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| **What I've been doing (Mostly):** **1. Watch and transcribe tutorial. 2. Do tutorial from notes.**  **Why I am doing what I am doing.** **1: Reference for later:** I am doing it this way because I want to create reference for later. It may be more work now, but will be less work later when I am like... "I swear I did a tutorial where this happened... What was it called?"  **2: Reference for others:** If someone would like reference for a tutorial I've done. I have it.  **3: Refined references:** A tutorial that was 6 minutes, I can re-do from my notes in about 30 seconds. Also, if I get stuck on my notes, I can look at the time stamps in my notes to get back to that section of the video. I then can add the necessary notes I neglected to put in. By finishing the tutorials from my notes, I am able to verify how well I wrote my notes.  **4. Efficiency:** In the scrum book I read: "How to do twice the work in half the time" It mentioned a concept called "context switching". Constantly having to flip between different things results in a mental and mechanical transaction cost. By keeping one window open and transcribing notes. And then later doing the tutorial with my notes, I have successfully batched my processes. Taking one step to refine the tutorial before I do it. This means I never find myself constantly scrubbing through a video while finishing a tutorial. |

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| **2015.08.10: AUG 10TH, 2015** |

# Failed miserably at getting that one tutorial working last week.

# I was nested 8 levels in trouble shooting. ~~I think I need to step~~

# ~~back and figure out how to use plain MySQL with eclipse+Java.~~ <(Looking back on this day, no I don't)

# First, I am going to try another JPA hibernate tutorial.

# Also, this week, I am going to experiment with INDENTING to show levels

# of scope. Perhaps a table with 1 row, multiple columns to the left, showing

# how far nested I am into trouble shooting. (looking back on this, I decided indenting was too complex.) (Instead I have been:) (1: Making sure I don't nest tables too deeply) (2: Breaking off trouble-shooting via LABLES and GOTO statements.) (So that the trouble shooting does not clutter the comprehension of the main task at hand)

# Going to try and stick with this convention:

# [ Button ] / TAB \ |> LIST ITEM <| ||FILE|| ||Edit|| ||Navigate|| ||Search|| ||Project|| ||Run|| ||Window|| ||Help||

# |Context Menu Item|

# ::DIALOG\_NAME:: Denotes you are in a new dialog box. \*C\* //Denotes clicking. \*CC\* //Denotes double clicks. \*"Text Entry\_"\* \*Action Description\*

# Interesting links:

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| http://stackoverflow.com/questions/18270414/inserting-records-into-a-mysql-table-using-java<http://www.objectdb.com/api/java/jpa/EntityManager> <http://stackoverflow.com/questions/26638238/strange-mysql-popup-mysql-installer-is-running-community-mode> http://character-code.com/arrows-html-codes.php |

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| Going to attempt: Hibernate Tutorial Part 2 - Hibernate SetUp in Eclipse IDE (Hands on)  By: [gontuseries](https://www.youtube.com/channel/UCA3RaMnfSmJsvv3TraOdipg) on youtube. <https://www.youtube.com/watch?v=D-LKZEBzF8U> Work Located in: \Chrono\05\_GontuHibernate\WrkSpc |
| @0:35 Download Hibernate:@1:07: Lib directory contains hibernate related jars.@1:14: lib/required folder contains BASIC requirements for doing simple Java Application.@1:16: Inside lib/required:hibernate-core.Final.jar <--Core Library for hibernate.The other .jars in this folder are dependencies for hibernate.@2:07: New Java Project. (Plain)@2:21: Add hibernate related jars. (About to do)@2:30: <PrjRoot> →|Properties|→|>Java Build Path<|→ /Libraries\ → [Add Library..] @2:33: → ::??:: → |>User Library<| → \*CC\* → [User Libraries] → [New] @2:42: → ::New User Library:: → \*"Hibernate Library\_"\* @2:55: Leave: [\_]System Library. UNCHECKED. → [OK] → ::??:: → [Add External Jars]@3:08: \*Select All\* → [Open] → [OK] --> [Finish] --> [OK]  @3:40: DONE WITH FIRST STEP:Next Step: Include Java database driver. (The hard part)@4:13 - 4:17:Install database on machine.Install Java database driver for that database.Include that driver in the project classpath.@4:26: Including MySQL driver in project classpath: @4:28: <PrjRoot> --> |Properties| --> |>Java Build Path<| --> /Libraries\ --> [Add External Jars]@4:35: Inside "mySql-connector-java-5.1.22" folder. Select: "mySql-connector-java.5.1.22-bin.jar" @4:46: [Open] --> [Ok]@4:51: mysql-connector-java-#.#.##-bin.jar is now in "Referenced Libraries" within Package explorer. |

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| Hibernate Tutorial Part 3 - Installing MYSQL Database (Hands on) <https://www.youtube.com/watch?v=ai24n7Dtqwo> By GontuSeries on youtube. Work Located in: \Chrono\05\_GontuHibernate\WrkSpc |
| @0:44: talking about downloading MYSQL database. @1:26: WampServer.com, download EXE for machine. (Downloading it now) @??-1:40 Exe Downloads: Apache Server MySQL Database PHP My Admin @2:12: Remember to use correct BITS! 32bit or 64bit server depending on computer.@2:40: Go with all recommended options when setting it up. @3:42: Click on WAMP SERVER shortcut icon.[W] Wamp server Icon is now in your system tray.@3:47: \*CLICK\* --> |Start All Services|   |  |  | | --- | --- | | @3:51: This will start:mySQL Database  Apache serverPHP My AdminJMadison Note: How does WAMP server know where all these programs are???  wampmysqld? I recall hearing this before.  Note: <http://docs.phpmyadmin.net/en/latest/setup.html>Is not working for me. Tagging this.[LABEL:BLOCKER\_PHPMYADMIN][GOTOLABEL:TROUBLESHOOT\_PHPMYADMIN] |  |  @4:09: Introducing PHP Admin @4:11: /Databases\ tab click. @4:30: Creating database in PHP admin. "hibernate Tutorial"In next tutorial, will start writing hibernate+java application. |

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| Hibernate Tutorial Part 4 (a) -  How to create the first Hibernate Application in Eclipse ( Hands on)  By: [gontuseries](https://www.youtube.com/channel/UCA3RaMnfSmJsvv3TraOdipg) on youtube https://www.youtube.com/watch?v=gMX47k\_O\_5o |
| @0:00-1:24: Summary of the 3 parts of Tutorial 4, a,b,c. @1:36: we need hibernate.cfg.xml configuration file.Put under "src" folder in <prjRoot>TroubleShoot: There are... A lot of config files of that name in hibernate directory:  |  | | --- | | 14 entries to be exact... [LABEL:BLOCKER\_HIBERNATE\_CFG\_XML][GOTOLABEL:TROUBLESHOOT\_HIBERNATE\_CFG\_XML] |    @2:30: Opens hibernate.cfg.xml and begins explanation: @2:30-2:34: Tells hibernate which database we are going to use:@2:55: Need to specify jdbc driver because all ORM software is built on TOP of jdbc. @3:00: Will be using MySQL database for this demo.@3:20: 3306 is default port for database access. @3:55: Connection Pool Size: (connection.pool\_size)(More on this in later tutorials)  @4:00: SQL Dialect: Specifies which database you are going to use... JMadison Note: That sounds wrong... Sure this isnt... database protocols??? @???-4:15: Different databases have subtle differences in the SQL they use.  @???-5:12: You need to look up the dialect used for different types of databases.  @5:18: cache.provider\_class Second level caching for hibernate. Don't worry about it. @5:31: <property name="show\_sql">true</property>If true, hibernate will print out all the SQL queries it makes to console.  @5:34-6:06: <property name="hbm2ddl.auto">create</property> SUPER IMPORTANT PROPERTY!!! @6:06-6:40: Example of <property name="hbm2ddl.auto">create</property>If needed table doesn't exist, it will create one.@6:59-7:05: JMadison Note: I'd consider this part MORE important: Mention all the model classes (@Entity) you will be using in your java project via this:<mapping class="com.gontuseries.hibernate.Student\_Info"/>   @7:07: DONE. |

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| Hibernate Tutorial Part 4 (b) -  How to create the first Hibernate Application in Eclipse ( Hands on)  By GontuSeries on youtube. https://www.youtube.com/watch?v=z73eYjbqzhs |
| @0:00-0:38: Recap and summary of what we are about to do.  Making a "student" model class that will persist into the database.@0:39: <PrjRoot> --> |New| --> |Class| --> NAME:\*"Student\_Info"\_\*  Package: com.gontuseries.hibernate  [FINISH] @1:04 - 1:45  |  | | --- | | Student\_Info.java:package com.gontuseries.hibernate;public class Student\_Info private int rollNo private String name \* Generate the getters and setters \* |  @2:18: Mandatory Annotations: TWO: @Entity (import javax.persistence.Entity) @Id (import javax.persistence.Id)  @3:18: @Id is used to specify the primary key. @3:50: Data stored in TABLE NAME with the same CLASS NAMEWhen using the @Entity.  Thus, important to actually have that table!  @3:58: IF you want to use a different table, you need to usethe @Table annotation.@4:20: @Table(name="STUDENT\_INFORMATION")@4:50: Need to specify the name of table in HIBERNATE CONFIGURATION file.   |  | | --- | | @4:55: FILE: hibernate.cfg.xml @4:59:  <mapping class="com.gontuseries.hibernate.Student\_Info"/> |  @5:34: This tutorial is now over. |

