

# Specsheet

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## Grouper Product Specs and requirements as of v2.5

Component	Details				
RDBMS	Database	Preferred?	Large deployments*	Small deployments	Notes
	Postgres	Yes	Yes	Yes	note the default database server max connections is 100 and needs to be at least 5000 and needs to be raised if a problem.  each container has a max pool size default of 500 (multiple that number by number of containers in env for server max)
	Oracle	No	Yes	Yes	you need to add your driver to the container
	MySQL	No	No	Yes	<ul style="list-style-type: none"><li>performance issues on large deployments</li><li>as a datapoint, v2.5 works with MariaDB 10.4.12 with driver mysql-connector-java-8.0.16.jar</li></ul>
	Microsoft MSSQL	No	No	No	
	"Large deployment" is loosely defined as having more than 10k groups  Note the database should not limit the number of connection below whatever is necessary for your own performance needs (e.g. at least 500)				
Container	<ul style="list-style-type: none"><li>As of v2.5+, <a href="#">Grouper is required to run in a container</a>. This could be anything that runs containers e.g. <a href="#">Docker</a>, <a href="#">Amazon ECS</a>, etc</li></ul>				
Authentication	User Interface - Servlet container, REMOTE_USER via servlet container, or user-installable servlet filter. <ul style="list-style-type: none"><li><a href="#">Instructions for Shibboleth</a></li><li><a href="#">Instructions for CAS</a></li></ul> Web Services - Servlet container, HTTP Basic, HTTP Basic with Kerberos, Rampart, or user-installable plug-in. Grouper v2.5+ also has <a href="#">built in authentication for both the UI and Web Services</a> .				
Java	<ul style="list-style-type: none"><li>No longer applicable since Grouper runs in a container with Java already installed. However, if you're pulling the Grouper API from Maven (e.g. to integrate with a custom application), then JDK v8 or later is required. To run the Grouper installer (for a container quick start), or the Grouper client (for web services), Java8 is required.</li></ul>				
Browser Requirements	<ul style="list-style-type: none"><li>Modern common browser (e.g. latest Chrome, Firefox, IE)</li><li>cookies must be enabled</li><li>javascript must be enabled</li><li>AJAX compatible</li></ul>				

## Grouper Product Specs as of v2.4.0

Component	Details
RDBMS	<ul style="list-style-type: none"><li>Grouper is supported on Oracle, MySQL, and PostgreSQL (note: works with Postgres v9, might have issues with v10) <i>Note: Grouper does not support MSSQL</i></li><li>Object persistence is provided by Hibernate and JDBC so you might be able to use other databases. There have been performance issues on large deployments on SQL server.</li></ul>
Java Servlet Container	<ul style="list-style-type: none"><li>Servlet API Version 3.1.</li><li>The recommended Tomcat version is 8.5</li><li>The TIER SCIM API runs on TomEE</li></ul>

<b>Authentication</b>	<p>User Interface - Servlet container, REMOTE_USER via servlet container, or user-installable servlet filter.</p> <ul style="list-style-type: none"> <li>• <a href="#">Instructions for Shibboleth</a></li> <li>• <a href="#">Instructions for CAS</a></li> </ul> <p>Web Services - Servlet container, HTTP Basic, HTTP Basic with Kerberos, Rampart, or user-installable plug-in.</p>
<b>Java</b>	<ul style="list-style-type: none"> <li>• JDK v8 or later. <ul style="list-style-type: none"> <li>◦ You should use the PSPNG. Java8 in the deprecated PSP can have scripting problems with the example code. If you run the PSP use Java7.</li> </ul> </li> <li>• Minimum heap memory size: 3g for WS or UI, and 12g for daemon. Specify this as a container env var</li> </ul>
<b>Browser Requirements</b>	<ul style="list-style-type: none"> <li>• Modern common browser (e.g. latest Chrome, Firefox, IE)</li> <li>• cookies must be enabled</li> <li>• javascript must be enabled</li> <li>• AJAX compatible</li> </ul>

## Grouper Product Specs as of v2.3.0

Component	Details
<b>RDBMS</b>	<ul style="list-style-type: none"> <li>• Object persistence is provided by Hibernate v3.2.6 (v3.6.7 in Grouper 2.1+) (custom hibernate 3.6.7 in Grouper 2.2.0+_, which in turn uses JDBC to connect with a back-end RDBMS.</li> <li>• DDL is generated by Apache's DdlUtils. Grouper is currently tested against Oracle, MySQL, PostgreSQL, SQL Server but should work with most databases that implement views and are supported by Hibernate.</li> <li>• If you are using SQL Server, the packaged JDBC driver for SQL Server along with jTDS 1.2.5 are known to work properly, though SQL server does not have as good of performance as Oracle, MySQL, or postgres.</li> </ul>
<b>Java Servlet Container</b>	<ul style="list-style-type: none"> <li>• Servlet API Version 2.3.</li> <li>• Known to run properly in Apache Tomcat 6.0. ( Tomcat 8.5 is also an option in the <a href="#">installer</a>.)</li> <li>• Have not tested/verified other servlet containers.</li> </ul>
<b>Authentication</b>	<p>User Interface - Servlet container, REMOTE_USER via servlet container, or user-installable servlet filter.  Contributions: <a href="#">Yale CAS authentication</a> filter.</p> <p>Web Services - Servlet container, HTTP Basic, HTTP Basic with Kerberos, Rampart, or user-installable plug-in.</p>
<b>Java</b>	<ul style="list-style-type: none"> <li>• JDK v6.0.13 or later. Java8 in the PSP can have scripting problems with the example code. For now stay with Java 7 or 6.</li> <li>• Minimum permgen memory size: 130M (-XX:MaxPermSize=130M) (needs to be larger if more classes loaded)</li> <li>• Minimum heap memory size: 500M. (-Xmx500M) (needs to be larger for big deployments)</li> </ul>
<b>Compiler</b>	<p>Ant v1.7.0 or later. Ensure that Ant can process Tomcat tasks by verifying that tools.jar (found in \$JAVA_HOME/lib) and catalina-ant.jar (in \$TOMCAT_HOME/server/lib) are in the classpath.</p>
<b>Browser Requirements</b>	<ul style="list-style-type: none"> <li>• XHTML 1.0</li> <li>• CSS 2.1</li> <li>• cookies must be enabled</li> <li>• javascript must be enabled</li> <li>• AJAX compatible</li> </ul>