How to Setup a lite Grouper Development Environment for Grouper

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This is considered a "lite" dev env since we are not cloning git, or making pull requests. We just want to run grouper and make GSH templates or hooks or provisioners or daemons.

Note, if using Java 17, pass this argument to tests and tomcat

--add-opens java.base/java.lang=ALL-UNNAMED --add-opens java.base/java.util=ALL-UNNAMED --add-opens java.sql /java.sql=ALL-UNNAMED

- 1. Install Java17 (or whatever version your container runs in)
- 2. Install eclipse, in installer select "Eclipse IDE for Enterprise Java and Web Developers", select the Java17 you just installed
- a. Make sure eclipse ini has at least 3 gig memory
- 3. Add Java17 JRE

type filter text	Installed JREs			← → ⇒
> General	Add, remove or edit JRF Installed JREs:	E definitions. By default, the checked	I JRE is added to the build path of n	ewly created Java projects.
> Help	Name	Location	Туре	Add
Install/Update	🗌 🛋 java8	C:\dev_inst\java8	Standard VM	Edit
Java	🗹 🛋 jdk-11.0.10	C:\Program Files\Java\jdk-11	Standard	
> Appearance				Duplicate
> Build Path				Remove
Code Coverage				Kentove
> Code Style				Search
> Compiler				
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Installed IREs				
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Plug-In Development				
Server				
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Launching		1		
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Profilers 🗸				
				Арріу

4. Make a new Maven project without archetype

🔘 New Mav	en Project			_		×
New Maven Configure pr	project oject				M	
Artifact	[
Group Id: Artifact Id:	test (~
Version:	0.0.1-SNAPSHOT	~				
Packaging: Name:	jar test	~				~
Description:	test					å. U
- Parent Proje Group Id:	ct					~
Artifact Id:						~
Version:		~		Brow	Se Cle	ar
Advanced						
?		< Back	Next >	Finish	Cancel	

- Right click on Project, Maven Add dependency

 GroupId: edu.internet2.middleware.grouper
 ArtifactId: grouper-ui
 Version: (whatever you use): e.g. 4.12.0

💽 Add Dependency			Х
Group Id: * edu.internet2.middleware.grouper			
Version:	Scope	e: compile	~
Enter groupld, artifactId or sha1 prefix or pattern (*):			
Index downloads are disabled, search results may be a search result of the search result o	oe incomp	ete.	
Search Results:			
?	ОК	Cancel	

6. Right click on project, Maven, update project7. I use the java perspective, so switch to that

🗆 🔲 🗐 Task List_🛛			
Open Perspective			×
9			
🐉 Database Debug			
Database Development			
🌾 Debug			
GT Git			
Java			
🔊 Java Browsing			
무ၜ Java EE (default)			
😭 Java Type Hierarchy			
♦► JPA			
🕔 Planning			
Plug-in Development			
Resource			
Team Synchronizing			
🎯 Web			
X XML			
se F2 to display the description for a se	elected p	perspect	ive.
Open		Cance	
		Curree	

8. You can stop here if just coding GSH. If coding against the UI, continue: Get the webapp dir out of container



PS C:> cd C:\users\mchyzer-local\eclipse-workspace\test
PS C:\users\mchyzer-local\eclipse-workspace\test> docker run --detach -e GROUPER_LOG_TO_HOST=true --name
grouperFiles i2incommon/grouper:2.5.47 ui
62149d4d5f784949c635ba3ebc4276fb91b11e2bc39fe77d2ce7100f4780f405
PS C:\users\mchyzer-local\eclipse-workspace\test> docker cp grouperFiles:/opt/grouper/grouperWebapp .
PS C:\users\mchyzer-local\eclipse-workspace\test> docker rm -f grouperFiles
grouperFiles
PS C:\users\mchyzer-local\eclipse-workspace\test>

9. Refresh your eclipse project and see grouperWebapp



10. Lets move the existing grouperWebapp/WEB-INF/classes dir contents into a new source folder named grouperWebappClasses

🕆 Package Explorer 🛛

🗸 🔛 test

- 进 src/main/java
- B src/main/resources
- src/test/java
- src/test/resources
- - > 🗄 attributeDefNamePicker
 - > 凸 ddl
 - > 🗄 grouperRulesEmailTemplates