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| Hibernate Tutorial Part 4 (c) -  How to create the first Hibernate Application in Eclipse ( Hands on)  SubTitle: (Creating a Hibernate Application - Saving the Model object into the Database) By: Gontuseries on youtube. <https://www.youtube.com/watch?v=sabu4EbB9as> |
| @0:00-0:57: After this, you should understand: DELETE, UPDATE, LOAD @1:02: <PrjRoot> --> |>com.gontuseries.hibernate| --> RightClick --> |New| --> |Class| @1:07: Class Name: Main @1:10: [Finish] @1:19: What we want is to store the Student\_Info.java model into the database.@1:22: Let's create this model object in the main class. Main.java  |  | | --- | | package com.gontuseries.hibernate;public class Main{public static void main(String[] args){Student\_Info student = new Student\_Info();student.setName("Gontu");student.setRollNo(1);}} |  @2:15-2:19: Now let's write code to... save it into the Student\_Info information table.@2:30: Wrote some code to save time. Main.java (With more stuff)   |  | | --- | | package com.gontuseries.hibernate;import org.hibernate.Session;import org.hibernate.SessionFactory;import org.hibernate.cfg.AnnotationConfiguration;public class Main{public static void main(String[] args){Student\_Info student = new Student\_Info();student.setName("Gontu1");student.setRollNo(1);SessionFactory sessionFactory = new AnnotationConfiguration().configure().buildSessionFactory();Session session = sessionFactory.openSession();session.beginTransaction();session.save(student);session.getTransaction().commit();session.close();sessionFactory.close();}//main func}//Main class |  TROUBLE: Some of this code is depreciated. Try to get running as-is, and then do proper fixes later.  |  | | --- | |  |  @2:36-2:45: Step1: Create SessionFactory object.Contains all the data within our hibernate configuration file. Session factory thus, is a heavyweight object.@2:46: Second Step: Create the session object.Session factory produces the session object.  @3:06: sessionFactory.openSession() ----> Opens a database connection.  @3:10-3:30:Create logical transaction.@3:20: Just selecting doesn't need this, but any other typeof transaction does.@3:30-3:33: Transactions besides looking at what is in the database,like DELETE, INSERT, UPDATE, need asession.beginTransaction() command in java.@:3:35-3:47: In order to begin a logical transaction: We need to call "beginTransaction()" given by the session interface.@3:48-3:52: Session.save(student)Is the main... code which is inserting the record into the database table.@4:08: To finalize transaction, must commit() and close() the session. session.getTransatcion().commit();session.close();sessionFactory.close();@4:36: In PHP My Admin: @4:36-5:19: Review on how .cfg.xml file has the CREATE option for making a new tableif the table you need does not exist.  @5:37: Executed program. Hibernate is printing out logs telling us what operations it made.TroubleShoot:  |  | | --- | | Caused by: com.mysql.jdbc.exceptions.jdbc4.MySQLSyntaxErrorException: Unknown database 'test\_db'[GOTOLABEL:TROUBLESHOOT\_UNKNOWNDATABASE] [LABEL:BLOCKER\_UNKNOWNDATABASE]PROBLEM IS HERE, in hibernate.cfg.xml: <property name=*"connection.url"*>jdbc:mysql://localhost:3306/test\_db</property>We need to create database in PHPMyAdmin..Review how that was done in the video...@5:00 - 5:05: "hmb2ddl.auto is set to create..." <https://www.youtube.com/watch?v=sabu4EbB9as> (<<link to current tutorial we are on) AH! The table will be created.  It was just about removing the other table reference? They have: <property name="connection.url">jdbc:mysql://localhost:3306/hibernateTutorials</property> In context... The name of our database is "hibernate tutorials" where is that set? Sure, the table is created if not exists... But the database too???created a database in PHPMyADMIN and called it: hiberBase And then used: <property name="connection.url">jdbc:mysql://localhost:3306/hiberBase</property>FIXED! But lead to another problem....The SQL is now firing off. And the JAVA project has no errors... But the database logs DO have errors in PHP My ADMIN. |    @5:52: Now checking in database to see if changes were made. (PHP ADMIN)@6:08: Yes, yes it has created a record.@6:35: Review of config file:  hbm2ddl.auto --> CREATE,UPDATE,CREATE-DROP, VALIDATE  @6:58: DONE with this tutorial. |

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| Hibernate Tutorial Part 5 - hbm2ddl.auto property in detail  ( Hands on)  By: Gontuseries on youtube. https://www.youtube.com/watch?v=WJGbbqu0wxw |
| RECAP & SUMMARY OF WHAT TO COME:: RECAP:@0:00-0:24: Recap. We created hibernate.cfg.xml to configure application. @0:30: And created model class : Student\_Info.java @0:39: Wrote code in Main.java.SUMMARY: 0:42 - 0:50: Will be talking about hbm2ddl.auto property.@0:55: ONE OF 4 VALUES: create create-drop update validate  @1:02: In PHPMyAdmin: Open Hibernate Tutorials Database. (localhost >> hibernatetutorials)@1:14: Delete all tables before we start. @1:32: In hibernate.cfg.xml:  <property name="hbm2ddl.auto">create</property>@1:38: <PrjRoot> --> |>Main.Java<| --> \*RightClick\* --> |Run As >| --> |Java Application| @1:46: Table: "student\_information" created. @1:58: Edit: Main.java student.setName("Gontu2");student.setRollNo(2); Run on as java application again. @2:08: OVERWRITE. Table now has the new entry in it, but old Gontu1, is gone from table. @2:26: If you use "create" in hibernate, it will DROP the previous table every time you run.(So then, how is "create-drop" different from "create" ????) @3:13-3:20:  hibernate.cfg.xml: Change line to: <property name="hbm2ddl.auto">create-drop</property> Main.java: Edit: (2 --> 3) student.setName("Gontu3");student.setRollNo(3);Re-run the application.  @3:32: No difference between "create" and "create-drop" ??@3:48:  Main.java:student.setName("Gontu4");student.setRollNo(4); sessionFactory.close(); //append this to end of file.Re-Run Application.  @4:04: "Table 'hibernatetutorials.student\_information' doesn't exist. @4:13: Table deleted! So... Create == Overwrite/Clear the table. Drop == Deletes the entire table. Not just emptying the contents, the table itself will not exist.  @4:28: When you explicitly close the session object in the factory program,hibernate would drop off the schema.@4:42: <property name="hbm2ddl.auto">update</property> Every time you run application, hibernate will just update the schema. Data will be safe. Sounds great, but when you are developing, you can get somereally weird results using this. @5:12: 'update' is EXPERIMENTAL. @5:24: 'validate'If no difference between entities and tables, will execute normally.  If there are differences, will throw an exception at run time. |

# [GOTOLABEL:TROUBLESHOOT\_DEPRECIATED\_JAVA] [LABEL:FIX\_DEPRECIATION\_BEFORE\_CONTINUING\_TO\_PART\_SIX]

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| Hibernate Tutorial Part 6 - Most common Annotations in Hibernate  ( Hands on)  By [gontuseries](https://www.youtube.com/channel/UCA3RaMnfSmJsvv3TraOdipg) on youtube. https://www.youtube.com/watch?v=2iJVeB4UyT0 |
| @0:00 - 0:35: Introduction. @0:35 - 0:43: @Entity, @Id, @Table (Previous Annotations Used) @1:05 - 1:16: @Column If you want to have a variable mapped to a column name within the table.@1:36: @Column(name="FULL\_NAME")Run the application. @2:07: What was "Gontu1" previously before we were using "FULL\_NAME"?  Screen Shot from Tutorial Part 5 (Previous tutorial) AH! @Column is NOT needed unless you use other than the default name. You could probably use @Column with no (name="XXXXX") part. But that would be redundant. Like saying 1-0. Or something.@2:11: Checking datatype for all the columns in table. Clicking --> /Structure\  @2:21: By default, all columns are NULLABLE.Except the PRIMARY KEY.  @2:53: nullable annotation. @Column(name="FULL\_NAME", nullable=false)  @3:07 - 3:13: Name field is now MANDATORY,while saving the student\_info object intothe database.  @3:18: If you get this wrong, will throw a not-nullable exception. Run application.  @3:51-4:04:  @Transient: Will IGNORE variable from being included in the table. \*\* Could you just mark it as private?? \*\*  In JAVA "Transient" means should not be serialized: <http://stackoverflow.com/questions/910374/why-does-java-have-transient-variables>ANSWER: Reading the code: name is already private... So... no... Private variables are NOT automatically Transient in Hibernate. @4:20: Hibernate now IGNORES name field. (Looking at MyPHPAdmin) @4:40: DATE: private Date birthDate; (What is Organize Imports shortcut?) CTRL + SHIFT + O ? <http://stackoverflow.com/questions/4763945/eclipse-keyboard-command-to-add-import-statement>@4:48: Generate getters + setters for birthDate var.  @5:01: In Main.java student.setName("Gontu1"); student.setRollNo(1); student.setBirthDate(new Date());@5:20: Run the program. @5:25: Check output in phpMyAdmin  @5:53: A DateTime timestamp was used for the data type in SQL database.What if we want...  @5:59: To just store DATE and not time stamp in your database table?  Or maybe you just want timestamp and not date? @6:05-6:07: @Temporal@6:10: Student\_Info.java @Temporal(TemporalType.DATE) private Date birthDate;@6:28: Run the program. @6:52: DONE WITH THIS TUTORIAL. |

