try to move it from downloads to.

Nicholas Hailey: know.

yeah.

Sonia Sam: Good brush it says error unable to access the JAR file you.

Sonia Sam: downloaded.

Bach Tran: yeah.

Bach Tran: Are you in the right folder.

Sonia Sam: yeah it's right here.

Sonia Sam: download I don't.

Bach Tran: think your CDs in the right folder on get that.

Bach Tran: Like if you type in PWD.

Bach Tran: yeah you need a CD into the downloads folder basically so.

Bach Tran: you'll just want to right click inside of the downloads folder and do get bashed here so just like on the side of.

Bach Tran: So, like somewhere like over here.

Bach Tran: yeah get bashed here, and then you can do llama also I think it's um lower case so that's the problem as well.

Nicholas Hailey: Practice get dash doesn't do what I wanted to do so.

Bach Tran: Alright sweet.

Sonia Sam: Thank you.

Bach Tran: Alright, basically.

Bach Tran: The reason we're installing long box is because it provides us with some really useful annotations that will automatically generate like the hash code and equals to string and getters and setters for us no arcs constructor all of that so it's really, really useful.

Bach Tran: let's go ahead and create a new.

Bach Tran: maven project right here so we'll do like other maven project.

Bach Tran: Simple project Doc your.

Bach Tran: mom bought.

Bach Tran: me the name jar file finish.

Bach Tran: So inside the palm This is where we need to provide the lombok dependency so installing it to your ideas one thing that's to basically allow your idea to.

Bach Tran: Like understand from a syntactical standpoint, though, how lombok actually works, so that whenever you like, for example, generate

a to string method using lombok the two string methods actually available.

Bach Tran: Or, like the getters and setters that they're actually available because your ID doesn't know that without installing lombok so it provides for like syntax checking but to actually have access to the annotations itself that's where we need to actually have a dependency.

Bach Tran: So yeah we'll just go through the typical process.

Bach Tran: Maybe compiler store maven color target and have the dependencies tag.

Bach Tran: Where we will grab lombok.

Bach Tran: From MBM repository.

Bach Tran: So blah blah.

Bach Tran: So you'll just want project lombok and point to.

Bach Tran: copy that then here is the dependency of so in the chat.

Bach Tran: And there we go so.

Bach Tran: Let me go ahead and demonstrate with.

Bach Tran: Calm not rotor domain as a package and another package.

Bach Tran: On the rotor Doc model right so inside of the model package, we will just create.

Bach Tran: a class of card.

Bach Tran: and define as I this car class private screen make.

Bach Tran: It auto private.

Bach Tran: Alright, so let's say I want to create some getters and setters instead of cluttering all that code in here I just do at gathered.

Bach Tran: etc.

Bach Tran: I can even put in the know arcs constructor.

Bach Tran: I doing at know our.

Sonia Sam: constructor.

Bach Tran: I can even put in a generated to string method.

Bach Tran: I can even put in the typical equals and hashtag.

Bach Tran: All by doing this right here.

Bach Tran: And that's lombok basically.

Bach Tran: That way now for all of your model classes and videos and whatnot you can just do get her setter know ours constructor to string equals and hash code and you're you're basically done.

Bach Tran: You don't need to go through and do all chip ass generate getters and setters and all that, because it will say the type contains oh fields are all fields, half getters and setters all right right so.

Bach Tran: that's why I installed lombok to my ID right, I was the first step, so that the ID you can actually understand what this is doing.

Bach Tran: arm.

Bach Tran: And then I need this dependency here to actually give me access.

Bach Tran: To these imports.

Bach Tran: But so that's why we're doing two things here.

Bach Tran: And now, if we go over to the main package let's do main the main method.

Bach Tran: let's test out the car class right so car car new car.

Bach Tran: So let's put in a.

Bach Tran: Natural constructor here so.

Bach Tran: string make model.

Bach Tran: equals make this model model.

Bach Tran: So normally if I were to do this and there is no there's no no arcs constructor available right, but because of this, I am still able to do this right here.

Bach Tran: right if I remove this up here.

Bach Tran: than, say it's going to say the constructor car is on the thought.

Bach Tran: So that's that's pretty cool know our structure.

Bach Tran: Now the ID will say you actually do have the ability to do this.

Bach Tran: Now we also have the saboteurs right which are given to us by doing, etc.

Bach Tran: So we can actually do set mate.

Bach Tran: We can actually do set model.

Bach Tran: Do set here.

Bach Tran: And let's test out the two strings so if we print this out flow it give us the memory address where will it give us the properties themselves.