E S & -

- > 🗄 grouperText
- > 🗄 membershipLiteName
- > 🗄 resources
- > 🗄 resources.grouper
- > 🗄 resources.i2mi
- > 🗄 subjectPicker
- > 🗁 META-INF
 - groovysh_lightWeight.profile
 - groovysh_lightWeightWithFile.profile
 - groovysh.profile
 - grouper.base.properties
 - grouper.cache.base.properties
 - grouper.cache.properties
 - grouper.client.base.properties
 - grouper.client.properties
 - grouper.client.usage.example.txt
 - grouper.hibernate.base.properties
 - grouper.hibernate.properties
 - grouper.properties
 - grouper-loader.base.properties
 - grouper-loader.properties
 - grouper-ui.properties
 - grouper-ui-ng.base.properties
 - grouperUtf8.txt
 - grouper-ws.properties
 - grouper-ws-ng.base.properties
 - GSHFileLoad.properties
 - 🛃 jaas.conf
 - krb5.example.conf
 - log4j.example.properties
 - log4j.grouperContainerHost.properties
 - log4j.properties
 - morphString.base.properties
 - morphString.properties
 - Owasp.CsrfGuard.overlay.properties
 - Owasp.CsrfGuard.properties
 - server.example.properties
 - spy.example.properties
 - 📄 sqltool.rc
 - subject.base.properties
 - subject.properties



11. Move any properties files from there to the resources folder and customize. Note if you are connecting to an existing database, the morphString secret must match

📫 Package Explorer 💥 📄 😫 📄 🗄 🗖	📄 morphString.properties 🔀
 test src/main/java src/main/java src/main/resources grouper.hibernate.properties morphString.properties src/test/java src/test/java src/test/resources grouperWebappClasses attributeDefNamePicker attributeDefNamePicker dl grouperRulesEmailTemplates grouperText membershipLiteName resources.i2mi subjectPicker subjectPicker subjectPicker meta-INF grouper.base.properties grouper.base.properties grouper.cache.base.properties fyou are using a new database a Start hsoid 	<pre>1# 2# Grouper Hibernate Configuration 3# \$Id: grouper.hibernate.example.properties, 4# 5 6# The grouper hibernate config uses Grouper 7# By default the configuration is read from 8# (which should not be edited), and the group 9# the base settings. See the grouper.hibern 10# settings that can be applied to the groupe 11 2##################################</pre>
•	

12.

- PS C:\users\mchyzer-local\eclipse-workspace\test> mkdir temp
- PS C:\users\mchyzer-local\eclipse-workspace\test> cd temp
- PS C:\users\mchyzer-local\eclipse-workspace\test> java -cp .\grouperWebapp\WEB-INF\lib\hsqldb-
- 2.3.5.jar org.hsqldb.Server -port 9001 -database file:temp/grouper

b. grouper.hibernate.properties (moved from grouperWebappClasses)



13. If you are using an existing database

H

Package Explorer 🛛 📄 😫 👘 🖇 🗖 🗖	📄 morphString.properties 🗎 grouper.hibernate.properties 🛛 🖓	
🔛 test	1#	į.
😬 src/main/java	2 # Copyright 2014 Internet2	
✓ ([#] src/main/resources)	3#	
arouper.hibernate.properties	4# Licensed under the Apache License, Version 2.0 (the "License");	
morphString.properties	5# you may not use this life except in compliance with the Litense.	
src/test/iava	7#	
src/test/resources	8# http://www.apache.org/licenses/LICENSE-2.0	
GrouperWebappClasses	9#	
Grouper webspectuses	10# Unless required by applicable law or agreed to in writing, software	
> TD ddl	11# distributed under the License is distributed on an "AS IS" BASIS,	
> 🖽 dui	12# WIHOUT WARKANTES OR CONDITIONS OF ANY KIND, either express of implied.	
> the grouperkulestmainemplates	14# 1 imitations under the License	
> 🖽 grouper lext	15#	
> 🖽 membershipLiteivame	16	
> Ha resources	17 #	
> 🖽 resources.grouper	18# Grouper Hibernate Configuration	
> 🗄 resources.i2mi	19# \$Id: grouper.hibernate.example.properties,v 1.9 2009-08-11 20:18:09 mchyzer Exp \$	
> 迅 subjectPicker	20 #	
> 🗁 META-INF	22# The grouper hibernate config uses Grouper Configuration Overlays (documented on wiki)	
groovysh_lightWeight.profile	23 # By default the configuration is read from grouper.hibernate.base.properties	
groovysh_lightWeightWithFile.profile	24 # (which should not be edited), and the grouper.hibernate.properties overlays	
📄 groovysh.profile	25# the base settings. See the grouper.hibernate.base.properties for the possible	
grouper.base.properties	26# settings that can be applied to the grouper.hibernate.properties	
grouper.cache.base.properties	2/	
grouper.cache.properties	20 ## DB settings	
grouper.client.base.properties	30 *****	
grouper.client.properties	31	
grouper.client.usage.example.txt	32 # e.g. mysql: jdbc:mysql://localhost:3306/grouper	
grouper.hibernate.base.properties	33 # e.g. p6spy (log sql): [use the URL that your DB requires]	
grouper.properties	34 # e.g. oracle: jabc:oracle:tnln: <u>@server.scnool.egu</u> :1521: <u>sla</u>	
grouper-loader.base.properties	36# e.g. hould (a): jubrisqubistriang oper; real-rue	
arouper-loader.properties	37# e.g. postgres: idbc:postgresgl://localhost:5432/database	
arouper-ui.properties	38 # e.g. mssql: jdbc:sqlserver://localbost:3280:databaseName=grouper	
arouper-ui-ng base properties	39 hibernate.connection.url = jdbc:postgresql://penngro	
arouped ltf8 tvt	40	
grouper-we properties	41 hibernate.connection.username = penngrouper.	
grouper ws.properties	42 45 bibernate connection password = c://pome/annadmin/pass/grouper/grouperMorphProdPostgres pass	
grouper-ws-rig.usse.properties	44	