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| Hibernate Tutorial Part 7 - Primary key Auto - Generation in Hibernate ( Hands on)  By gontuseries on youtube https://www.youtube.com/watch?v=gUWwUG1UFME |
| @1:33: What if primary key is a phone number and cannot be auto-generated? @1:50: What if, you just don't want to manually specify a primary keyAnd want one to be auto generated? @2:03: Serial\_Num@2:39: @GeneratedValue @3:04-3:09: Student\_Info.javaimport javax.persistence.GeneratedValue; @Id @GeneratedValue @3:26: Deleting roll number setters from Main.java DELETE: student1.setRollNo(1);@3:27: Duplicate setting student record so we set TWO student records into database. @???? Run application  @4:12: Checking out options for @GeneratedValue(stuff in here)  @4:23:FOUR STRATEGIES:@GeneratedValue(strategy = GenerationType.\_\_\_\_\_\_\_\_\_\_);AUTO  IDENTITY  SEQUENCE  TABLE@4:35-4:44: Default is AUTO if not specified.  |  | | --- | | [LABEL:BLOCKER\_AT\_GENERATEDVALUE] @GeneratedValue(strategy=GenerationType.*AUTO*)This... is not working. [GOTOLABEL:TROUBLESHOOT\_AT\_GENERATEDVALUE] |   @4:50: AUTO: Chooses one of the 3 strategies automatically:(IDENTITY,SEQUENCE,TABLE) Depending on the database in use. @5:06-5:18: Example:  IF using oracle: Would choose SEQUENCE, since it doesn't support IDENTITY. IF using mySQL : Would choose IDENTITY, since it doesn't support SEQUENCE. (What is difference between sequence and identity?) @5:24 - 5:34: IDENTITY: Primary key generated by hibernate by using the"Identity column feature" of the database. (No clue what that means)  @5:34-5:49: What is "Identity Column" ? "Feature provided by some databases to auto generate the unique value for the given columnfor every set of records."  @5:48: "If you choose SEQUENCE..." @5:56: Hibernate will generate value using the "Sequence Objects" of the database. Hibernate seems to MAKE a sequence object that is called upon to do this generation. But... it is a feature that is provided by the type of database you are using....  @6:20: Generates a separate table to keep track of the generation of unique values. |

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| Hibernate Tutorial part 8 -  One to One Mapping using Annotations  by [gontuseries](https://www.youtube.com/channel/UCA3RaMnfSmJsvv3TraOdipg) on youtube. https://www.youtube.com/watch?v=ZaLIVcZA90g |
| @0:00 - 0:40: INTRO @0:40: What is 1to1 mapping, or relational mapping in general?  How is it related to hibernate?   @1:03-@2:34 1-to-1 DIAGRAM BELOW VISIBLE DURING THIS DURATION:   @0:57: 1to1: Each row in table A is linked to each row in table B. @1:01: Number of rows in A == Number of Rows in B @1:54: Establish 1to1 using foriegn key references. @2:23: StudentDetail table will NOT accept keys for student\_id that areNOT present within Student Table's student\_id column. @2:59: Re-created `student` and `student\_detail` tables in phpMyAdmin. @3:09: `student\_detail` table:student\_idstudent\_mobile\_number@3:19: Notes that "student\_id" in this table is a foriegn key. Though I do notsee how that knowledge is obvious in the UI.Maybe because "primary key" is greyed out? @3:37: BASIC SETUP: in hibernate.cfg.xmlAbout to explain this setup.@3:50: Student.java  |  | | --- | | package com.gontuseries.hibernate;import javax.persistence.Entity;@Entity@Table(name="STUDENT")public class Student{@Id @GeneratedValueprivate int student\_id;private String student\_name;//TODO: Auto-generate getters+setters}//end class. |  @4:04: Explains @Id again. @Id on Student\_Id tells us that it is primary key in student table. @4:13: @GeneratedValue is telling... Hibernate is going to provide value of student\_id at runtime. @4:21: StudentDetail.java:  |  | | --- | | import javax.persistence.Entity;import javax.persistence.GeneratedValue;import javax.persistence.Id;import javax.persistence.Table;@Entity@Table(name="STUDENTDETAIL")public class StudentDetail{@Id @GeneratedValueprivate int student\_id;private string student\_mobile\_number;//TODO: Auto generate getters + setters.} |   @5:13: Going to establish database relationship in our Java project. JMadison Note: The constraints he is talking about are a bit unclear.Googled how to make a foriegn key in PHPMyAdmin. Found video.   |  | | --- | | <https://www.youtube.com/watch?v=nm8y9gSi7O8>@1:49: This photo: @1:59: Enter "Relation View"@2:24: "RESTRICT" Means if entry has matching foriegn key from another table, record willnot be allowed to be deleted.   @2:33: ON UPDATE : CASCADE If parent table is updated, child tables are automatically updated too.  @3:35: Example of what happens when you try to delete an entry tied to a foreign key: @4:10: You have to delete the CHILD record first before deleting the parent.Other interesting links: Deferred Drop: <http://sqlperformance.com/2013/05/sql-performance/drop-truncate-log-myth> SQL RollBack: <https://msdn.microsoft.com/en-us/library/ms181299.aspx> |  BACK TO MAIN TUTORIAL: @5:18-5:30: student\_detail has a constraint on it's student\_id column.  such that, it will only except values that are present in thestudent\_id column of student table. (AKA: Foriegn Key Constraint)  (Look at PHPAdmin tutorial video above for more info on how that works)(In PHP My Admin)5:44-6:04: Hibernate says you can do this in StudentDetail.java classby... declare the student class in student detail class.With getters and setters. And then mark 1to1 relationship..@6:03: Like this...: @6:03-6:08:StudentDetail.java/////////////////////////////////////// @OneToOne(cascade = CascadeType.ALL)@JoinColumn(name = "student\_id"); //<---Use <Student>.student\_id as foriegn key.private Student student; //<---Student.java entity (student table)///////////////////////////////////////@7:28-@7:41: (LONG EXPLANATION) "When we try to save Student.java and StudentDetail.java records in database""At that moment hibernate is going to generate the value of student\_id (@7:39)" "Which is there in student table.@7:40-8:00 (MORE EXPLANATION) "Now what we want is, hibernate should use the same value for<StudentDetail.java>.student\_id column (@7:48) " @8:00: Simple explanation: <StudentDetail.java>.student\_id should NOT be a different valuefrom <Student.java>.student\_idJmadison Note: HOLD ON! The @OneToOne and @JoinColumn were not enough for this behavior by themselves???   @8:16: @GenericGenerator  |  | | --- | | //StudentDetail.java:@Id @GeneratedValue(generator = "newGenerator") //name of primary key generator.@GenericGenerator(name = "newGenerator", strategy = "foreign",parameters = {@Parameter(value="student",name="property") })private int student\_id; |   @8:15-8:28: Instructing hibernate to NOT create a new student\_id value inStudentDetail.java or STUDENTDETAIL table.  @8:36-8:46: So here, we've established our 1:1 mapping betweenStudentDetail.java and Student.java@8:46-8:55:Now, only step remaining, to create main class...bla bla bla. .... Table.  @8:59: In Main.Java  |  | | --- | | package com.gontuseries.hibernate;import org.hibernate.Session;import org.hibernate.SessionFactory;import org.hibernate.cfg.AnnotationConfiguration;public class Main{public static void main(String[] args){Student student = new Student();student.setStudent\_name("Gontu1");StudentDetail studentDetail = new StudentDetail();studentDetail.setStudent\_mobile\_number("99XXX60XX");studentDetail.setStudent(student);SessionFactory sessionFactory = new AnnotationConfiguration().configure().buildSessionFactory();Session session = sessionFactory.openSession();session.beginTransaction();session.save(studentDetail);session.getTransaction().commit();session.close();sessionFactory.close();}//main func}//Main class |   @???-9:48: Explains how: session.save(studentDetail) will make hibernate savedata in BOTH `student` and `student\_detail` tables.@10:22: session.save(studentDetail) explanation is REALLY over now.  @10:41: Run application.@10:41-11:07: Hibernate inserted correct info into BOTH tables! Woooh!@11:30: DONE! Next time: What is uni-direction and bi-directional mapping? |