Bach Tran: And it gives us the property.

Bach Tran: Actually, looks different than the ID generated to string method, which was using like square brackets instead of pregnancy.

Bach Tran: But together, this is how it does it for lombok.

Bach Tran: We make another car so let's do car cards you equals new car.

Bach Tran: Values here.

Bach Tran: Like we're going to have the same values, just to test out the equals method.

Bach Tran: and

Bach Tran: yeah we do car equals car to Obviously, this will be.

Bach Tran: False because they are two different objects.

Bach Tran: But if we do.

Bach Tran: Car.

Bach Tran: Car to.

Bach Tran: Right there's a lombok compare the.

Bach Tran: The properties themselves using the equals and hash code and yeah does so, this one's true.

Nicholas Hailey: But real fast, could you go back to your car that right there when trying to see if I could just get a snippet and where i'm not taking a class I think i'm saying it wrong because it's not popping up the way yours do.

Nicholas Hailey: You I think i'm just setting it wrong again there's absolutely no.

Nicholas Hailey: Thank you.

Bach Tran: Alright, so that is lombok in and that Joe I know some people are like dang why wasn't this covered earlier and over previous batch is something with it was really cool.

Bach Tran: Just to be able to do this.

Bach Tran: Now, the main thing here is you do still want to provide like another instructor manually like with the properties you actually want to set immediately that would be this one here.

Bach Tran: The primer is constructor, but you can always do get her Saturn know our instructor to string equals and hash code.

Bach Tran: Pretty pretty easily.

Nicholas Hailey: um, but could you take a look at Monday, because i'm not sure why am I still on underlined as read.

Bach Tran: Maybe I didn't see.

Nicholas Hailey: just trying to follow along this.

Bach Tran: Oh yeah we got a right click maven update project so see.

Nicholas Hailey: Well, maybe that might work then.

Bach Tran: yeah let's take a look here.

Bach Tran: You need to do the imports so that's why it's red.

Nicholas Hailey: yeah but it won't.

Bach Tran: Here you have in the palm not xml I don't think you.

Bach Tran: yeah try to right click and maybe an update project that could be.

Bach Tran: The thing as well.

Bach Tran: I don't think it has the lombok dependency, for whatever reason.

being updated on.

Nicholas Hailey: Day two 1.8 let's see now.

Bach Tran: now see if you can import.

Bach Tran: Change Oh, I know why it's because that's supposed to be getter and setter, instead of getters and setters.

Bach Tran: I didn't know important on yellow.

Nicholas Hailey: awesome to end um I didn't say the palm.

Bach Tran: yeah those as well.

Bach Tran: Okay.

Bach Tran: Oh, that should be on top of your class as well, so not in time.

Bach Tran: On top.

Nicholas Hailey: Thank you mom thank.

Nicholas Hailey: You see i'm getting better with my shortcuts home yeah no you see it.

Nicholas Hailey: Okay Thank you so much.

Bach Tran: All right.

Nicholas Hailey: We go from here.

Bach Tran: So yeah it was one person.

Bach Tran: In your group does not actually have lombok install to their ID.

Bach Tran: This will give them problems, right here, because their ideas going to freak out and not know.

Bach Tran: it's going to be like hey this Center doesn't exist.

Bach Tran: That kind of thing because it's going to look in here it's going to be like yeah there is no Saturday selfie right so that's why unit you actually need to have lombok installed it continued for your ID.

Nicholas Hailey: me make sure my teammates they get it down low.

Bach Tran: yeah so if your teammates around some issues and.

Bach Tran: You do decide to use these annotations.

Bach Tran: yeah everybody needs to be on board with getting their ID configured for lombok.

Nicholas Hailey: So can I ask a question, while guess.

Nicholas Hailey: where people are guessing to catch up or download it is there a reason why we did not come across this earlier because the way to scenes this could have been.

Bach Tran: To establish the fundamental so getters setters hash code and equals right, so that you actually like really understand what are those doing.

Bach Tran: So it's all about getting into that.

Bach Tran: Practice of seeing the actual code, because here, you know you'll actually see you want to get her looks like or what a setter looks like or what equals and hash code looks like so you should always be looking at the code and being like all right, this is what it's actually doing.

Bach Tran: So now we actually introduced blah blah and yeah it provides this nice nice shortcut here.

Bach Tran: It looks cleaner to you don't have this giant class with a bunch of methods inside of it.

Bach Tran: Now you just have this simple stuff here, but you actually do have all of this.

Nicholas Hailey: makes sense.