14. Add in to grouper.hibernate.properties that it is ui, and put in a local pass for a subject (remote database) or GrouperSystem (hsql database or remote)

```
# UI basic auth is for quick start. Set to false when you migrate to shib or something else
grouper.is.ui.basicAuthn = true
grouperPasswordConfigOverride_UI_mchyzer_pass = pass
```

grouperPasswordConfigOverride_UI_GrouperSystem_pass = pass

15. Set java17 for project

Properties for test		- D X
ype filter text	Java Build Path	← → ⇒ * 8
Resource Builders Coverage Java Build Path Java Code Style Javado Location Java Editor Maven Project Reter Project Reterences Refactoring History Run/Debug Settings Task Repository Task Repository Task Rego Validation WikiText	Source Projects M Libraries 🕎 Order and Export O Module Dependencies JARs and class folders on the build path: JAR System Library [java8] Maven Dependencies	Add JARs Add External JARs Add Variable Add Library Add Library Add Class Folder Add External Class Folder Edit Remove Migrate JAR File
Properties for test		Apply and Close Cancel
pe filter text	Java Compiler	← → ⇒
Builders Coverage Java Build Path Java Code Style Java Compiler > Annotation Processing Building Errors/Warnings Javadoc Location Java Editor Java Editor Maven Project Facets Project Facets Refactoring History Run/Debug Settings Task Tags Validation WikiText	JDK Compliance Use compliance from execution environment on the 'Java Build Path' Compliance from execution environment on the 'Java Build Path' Compliance level: Use '-release' option Use '-release' option Use default compliance settings Enable preview features for Java 15 Preview features with severity level: Generated .class files compatibility: Source compatibility: Disallow identifiers called 'assert': Disallow identifiers called 'assert': Disallow identifiers called 'enum': Classfile Generation Add variable attributes to generated class files (used by the debugger) Add variable attributes to generated class files (used by the debugger) Add source file name to generated class file (used by the debugger) Prever enaly local variables Inline finally blocks (larger class files, but improved performance) Store information about method parameters (usable via reflection)	Example: Fromspace Jettings.
?)	r	Restore Defaults Apply Apply and Close Cancel

16. Change build path to compile to grouperWebapp/WEB-INF/classes (except the test source and test resources). Also dont exclude any resources. Note, in future if you do Maven Update project, you might have reset some of these settings

		- U	;
	Java Build Path	⇔ ◄ ⇔	> •
	🕮 Source 😥 Projects 🛋 Libraries 🖏 Order and Export 🔞 Module Dependencies		
	Source folders on build path:		
ath	✓ (♣ test/grouperWebappClasses	Add Folder	
	Qutput folder: (Default output folder)	Additoldelin	
	🖓 Included: (All)	Link Source	
	Frequencies (None)		
	Rative library location: (None)	Edit	
	👼 External annotations: (None)	Parra	
	B Ignore optional compile problems: No	Remove	
	Contains test sources: No		
	✓		
	Uutput folder: (Default output folder)		
	y" Included: (All)		
	Excluded: (None) Artive likean (Jone)		
	Fyternal apportations: (None)		
	Cremarian informations: (None) (# Innore ontional compile problems: No		
	Contains test sources: No		
	✓ / [™] test/src/main/resources		
	Qutput folder: (Default output folder)		
	🖓 Included: (All)		
	F Excluded: (None)		
	Native library location: (None)		
	External annotations: (None)		
	😕 Ignore optional compile problems: No		
	😰 Contains test sources: No		
	✓		
	Qutput folder: test/target/classes		
	Included: (All)		
	Excluded: (None)		
	Native library location: (None)		
	External annotations: (None)		
	Contains test sources Ves		
	tert/rec/tert/recourser		
	Output folder test/target/classes		
	Superiorden (cs), angely classes		
	Freidede **		
	Platite library location: (None)		
	External annotations: (None)		
	👼 Ignore optional compile problems: No		
	P Contains test sources: Yes		
	Allow output folders for source folders		
	Default output folder:		
	test/grouperWebapp/WEB-INF/classes	Browse	
		Арр	ply