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| Hibernate Tutorial part 9 -  Unidirectional VS Bidirectional One to One Mapping, CascadeType  By: Gontuseries on youtube. https://www.youtube.com/watch?v=GTvt0\_1RNbw |
| @0:41: What is to come:   |  | | --- | | What is the real use of a one to one mapping in hibernate?What is the concept of a CascadeType in hibernate?What is a Unidirectional and Bidirectional one to one mapping? |  @1:33-1:47: StudentDetail.java is a CHILD class of Student.javaIf a table is grabbing a foreign key, that table is a CHILD. The table giving keys to other tables is the PARENT table.  @1:50-1:57: Yellow: Child object. Green: Parent object.Assigning a reference of the parent to the child object: StudentDetail.setStudent(student)  @2:00: An you are just saving the child object.JMadison Note: 3:01PM. Losing focus on taking notes. Quality just took a dive... Should I switch to something else? Maybe read clean-code? Plan: 1: Take walk.  2: Finish this tutorial so you can have good stopping point.  3: Read "Clean Code" book.  @2:03-- : And when you run this application: Hibernate will insert a record into the CHILD and PARENT table. @2:17-- IF you observer here, two important things are happening....   |  | | --- | | TWO IMPORTANT THINGS HIBERATE DOES FOR YOU HERE: 1. Hibernate takes care of mapping a table with its related table itself. Without you bothering about it.  2. Performing an operation on a child object also results in performing an operation on the related parent object too. |   @2:35-2:53: When saving the child object, the parent object is updated FIRST and then the necessary info from the parent object is used in the child object.  @2:55 - 3:03: Hibernate is only able to do this because you established this relationship at the Java code level.  @3:05-3:37: We are only modifying the child class. But the parent class gets updated. Because of the relationship we established.  @3:42--3:45: The same concept is applicable to....DELETE and UPDATE operations too. (I assumed as much) @4:03: Shows us what our code MIGHT have looked like if we did NOT use a 1:1 mapping. 1:1 mapping allows you to write less code.  @4:18-4:30: When you are performing... an operation on a child record.. YOu may or may NOT want hibernate to performa corrposponding action on the parent table.@4:30-4:35: And this is where the CASCADETYPE comes into the picture. @4:35-4:45: Using the cascade feature of 1:1 mapping...you can control it the way you want.@5:00: Mentions the reference to the parent class in the CHILD class.(Why not other way around? Need to think on that for a second...) Ah. Its like transforms and containers. The parent's position would not depend on the child. But the child's position depends on the parent. So in terms of dependencies, the PARENT doesn't need to know about the child in order to do it's things. But the child needs to know about the parent.  Visualize as: Needy child always needs to know where parent's are.  Neglectful parents don't need to know where kids are. @5:09: Were we talking about CASCADE TYPE? Yes... We were... (Finally going to explain it) @5:13: Cascade.ALL :Will support the 2-way binding of ALL operations. @5:37: If you don't want hibernate to do this auto-magical stuff,then write;@OneToOne() //<<Dont specify the cascadeType at all.@5:55: Persist: Only work for insterts. Look up other types later. @?:??-6:25: Current setup is UNI-directional. Edits to child affect parent. (But not other way around) @6:31-6:42: Reverse of this is NOT possible.Operation on Parent record will not affect child.@6:57: About to write additional code in the Student.java (parent) class so thatthe binding for the 1:1 relationship is bi-directional: @7:00: PASTED CODE, Student.java, new code pasted:  |  | | --- | | @OneToOne(cascade = CascadeType.ALL)@JoinColumn(name = "student\_id")private StudentDetail studentDetail;public StudentDetail studentDetail;public StudentDetail getStudentDetail(){ return studentDetail;}public void setStudentDetail(StudentDetail studentDetail){ this.studentDetail = studentDetail;} |  Jmadison Note: NOT a fan of that getter/setter.Do stuff like that, and you are eventually going to shadow a variable unintentionally and get some really weird and hard to find errors.@7:20: BIDIRECTIONAL MAPPING ESTABLISHED! @7:44: About to demonstrate the REVERSE operation in Main.java @8:20: I am done with this now. |

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| **2015.08.11: AUG 11TH, 2015** |
| **Summary Of What Happened Today: 1. Descovered the joys of auto-hotkey**   1. Programmed keyboard shortcuts for common folders and programs.  Should help me save a lot of time since I don't have to dig through directories anymore.   Example: ">dev" takes me to my developement folder.  If the hotkey is typed inside a text editor, it will ERASE itself after evoked.  Example: ">gitbash" opens git bash.  Cool thing about these shortcuts, is that I can use memorable names and don't have to constrain myself to single letters.   1. Programmed two shortcuts for templates.   [main] is replaced by:  /\*\*45678901234567890123456789012345678901234567890123456789012345678901234567890  -------------------------------------HEADER-------------------------------------  XXXXXXSUMMARYXXXXXXXXXXX  @author JMadison  @created 2015.XX.XX  -----------------------------------------------------------------------------\*\*/  public class Main {  public static void main(String[] args){    }//FUNC:main:END  }//CLASS:Main::END  [for] is replaced by:  int len = XXXXXXX.length;  for (int i = 0; i < len; i++) {  }  **2. Did hiberate tutorials from notes:**  A: Downloaded PHPMyAdmin  B:Downloaded Wamp Server  C: Troubleshooted Wamp Sever.  Would not start. Turns out port 80 was being used by SKYPE.  D: Got hiberate.cfg.xml configured correctly.  Now sucessfully writing to database and creating tables.  Ended day at: 1: Trouble shooting: unknown table status: TABLE\_TYPE  Wondering if it has anything to do with the type of sql database I made.  Maybe the protocols are wrong? 2: Talked to Shalish, wants me to take "Brain bench" java test tomorrow.  Wants us to program Guantlet (nexient testing service) in such a way  that models how "Brain Brench" serves up increasingly harder questions from  a given domain until the user starts getting the questions wrong.  He says not to program this yet, but to keep it in mind so that we can do it later.  AKA: Think about it enough so that refactoring is not a pain later when we try  to add this feature. |

# The current plan is to go over the tutorial notes from yesterday and see how well I remembered. What to do. After that, I am not sure what I'll do. But re-creating 11 tutorial videos from yesterday via

# notes should take a bit. Auto Hot Key: Two stroke auto hot key script that does NOT use sleep() command: http://www.autohotkey.com/board/topic/4745-newbie-attempt-at-two-stroke-hotkeys/

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| #i::  {  Input, Selection, L1 M T2  If Errorlevel = Timeout  {  Progress, c01 fm12 wm600 fs10 ws300 zh0, h = homepage.`ng = Google`nm=Read E-mail, , Internet Shortcuts, , Arial  Input, Selection, L1 M  Progress, Off  }  if Selection = g  Run http://www.google.com  else if Selection = h  Run http://my.yahoo.com  else if Selection = m  Run http://us.f318.mail.yahoo.com/ym/ShowFolder?rb=Inbox&login=1  Goto, End  } ; <http://www.autohotkey.com/docs/commands/Progress.htm>; Progress keyword seems to show a window. Like in this script, bringing up google in interenet explorer.; c : ??; fm: ?? FMn & FSn == font size vars.; wm: ?? WMn == weight main text.; fs: ?? FSn == font size for sub text.; ws: ?? WSn == weight of sub text.; zh: ?? ZHn == Height of object.Thus, IG takes me to Google's homepage, IH takes me to my homepage, , etc. Further, if I hesitate too long before completing the command, it throws up a MsgBox reminding me of the available commands.  It works, but is there a better way to do this? |

# Input command in auto-hotkey allows for multiple sequences of keys to be pressed without

# using the "sleep" command. http://www.autohotkey.com/docs/commands/Input.htm

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| ; This is a working hotkey example. Since the hotkey has the tilde (~)  ; prefix, its own keystroke will pass through to the active window.  ; Thus, if you type [btw (or one of the other match  ; phrases) in any editor, the script will automatically perform an  ; action of your choice (such as replacing the typed text):  ~[::  Input, UserInput, V T5 L4 C, {enter}.{esc}{tab}, btw,otoh,fl,ahk,ca  if (ErrorLevel = "Max")  {  MsgBox, You entered "%UserInput%", which is the maximum length of text.  return  }  if (ErrorLevel = "Timeout")  {  MsgBox, You entered "%UserInput%" at which time the input timed out.  return  }  if (ErrorLevel = "NewInput")  return  If InStr(ErrorLevel, "EndKey:")  {  MsgBox, You entered "%UserInput%" and terminated the input with %ErrorLevel%.  return  }  ; Otherwise, a match was found.  if (UserInput = "btw")  Send, {backspace 4}by the way  else if (UserInput = "otoh")  Send, {backspace 5}on the other hand  else if (UserInput = "fl")  Send, {backspace 3}Florida  else if (UserInput = "ca")  Send, {backspace 3}California  else if (UserInput = "ahk")  Run, http://ahkscript.org  return |

