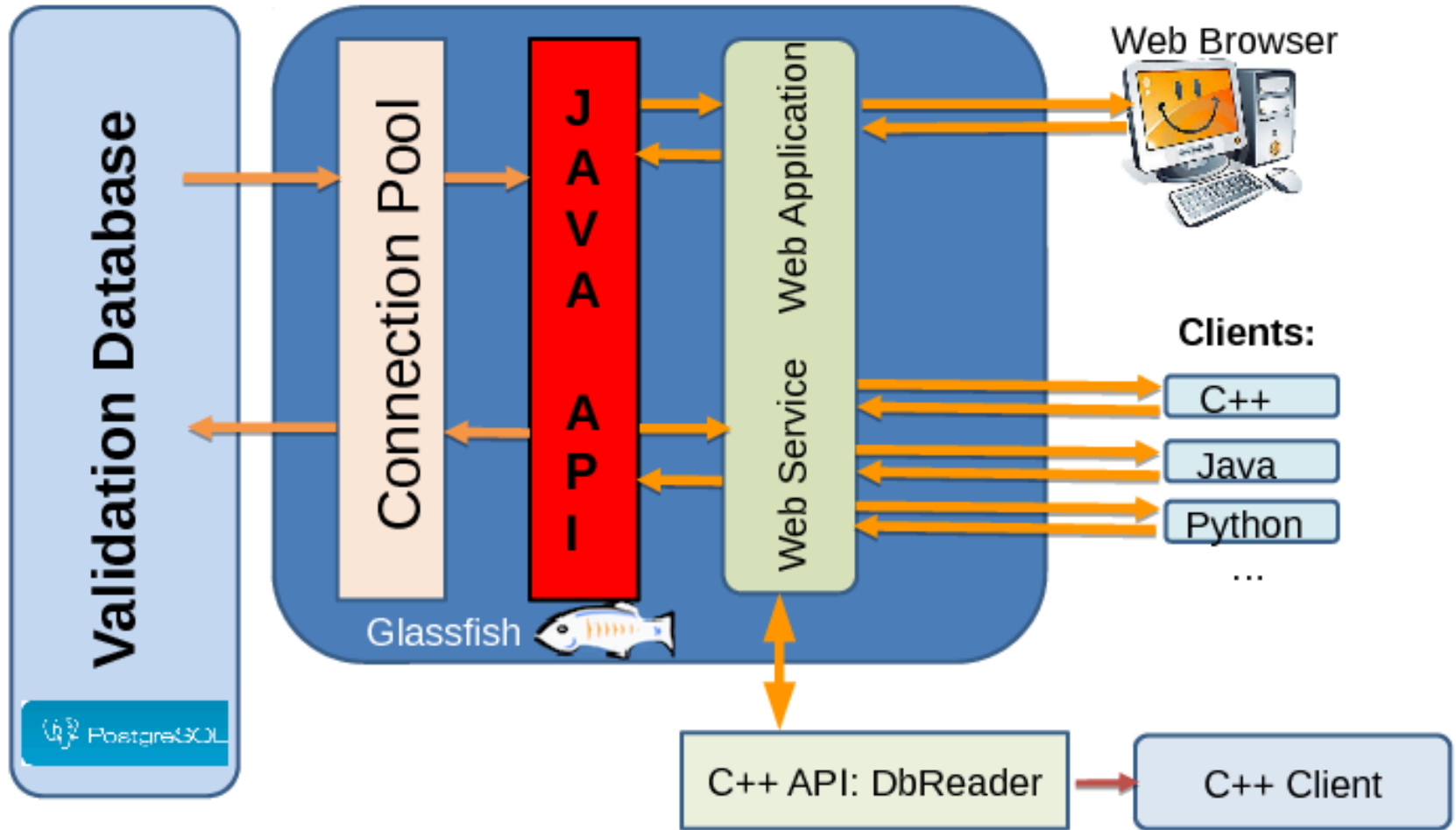


Summary of: Parallel 1A : Open topics in physics lists and validation tools







DoSSiER	<i>Hans-Joachim Wenzel</i> 
<i>Building 32, room G01</i>	<i>16:00 - 16:20</i>
Geant Validation DB	<i>Dmitri Konstantinov</i> 
<i>Building 32, room G01</i>	<i>16:20 - 16:40</i>
Physics List Documentation	<i>Dennis Herbert Wright</i> 
<i>Building 32, room G01</i>	<i>16:40 - 17:00</i>