17. Download tomcat 9

-	Extract C:\U	sers\mchyzer-local\eclipse
ome Share View	Compressed Folder Tools	
↑ 🔒 > This PC → Wir	dows (C:) > Users > mchyzer-loca	l → eclipse → 🗸 🗸 🖉
	Name	Date modified
access	apache-tomcat-8.5.65	3/30/2021 1:28 PM
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loads	apache-tomcat-8.5.65.zip	4/11/2021 4:16 PM
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Edit Server Runti	me Environment			_		×
Tomcat Server					=	
Specify the installati	on directory					
Name:						
Apache Tomcat v8.	5					
Tomcat installation of	lirectory:					
C:\Users\mchyzer-	ocal\eclipse\apache	tomcat-8.5.65		l	Browse	
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JRE:						
java8			~	Inst	talled JREs.	
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19. Window Show view Servers, add a module

Web Medules	alhost 🔀			
web wodules				
Neb Modules	er on this server			
Dath	Pagument Page	Medule	Auto Poload	Add Web Module
	Culteers metricers local actines workenace/test/acouncil/(doann	woulde	Disabled	Add Web Woddle
- Corgioupei	C. Osers (incligzer local eclipse workspace (test groupe webapp		Disabled	Add External Web Module
				Edit
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rview Modules				
erview Modules Problems @ Javadoc Age Tomcat v8.5 Server at	@ Declaration 鄕 Servers 원 localhost [Stopped, Republish]			☐ ☆ ○ ▷ = ⊕ 8 □

20. Make a large startup timeout

Overview				
General Information		Publishing		
Specify the host name and	l other common settings.			
Server name:	Tomcat v8.5 Server at localhost	Specify the time limit to complete server operations.		
Host name:	localhost	Start (in seconds):		10000 🜩
Runtime Environment:	Apache Tomcat v8.5	Stop (in seconds):		15
Configuration path:	/Servers/Tomcat v8.5 Server at localhost-config Browse			
Open launch configurat	ion.	 Ports Modify the server ports. 		
Server Locations		Port Name	Port Number	
Specify the server path (i.e. catalina.base) and deploy path. Server must be published with no modules present to make changes.		es 🔄 Tomcat admin port	8005	
		€, HTTP/1.1	8080	
Use workspace metad	tata (does not modify iomcat installation)			
Use Iomcat installation	on (takes control of lomcat installation)			
Use custom location	(does not modify Tomcat installation)			
Server path: .metada	ata\.plugins\orq.eclipse.wst.server.core\tmp0 Browse.			
Cat dealers with the thread	for the set of a second second	MIME Mappings		

21. Start the server

🛿 Problems 🛛 🖉 Javadoc 🔯 Declaration 🚍 Console 🖓 Servers 🔀	😑 🂠 🚺 🔳 🛍 🗧
E Tomcat v8.5 Server at localhost [Stopped Synchronized]	
Leg	Start the server

22. Go to local grouper: http://localhost:8080/grouper (userName/pass) or whatever you put in grouper.hibernate.properties

Steps to move lite env to new container version

- 1. Close eclipse NOTE: This is important so that Eclipse can get a consistent state after the following changes!
- cleanup dynamic folders from older container content cdttest. (Be in the Eclipse project's root directory) rm -rf .\grouperWebapp rm -rf .\grouperWebappClasses
- 3. Get new container to copy files from (Note reusing the same container name as before. You may need to 'docker rm -f grouperFiles' first.) docker run --detach -e GROUPER_LOG_TO_HOST=true --name grouperFiles i2incommon/grouper:2.5.NN ui
- Copy the new container's files to the local filesystem cd\test. (Be in the Eclipse project's root directory) docker cp grouperFiles:/opt/grouper/grouperWebapp .
- Move the existing grouperWebapp/WEB-INF/classes dir contents into the local source folder named grouperWebappClasses cdtest. (Be in the Eclipse project's root directory) mv grouperWebapp/WEB-INF/classes/* grouperWebappClasses
- 6. Remove any "non base" config files from grouperWebappClasses (or anything your going to override with files in src\main\resources) likely examples: grouper.hibernate.properties, morphString.properties, grouper-ui.properties, log4j.properties, etc....
- 7. Start Eclipse
- 8. select the project, right click and "refresh" (or press the "F5" key)
- 9. Do a "Project"(menu) "Clean..." (not maven clean!)