# http://www.autohotkey.com/board/topic/71450-open-folder/ Drew Benson on altering SQL tables in production:

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| So Joel just pointed out to me a mistake in the DB SQL, and I just wanted to clarify a point of procedure.[11:01:46 AM] Drew Benson: Whenever you need to change the DB schema, it's best practice to create a script that effects only that change.[11:02:06 AM] Drew Benson: Recreating the DB from scratch with every script is impossible once you have some real data.[11:02:27 AM] Drew Benson: So for example, if you just need a new column, you would write an 'ALTER TABLE' script.[11:02:37 AM] Drew Benson: Your DB tools can help you write that, or I can. |

# Final auto-hotkey script: (Intentionally smaller than able to be read. Just storing a copy of it here)

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| EXAMPLE USAGE: | SCRIPT BELOW (Intentionally smaller than readable) Just in this document as an easy way to referenceit chronologically. |
| If I type: >dev My C:\DEV folder opens up.If I type: [for] It is replaced with: int len = XXXXXXX.length;for (int i = 0; i < len; i++) {}//Other notes: Main site for auto hot key: <http://ahkscript.org/docs/commands/Send.htm>  Hoping this will save me a lot of time withall of the time I've been spending just diggingthrough folders all the time. | #NoEnv ; Recommended for performance and compatibility with future AutoHotkey releases.; #Warn ; Enable warnings to assist with detecting common errors.SendMode Input ; Recommended for new scripts due to its superior speed and reliability.SetWorkingDir %A\_ScriptDir% ; Ensures a consistent starting directory.;used for inserting snippets. Example [for] writes a for-loop snippet.~[::{Input, UserInput, V T5 L10 C, {enter}.{esc}{tab}, for],whileif (ErrorLevel = "Max"){MsgBox, You entered "%UserInput%", which is the maximum length of text.return}if (ErrorLevel = "Timeout"){MsgBox, You entered "%UserInput%" at which time the input timed out.return}if (ErrorLevel = "NewInput")returnIf InStr(ErrorLevel, "EndKey:"){MsgBox, You entered "%UserInput%" and terminated the input with %ErrorLevel%.return}; Otherwise, a match was found.if (UserInput = "for]"){Send, {backspace 5}CODE\_SNIPPET\_JAVA\_FORLOOP()}else if (UserInput = "while"){Send, {backspace 6}Run, "C:\DEV\SDK\JAVA"}return}~>::{Input, UserInput, V T5 L10 C, {enter}.{esc}{tab}, dev,java,hibernate,google,caif (ErrorLevel = "Max"){MsgBox, You entered "%UserInput%", which is the maximum length of text.return}if (ErrorLevel = "Timeout"){MsgBox, You entered "%UserInput%" at which time the input timed out.return}if (ErrorLevel = "NewInput")returnIf InStr(ErrorLevel, "EndKey:"){MsgBox, You entered "%UserInput%" and terminated the input with %ErrorLevel%.return}; Otherwise, a match was found.if (UserInput = "dev"){Send, {backspace 5}Run, "C:\DEV"}else if (UserInput = "java"){Send, {backspace 6}Run, "C:\DEV\SDK\JAVA"}else if (UserInput = "hibernate"){Send, {backspace 10}Run, "C:\DEV\SDK\JAVA\_TECH\HIBERNATE"}else if (UserInput = "google"){Send, {backspace 7}Run http://www.google.com}return};;http://www.autohotkey.com/board/topic/91839-turning-off-and-on-switch/;;CTRL(^) + ALT(!) + S,;;used as toggle to turn auto hotkeys on/off.^!s::Suspend, PermitSuspend, ToggleReturnCODE\_SNIPPET\_JAVA\_FORLOOP(){Send, int len = XXXXXXX.length{;}Send, {ENTER}Send, for {ASC 40}int i = 0{ASC 59} i < len{ASC 59} i{+}{+}{ASC 41} {ASC 123}Send, {ENTER}Send, {ENTER} ;;<--to make space for typing in body.Send, {ASC 125}Send, {Up 1} ;;<--to position cursor inside body of for-loop block.Return} |

# [GOTOLABEL:BLOCKER\_PHPMYADMIN] (Where we came from)

# [LABEL:TROUBLESHOOT\_PHPMYADMIN] (Where we now are) Problem summary: PHP MY Admin is not running on local host. Figuring out how to configure it correctly.

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| <http://docs.phpmyadmin.net/en/latest/setup.html>Lynda excerpt: (Advertisement that might not give me entire solution?) <https://www.youtube.com/watch?v=KFYXY3MT-XA> @1:34 - 1:38: Needs to be in apache htdocs folder.C:\Apache... What is that? Is that supposed to be wamp server? Is that supposed to be tomcat?? I don't have this folder...  <http://stackoverflow.com/questions/13544165/wamp-server-wont-run> In SYS TRAY: Goto: Wamp > Apache > Service > Test Port 80:  It was skype. After exiting skype it says, "Your port 80 is not actually used" YAY!  I HAVE THE GREEN LIGHT! http://localhost/phpmyadmin/ Now works.  Go back to where you were before you ran into technical trouble:[GOTOLABEL:BLOCKER\_PHPMYADMIN] (Where we came from) |

# [GOTOLABEL:BLOCKER\_HIBERNATE\_CFG\_XML] (Go back to where you came from before running into trouble.)

# [LABLE:TROUBLESHOOT\_HIBERNATE\_CFG\_XML] (We are here to troubleshoot and solve the problem)

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| **//Try running with this:**  **//src: http://stackoverflow.com/questions/24089645** <hibernate-configuration>  <session-factory>  <property name="connection.driver\_class">com.mysql.jdbc.Driver</property>  <property name="connection.url">jdbc:mysql://localhost:3306/test\_db</property>  <property name="connection.username">root</property>  <property name="connection.password">xxx</property>  <property name="connection.pool\_size">1</property>  <property name="dialect">org.hibernate.dialect.MySQLDialect</property>  <property name="current\_session\_context\_class">thread</property>  <property name="cache.provider\_class">org.hibernate.cache.NoCacheProvider</property>  <property name="show\_sql">true</property>  <property name="hbm2ddl.auto">validate</property>  <mapping class ="models.Category" />  </session-factory>  </hibernate-configuration>  And maybe blend it with one of the cfg.xml files found in your  hibernate directory.  Going to use THIS hibernate file: C:\DEV\SDK\JAVA\_TECH\HIBERNATE\hibernate-release-4.3.10.Final\project\hibernate-core\src\test\resources\hibernate.cfg.xml Ok... We might be able to work with this. Just changed hbm2ddl.auto to create. |

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| [LABEL:TROUBLESHOOT\_UNKNOWNDATABASE] //(Label defining where we currently are) [GOTOLABEL:BLOCKER\_UNKNOWNDATABASE] //(To get back where we came from)PROBLEM IS HERE, in hibernate.cfg.xml: <property name=*"connection.url"*>jdbc:mysql://localhost:3306/test\_db</property>We need to create database in PHPMyAdmin..Review how that was done in the video...@5:00 - 5:05: "hmb2ddl.auto is set to create..." <https://www.youtube.com/watch?v=sabu4EbB9as> (<<link to current tutorial we are on) AH! The table will be created.  It was just about removing the other table reference? They have: <property name="connection.url">jdbc:mysql://localhost:3306/hibernateTutorials</property> In context... The name of our database is "hibernate tutorials" where is that set? Sure, the table is created if not exists... But the database too???created a database in PHPMyADMIN and called it: hiberBase And then used: <property name="connection.url">jdbc:mysql://localhost:3306/hiberBase</property>FIXED! But lead to another problem.Trouble Shooting: Part2:...The SQL is now firing off. And the JAVA project has no errors... But the database logs DO have errors in PHP My ADMIN. |

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| 2015.08.11: AUG 11TH, 2015 |
| Summary: Began work on another tutorial in an effort to trouble shoot a problem with auto-generated primary keys. While doing this new tutorial, realized that, while it gives me knowledge of primary key auto-generation is hibernate. It is NOT applicable to the previous tutorial because it uses xxxx.hbm.xml config files rather than annotations. Read up on the pros/cons of annotations vs XML config. Got a bit burnt out on the tutorial. Walked around and read some clean-code book. |