Components



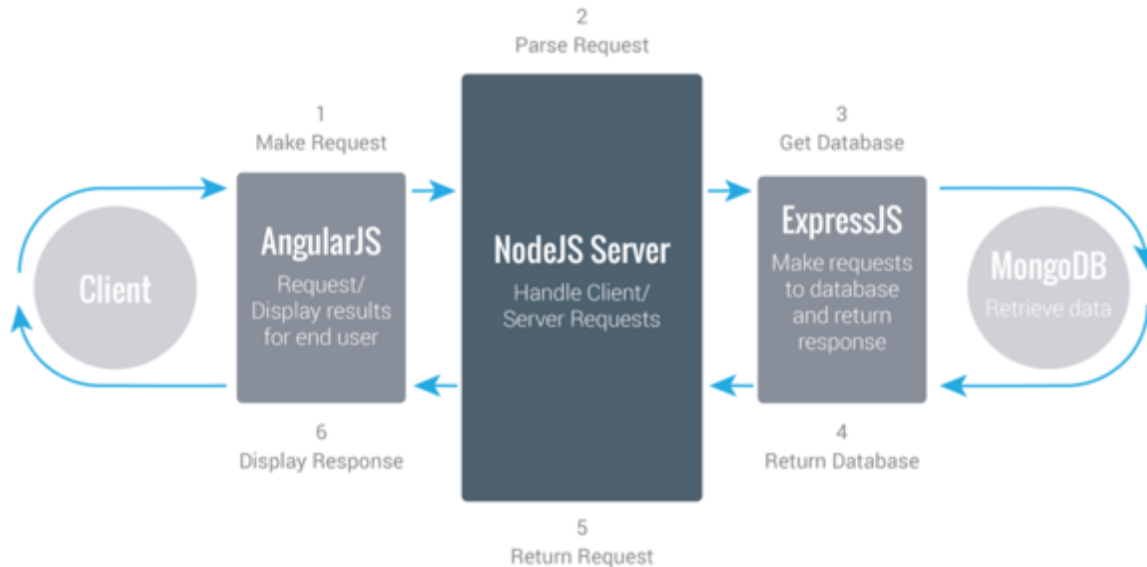
+ python ancillary tools: e.g. converter between various data formats: root, ascii, json to DoSSiER json format. Needs to be changed for new json format!

Technologies

	<p>Java Programming Language: Java EE framework, JAX-RS RESTful web service, Maven software management tool.</p>	<p>GlassFish</p> 	<p>GlassFish: Combined web application and web service server hosted on FermiCloud.</p>
	<p>Netbeans IDE: Integrated Development Environment that works well with GitLab and GlassFish.</p>		<p>PostgreSQL: Open source relational database hosted by the Fermilab database group.</p>
	<p>GitLab: Web-based Git repository hosting service for managing collaborative revision.</p>		<p>PrimeFaces: Java Server Faces based framework for creating clean and easy to navigate web pages.</p>

Webserver Architecture

- **Node.js** is an [open-source](#), [cross-platform JavaScript run-time environment](#) for executing JavaScript code [server-side](#)
- Angular.js is an open-source JavaScript web framework that facilitates the creation of single-page applications and data-driven apps.
- **Express.js** is a [web application framework](#) for [Node.js](#)
- And instead of MongoDB we use PostgreSQL



- ✓ Scalability
- ✓ Short development cycles
- ✓ Performance

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Next steps:

Same structure (postgresql db, schema, json interchange...) but somewhat different choice of technology!

Some of the data in CERN db is uploaded to DoSSiER using json interchange format.

We will coordinate:

- Db schema interchangeable
- Synchronize db.
- Common json interchange format
- Make sure the requirements of Geant 4 collaboration are met and supported (e.g. Web service)

→ Agreed objective is to converge to one solution. To the User it should make no difference if you submit to one or another:

- ① Run test code locally, using batch systems or with GRID.
- ② Convert/combine resulted histograms (acsii, ROOT) into JSON objects.
- ③ Upload JSONs

Web interface will have the same functionality!

Physics List Documentation

Two Approaches

- Auto-generated
 - html-generating code embedded in almost all hadronic models, cross sections and processes
 - one html file generated at initialization time (when physics list is instantiated)
 - user parameter to turn this on/off
- Write custom physics list descriptions
 - concentrate on general focus or meaning
 - fewer details
 - not automatic

But there were dedicated sessions on the topic → we will **her**
hear ore about it!