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| Trouble shooting, part2, continued from yesterday: Trying this: <!-- http://stackoverflow.com/questions/16275928/hibernate-session-save-does-not-reflect-in-database --> <property name=*"connection.autocommit"*>true</property>This whole post looks good for later reference:  |  | | --- | | I was also trying to understand the point: **save() can perform Insert operation outside transaction boundary** so I did something like this  SessionFactory factory = new Configuration().configure()  .buildSessionFactory();  Session session = factory.openSession();  session.save(user);  session.close();  But data not inserted in database.So I again tried this and now it worked for me and data inserted sucessfully:  in configuration file:  <property name="connection.autocommit">true</property>  and in java code:  SessionFactory factory = new Configuration().configure()  .buildSessionFactory();  Session session = factory.openSession();  session.save(user);  session.flush();  session.close(); |  Found solution! Refresh. But you have to use F5, not ENTER in the URL. Also, the one entry is a little bit hard to notice if you don't know where to look.  Go back to where we came from: [GOTOLABEL:BLOCKER\_UNKNOWNDATABASE] |

# [LABEL:TROUBLESHOOT\_DEPRECIATED\_JAVA]

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| SessionFactory sessionFactory = **new** ~~AnnotationConfiguration~~().~~configure~~(). ~~buildSessionFactory~~();Is depreciated code. Lets look into how to fix that now before moving onwith the rest of our tutorial notes. org.hibernate.cfg.AnnotationConfiguration Replaced by: org.hibernate.cfg.Configuration Source: <http://www.mkyong.com/hibernate/hibernate-the-type-annotationconfiguration-is-deprecated/>WAIT! buildSessionFactory() is also depreciated:   |  | | --- | | //http://stackoverflow.com/questions/8621906/is-buildsessionfactory-deprecated-in-hibernate-4 //Cobbled this together from references: **public** **static** SessionFactory buildSessionFactory() {  Configuration configuration;  ServiceRegistry serviceRegistry;  SessionFactory sessionFactory;    configuration = **new** Configuration();  configuration.configure();    serviceRegistry = **new** StandardServiceRegistryBuilder().applySettings(  configuration.getProperties()).build();  sessionFactory = configuration.buildSessionFactory(serviceRegistry);  **return** sessionFactory;  }//FUNC:createSessionFactory:END |  Go back to where you came from: [GOTOLABEL:FIX\_DEPRECIATION\_BEFORE\_CONTINUING\_TO\_PART\_SIX] |

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| [LABEL:TROUBLESHOOT\_AT\_GENERATEDVALUE] (Label for the problem I am trouble shooting)@GeneratedValue(strategy=GenerationType.*AUTO*)Does NOT work...<http://stackoverflow.com/questions/5129552/generatedvaluestrategy-generationtype-auto-not-working-as-thought>Try .TABLE ... ERROR: Missing sequence or table: hibernate\_sequences  http://stackoverflow.com/questions/14561385/missing-sequence-or-table-hibernate-sequence  You can supply a sequence name as part of the GeneratedValue annotation. eg. **@GeneratedValue(strategy=SEQUENCE, generator="employee\_id\_seq")** This mapping may also be important in our cfg.xml file:   |  | | --- | | <id name="id" type="int" column="id">  <generator class="sequence">  <param name="sequence">employee\_id\_seq</param>  </generator>  </id>  File sample:  <?xml version="1.0" encoding="utf-8"?>  <!DOCTYPE hibernate-mapping PUBLIC  "-//Hibernate/Hibernate Mapping DTD//EN"  "http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">  <hibernate-mapping>  <class name="Employee" table="EMPLOYEE">  <meta attribute="class-description">  This class contains the employee detail.  </meta>  <id name="id" type="int" column="id">  <generator class="sequence">  <param name="sequence">employee\_id\_seq</param>  </generator>  </id>  <property name="firstName" column="first\_name" type="string"/>  <property name="lastName" column="last\_name" type="string"/>  <property name="salary" column="salary" type="int"/>  </class>  </hibernate-mapping> |  ARGH! Decided to use this: @GeneratedValue(strategy=SEQUENCE, generator="roll\_table")Getting Error:Exception in thread "main" org.hibernate.AnnotationException: Unknown Id.generator: roll\_tableHack in RollTableEntry.java: @SequenceGenerator(name = "roll\_table", sequenceName = "roll\_table", allocationSize =1)Maybe find a tutorial on sequence generator in hibernate?Maybe using generated values from another table requires a JOIN column?[GOTOLABEL:BLOCKER\_AT\_GENERATEDVALUE] (go back to where you came from after fixed) |

# Tutorial: Sequence Generator, Hibernate

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| Hibernate Tutorial :How to generate primary key automatically using the hibernate framework BY: Vivekananda Reddy <https://www.youtube.com/watch?v=I0xAjWa_CNA> Work for this tutorial: CHRONO\07\_PrimaryKeyGen\WrkSpc |
| @0:34: ||New|| --> |Java Project| @0:39: Call it "PrimaryKeyGenerator" @0:52: Opening PrimaryKeyGen.java @1:25: Making new hibernate configuration file:  src/Hibernate.cfg.xml @1:39: Init of Hibernate.cfg.xml done. @1:51: Opens previous config file to copy contents out of it into this new file. @2:12: REMOVING from cfg.xml:  <property name="hbm2ddl.auto">update</property> @2:16-2:20: "We have..."  The connection to our database.  Auto Commit disabled. @2:20: "And then I have..." <property name="show\_sql">true</property> <property name="formal\_sql">true</property> <property name="use\_sql\_comments">true</property>  @2:31: The mapping file... What is... this for?? <mapping resource="Emp.hbm.xml"/>  ~~@2:44: Making a new class... called...~~  @2:55: Nevermind, making table in SQL database FIRST before making the POJO (Plain old java object)  (Shows us a query of a student database in SQL)  |  |  | | --- | --- | | JMadison Note: Creating SQL table in PHPMyAdmin: Database Name: "mohammed" Number of rows: 1 Row name: Id |  |  @3:08-3:11: <PrjRoot> --> |New| --> |Class| @3:13: Call the class: "Student.java"   |  | | --- | | JMadison Note: Package = "" = blank/default.Location= <PrjRoot>/src |   @???-3:33: Looking for a PREVIOUSLY created Student.java source file.  |  | | --- | | //Student.javaimport java.io.Serializable;public class Student implements Serializable{private int id;private String name;public Student(){};//TODO: Generate getters+setters.} |  @3:52: Just pasted source code into Student.java   |  |  | | --- | --- | | JMadison Note:  How do you add new column of info to database?  Looks like we need a name + id. ALTER TABLE table\_name ADD column\_name datatypeTrouble Shooting Source URL: http://www.techonthenet.com/mysql/tables/alter\_table.php | //Actual SQL command I used: //WRONG:ALTER TABLE `student\_table` ADD `name` VARCHAR //CORRECT: ALTER TABLE `student\_table` ADD `name` VARCHAR(35) NULL |   @???--4:31: "Next thing we need to do is create a hibernate mapping file.@4:31: <PrjRoot> --> |New| --> |Other| @4:34-4:45: --> |>XML FILE<| --> \*"Student.hbm.xml"\_\* @4:57: Re-using THIS mapping file that is open on screen:  |  | | --- | | <?xml version="1.0" encoding="UTF-8"?><!DOCTYPE hibernate-mapping PUBLIC "-//Hibernate/<hibernate-mapping><class name="Student" table="STUDENT" lazy="true" |  @5:19: Explaining file. @???: The generated class is "assigned" @??5:30-5:34: SMALL "s" for "string" because it is hibernate type.  @5:58: Creating new class. @6:03: Class Name: InsertStudent @6:06: [Finish] @6:21: Specifying mapping resource in hibernate.cfg.xml: <!-- mapping file --> <mapping resource="Student.hbm.xml"/>  @6:30: <PrjRoot>/src --> Right-Click Context menu @6:31: NO CLUE WHAT WAS CLICKED. (offsceen selection maybe?)  6:33: Not sure what this menu is, but it is for adding the hibernate jars..  |  | | --- | |  |  @6:34 "So I go to properties" AH! <PrjRoot>/src --> RIGHT-CLICK --> |PROPERTIES|  Wait... Sorry.. NO... @6:37: <PrjRoot> --> RIGHT-CLICK --> |Build Path| --> |Configure Build Path| @6:42: ::JavaBuildPath:: /Libraries\ --> [Add External JARs] @7:06: All ALL THE JARS. From some folder. Who knows where. Think  I already covered this in previous tutorial.  |  | | --- | | Suspects to include: C:\DEV\SDK\JAVA\_TECH\MYSQL\DRIVERS\mysql-connector-java-5.1.36 C:\DEV\SDK\JAVA\_TECH\HIBERNATE\hibernate-release-4.3.10.Final\lib\required @6:50: "I have hibernate compulsory jars..." @6:54-7:02:"And from last time I have kept my... What do you call? Database jar here so I don't have to add it separately." I see something that looks like... ojdbc14\_g.(jar) <--(This guy has show file extentions for known types off. Another reason for me not to like him.) |  @7:20-9:010-??:??: Inside: InsertStudent.java: Note: This was made in 2012, probably out of date using deprecated code. [LABEL:BLOCKER\_MOHAMMED\_DEPRECATED\_BUILDSESSIONFACTORY] [GOTOLABEL:TROUBLESHOOT\_MOHAMMED\_DEPRECATED\_BUILDSESSIONFACTORY]  |  |  | | --- | --- | | **DEPRECATED CODE (From Example)** | **UPDATED CODE: (From my research)** | | **import** org.hibernate.Session;  **import** org.hibernate.SessionFactory;  **import** org.hibernate.Transaction;  **import** org.hibernate.cfg.Configuration;  //InsertStudent.java  **public** **class** InsertStudent {  **public** **static** **void** main(String[] args){  Configuration cfg = **new** Configuration();  cfg.configure("Hibernate.cfg.xml");  SessionFactory sf =  cfg.~~buildSessionFactory~~();  Session s = sf.openSession();  Transaction tx = s.beginTransaction();    //Insertion code:  //Transaction details:  Student s1 = **new** Student();  s1.setId(6);  s1.setName("KAT");    //Finalize transaction:  s.save(s1);  s.flush();  tx.commit();  s.close();  }//FUNC:main:END }//CLASS:Main::END | **This code is located in the trouble shooting section of my document.**  NOTE: I seem to be missing the contents of  Student.hbm.xml... Where is that? What are the contents?  Ah! I had transcribed it from the video and put it in my notes at: CHRONO\07\_PrimaryKeyGen\Student.hbm.xml //Student.hbm.xml below: (with needed edits)   |  | | --- | | **<?xml version="1.0" encoding="UTF-8"?>**  **<!DOCTYPE hibernate-mapping PUBLIC "-//Hibernate/**  **<hibernate-mapping>**  **<class name="Student"**  **table="student\_table" lazy="true">**  **<id name="id" column="id"**  **type="integer">**  **<generator class="assigned"/>**  **</id>**  **<property name="name"**  **column="name" type="string" />**  **</class>**  **</hibernate-mapping>** | |  Trouble shoot:  |  | | --- | | An invalid XML character (Unicode: 0x3c) was found in the public identifier My guess is that this is because I cut+paste from word into editor.  Maybe smart quote? (It was actually a ">" symbol) ANSWER: Header on my Student.hbm.xml file is broken. https://jirawong.wordpress.com/2013/08/10/hibernate-4-example-xml-mapping-style/ For the intact header. |  @11:08: Code is running. SQL makes student entry into database. Trouble shoot:   |  |  | | --- | --- | | 1. I don't see anything in PhpMyAdmin 2. The SQL output is telling me it created the table... Swear the table already existed.  Is my SQL going into the WRONG database? (YES, that was it)  OUTPUT:   |  | | --- | | INFO: HHH000227: Running hbm2ddl schema export  Hibernate: drop table if exists student\_table  Hibernate: create table student\_table (id integer not null, name varchar(255), primary key (id))  Aug 13, 2015 10:56:06 AM org.hibernate.tool.hbm2ddl.SchemaExport execute  INFO: HHH000230: Schema export complete Hibernate: insert into student\_table (name, id) values (?, ?) | |  |  | | --- | | Trouble Shooting resolved: You were putting it in database `hiberBase` when you wanted to put it into `mohammed` Hence why "nothing" happened, yet hibernate printed out SQL and there were no errors.  In hibernate.cfg.xml: |   @11:29: I don't want to set my ID like this. (Referencing the: s1.setId(6))  @12:00: "I have to make small changes in the hibernate mapping file." @12:12: Currently in Student.hbm.xml:  <generator class="assigned"/>@12:23: Changing to: <generator class="increment"/> JMADISON NOTE: You'll also need to change hibernate.cfg.xml: <property name=*"hbm2ddl.auto"*>create</property> to: <property name=*"hbm2ddl.auto"*>validate</property> If you actually want to see an appended sequence after multiple runs of program.  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Break-Away: The Hibernate mapping file is one choice for providing Hibernate with this metadata. <https://docs.jboss.org/hibernate/orm/4.0/quickstart/en-US/html/hibernate-gsg-tutorial-basic.html>Hmm... So you can use annotations... Or a mapping file? <http://stackoverflow.com/questions/10010435/difference-between-hibernate-mapping-file-and-annotation>  |  | | --- | | In my opinion xml mapping files help for a better design of the database and application. Annonations tend to force the direction Java class -> mapping -> database table, which is the wrong direction (the database always should be designed first - changing database tables later is a lot of effort - most performance leaks are in a bad database design - Java classes easily can be changed any time).There if one functional advantage of xml files: If you have different databases with structural differences, for example one Oracle database and one MySQL database, perhaps some differences in table names and data types, then for porting your application from one database to another you only need to write some new mapping files. You do not need to change a single line of Java code. This is not possible with annotations. |  |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | |  | One good use-case for using the XML approach is if you are persisting objects that have been generated by another utility and therefore cannot be annotated.  Other than that, I would use annotations as it tends to lend itself to a cleaner implementation and you're less likely to introduce bugs by misspelling property names. | |  https://en.wikipedia.org/wiki/Convention\_over\_configuration Only when the desired behavior deviates from the implemented convention is  explicit configuration required.Conclusion: There is a bit of controversy over which one to do. Learning THIS tutorial may NOT help me fix the previous tutorial I was working on. Since this tutorial is XML configuration and the other tutorial is ANNOTATION configuration. But having experience with both can't hurt. |  @12:35-12:43: Inserting "bradd222" NOT setting any id for it.  @13:23-13:49-14:15-14:37:  Hibernate framework AUTO-incrimented by first doing a query to find the MAX ID within the table so it could make an entry of (MAX ID + 1).  @15:05 - 16:29: Still explaining, but now going into client code.@16:29-16:44 More explaining? Generator class can have more values than just incriment. "sequence" is also one. Pulls from a table of sequences. <generator class="sequence"/> THAT IS THE ONE I WANTED!!!!  @17:06:  Must "Assign the sequence":  <param name = "se"> </param>@??:??--17:30--17:43 Here is the code for sequence: Student.hbm.xml:  |  | | --- | | <generator class="sequence"> <param name="sequence"></param> </generator> |  JMADISON NOTE: name="sequence" will point to a table called "sequence" within our database.  @17:36: Name of sequence will be the name of the sequence we have generated in our SQL database. .... I don't like this guy ... He used the word "sequence" for both the class and what I believe to be the table. That makes it harder for me to tell what is connected to what! Hey, I've got a great example for how to teach you to multiply a 4x4 matrix by a 2x1: [1 2] \* [1] = [ 1 ]+[ 2 ] = [3] [2 1] [2] [ 4 ] [ 2 ] [6] Note to self, actually review how to multiply matricies. Not sure that was correct... (2x2) \* (2X1)... Okay. Inners match. So multiplication is possible. And result is a 2X1. Good. Getting distracted. Better get back on task. Feeling lack of focus... Going to run around and read "clean code".@17:55-???: SQL query to create sequence: @17:58-19:07: BLACK SCREEN. Explanation. NO CODE. Useless to me. @19:07: SQL for create sequence back on screen:  |  |  | | --- | --- | | CREATE SEQUENCE customers\_seq START WITH 1000 INCRIMENT BY 1 NOCACHE NOCYCLE;  minvalue maxvalue | @19:32: How it was typed in PHPMYadmin: create sequence seq\_student |  Trouble shoot: Creating sequence:  |  | | --- | | I used: CREATE SEQUENCE seq\_student (tried lowercase too. case shouldn't matter) And got an error: #1064 - You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sequence seq\_student' at line 1 ANSWERS: http://stackoverflow.com/questions/26578313/how-do-i-create-a-sequence-in-mysql I think I found a fix. For phpMyAdmin (which I was using) you can use the following code.  ALTER TABLE ORD AUTO\_INCREMENT = 622; In MySQL, you use a column with the AUTO\_INCREMENT attribute  MY SQL: Using an auto-incriment command: http://www.tutorialspoint.com/mysql/mysql-using-sequences.htm |    @19:49-19:53: Student.hbm.xml: (UPDATED to reference seq\_student table)  |  | | --- | | <generator class="sequence"> <param name="sequence">seq\_student</param> </generator> |   Still feeling burnt out. Going to watch: @17:53-27:28 of tutorial without taking notes. <--2015.08.13. I lied. I took notes. See below. Then maybe go home and sleep till tomorrow.@20:24: Error happened.@22:28: "Unsaved Value Attribute" in Main.java s.save(s1) ---> s.saveOrUpdate();  @23:13: In Student.hbm.xml: <id name="id" column="ID" type="integer"> Becomes: <id name="id" column="ID" type="integer unsaved-value="4">@23:46: s1.setId(4); ...setting when we are supposed to use auto-generated values? Interesting...  @23:45-24:26: If MATCHES 4, it is "SAVE", it does NOT match, it is "UPDATE"... JMadison Note: Not sure what that difference means.  @26:51: JMadison Note: Been going on explaining for a while... I think this tutorial is basically over. |

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| 2015.08.11: AUG 11TH, 2015 |
| Summary: (What actually happened) 1. Finished up hbm.xml primary key gen tutorial. 2. Make explanation of "Why I am doing what I am doing" 3. Decided NOT to finish gontuseries tutorial since the sequence configuration I was trying to do simply is NOT supported by MySQL. 4. Read chapter 1 of spring in action. I imagine the next chapters will go slower as first chapter did not involve writing any code. Will need to do more tomorrow before I can get a REAL idea of how long it should take. |

# Plan today: (What I planned on happening) 1. Finish up hbm.xml based primary key gen tutorial. 2. Figure out primary key gen in previous tutorial I was doing. (The Gontuseries one) 3. Do some "Spring in Action" book. 4. Calculate your burn-rate for the "Spring in Action book".

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| [LABEL:TROUBLESHOOT\_MOHAMMED\_DEPRECATED\_BUILDSESSIONFACTORY]We had pretty much the EXACT problem in previous tutorial by Gontuseries. Go here to see that solution: [GOTOLABEL:TROUBLESHOOT\_DEPRECIATED\_JAVA] I will be working off that solution here and doing any necessary edits to haveIt match this tutorial.  I am pretty happy with how this looks, however, I won't be sure it works until I've completed more of the tutorial.  |  | | --- | | **import** org.hibernate.Session;  **import** org.hibernate.SessionFactory;  **import** org.hibernate.Transaction;  **import** org.hibernate.boot.registry.StandardServiceRegistryBuilder;  **import** org.hibernate.cfg.Configuration;  **import** org.hibernate.service.ServiceRegistry;  //InsertStudent.java  **public** **class** InsertStudent {  **public** **static** **void** main(String[] args){    //Declare locals:  SessionFactory sf;  Session s;  Transaction tx;  Student s1;    sf = *buildSessionFactory*("Hibernate.cfg.xml");  s = sf.openSession();  tx = s.beginTransaction();    //Insertion code:  //Transaction details:  s1 = **new** Student();  s1.setId(6);  s1.setName("KAT");    //Finalize transaction:  s.save(s1);  s.flush();  tx.commit();  s.close();    }//FUNC:main:END    //Cobbled this together from references:  //http://stackoverflow.com/questions/8621906/  **public** **static** SessionFactory buildSessionFactory(  String configFileName\_CfgXml) {  Configuration configuration;  ServiceRegistry serviceRegistry;  SessionFactory sessionFactory;    configuration = **new** Configuration();  configuration.configure(configFileName\_CfgXml);    serviceRegistry = **new** StandardServiceRegistryBuilder().applySettings(  configuration.getProperties()).build();  sessionFactory = configuration.buildSessionFactory(serviceRegistry);  **return** sessionFactory;  }//FUNC:createSessionFactory:END }//CLASS:Main::END |  [GOTOLABEL:BLOCKER\_MOHAMMED\_DEPRECATED\_BUILDSESSIONFACTORY] (Go back to where you came from when solved) |

# Just finished tutorial from yesterday via reading my notes. Time for spring tutorial stuff: Though, 10 minutes away from lunch... Check email? Stop wamp server that is blocking port 80 and sign into skype for a while. Hmm... The gontu series tutorial... We could disregard the "sequence" mapping that does NOT work. <https://www.youtube.com/watch?v=gUWwUG1UFME> And... Keep on working on that... Maybe come back to it later? I've found a decent stopping point. And drew handed me a HUGE spring book yesterday I should start taking a crack at.

# SPRING IN ACTION: Chapter 1 notes:

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| Downloaded Spring Book PDF copy: C:\Users\jmadison\Desktop\KeepTheJobReport\CHRONO\08\_SpringInAction Flippin through physical pages can be... annoying. Though being able to walk around with a physical book is nice.  Spring Into Action: Chapter 01: AOP = Aspect oriented programming. DI = Dependency Injection. EJB = Enterprise Java Beans. Off topic: Stack ranking assumes that employees are participating in a nontransitive game.  Where if employee A is better than B. And B is better than C. Then A must also be better than C. I think its more like rock-paper-sizzors though. Also, if you have a room full of people who are ranked -A to A+ are you really going to fire 10% of the -A people?  EBOOK\_PAGE:05: Invasive programming. Locking you into a framework by being forced to extend their classes. Examples: EJB 2, Struts, WebWork, Tapestry, and many others. Unless otherwise mentioned, the page numbers referenced are going to be from the PDF version of the book.7: Constructor injection. (Dependencies by interfaces rather than EXTENDING/Inheritance)Allows you to NOT be forced to be locked into a framework by building your classess of of framework classes.8: Mockito , testing framework.9: PrintStream, Wiring. 15: BeforeAdvice & AfterAdvice. AspectJ Language.18-19: Mapping could be done with less code.Using: "Convention over configuration".Which I believe hibernate implements for database access. 19-20: ClassPathXMLApplicationContext("knight.xml") allows for relative paths. Also searches jar files. 22: Framework contents: 60 Jars, 20 Modules, 3 jars per module. 23: ORM vs JDBC, Spring has hooks for hibernate. 25: Spring portfolio. 26: Spring Data for databases.  NoSQL, MongoDB = Document Database. Neo4j = graph database. 27: Spring Boot. |

# Thought: Can I make a CTRL + Paste in auto hotkey? Thought: Should I make test repos in git and mess around to get some hands on learning?

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| 2015.08.14: (Aug 14th, 2015) |
| Summary: Auto hot key and spring book. It is friday. I is 6PM, I am out of here. |

# Plan for today: Do nothing but spring book. See how far you get through it, calculate burn rate. Possibly see if you can cut+paste from document using autohotkey and make more templates like [for] and [main] Work for this day is in: CHRONO\09\_SIA\_CH02

# PG34: class: SgtPeppers PG37: My CDPlayerTest JUnit test should be a success. Looking in on how to set that test up in eclipse. How did I include spring related jars again? <PrjRoot>/src --> Right Click -->|Configure Build Path| --> /Libraries\ --> [Add External Jars] Match lists using objects? In AutoHotkey: http://www.autohotkey.com/board/topic/103401-complicated-issue-with-input-command-matchlist/

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| <http://www.autohotkey.com/board/topic/103401-complicated-issue-with-input-command-matchlist/> <http://www.autohotkey.com/board/topic/51532-execute-string-in-ahk/> call := "func"  %call%()  func() {  MsgBox, ok  }  http://ahkscript.org/docs/Objects.htm Call a method with a computed method name: ReturnValue := Object[MethodName](Parameters)  So I probably can do: Object[shortcutkey]();  Tells me that UserInput can take a list type, but not sure how to use it: <https://www.autohotkey.com/docs/commands/Input.htm>  This is telling me lists are like: http://www.autohotkey.com/board/topic/91725-an-easy-way-to-create-a-list-in-ahk/ TheList:= fora|bena|iana But I can't get that to work with function.  http://www.autohotkey.com/board/topic/79649-if-var-in-matchlist-bug/ Suggests lists are comma separated.  ANSWER TO ASSOCIATIVE ARRAYS: http://www.autohotkey.com/board/topic/95569-objectinsertkey-value-example/ AssociativeArray := {}  Key := "TestKey"  Value := "TestValue"  AssociativeArray.Insert(Key, Value)  MsgBox % AssociativeArray.TestKey |

# Back onto page 38 of spring in action PDF: @Page 39: "You might want to consider creating an empty marker interface in the packages to be scanned." Sounds interesting. I think I get it. But I would have to see an example. @page 41: @AutoWired(required=false) Says that if we use this, we need to check for null so we don't get null pointer exceptions. THUS: Combining with what I've read in "clean code" we should never use @AutoWired(required=false)

# because checking for null really dirties up code.

# @page41: @Inject is approx== to @AutoWired, but part of Java Dependency Injection specification. And NOT spring specific annotation.

# LEFT OFF: Page 43, TOP OF PAGE 43. 2015.08.14. 6:02PM.

# SAT: Came in. Did more spring. Left off on page 52. SUN: Trying to finish chapter 2 before monday. Don't feel like working today... But I'd like to get a chapter covered every working day. So I've been considering SAT+SUN "makeup" days for when I fall behind. Might want to re-consider what I am capable of in a short amount of time.... BLOCKER: <http://stackoverflow.com/questions/30171912/how-to-test-print-that-made-by-function>

MY error: StandardOutputStreamLog cannot be resolved to a type  
  
Found this on github:  
[system-rules](https://github.com/stefanbirkner/system-rules)/[src](https://github.com/stefanbirkner/system-rules/tree/master/src)/[main](https://github.com/stefanbirkner/system-rules/tree/master/src/main)/[java](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java)/[org](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org)/[junit](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org/junit)/[contrib](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org/junit/contrib)/[java](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org/junit/contrib/java)/[lang](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org/junit/contrib/java/lang)/[system](https://github.com/stefanbirkner/system-rules/tree/master/src/main/java/org/junit/contrib/java/lang/system)/**StandardOutputStreamLog.java**   
https://github.com/stefanbirkner/system-rules/blob/master/src/main/java/org/junit/contrib/java/lang/system/StandardOutputStreamLog.java