Apache jackrabbit example

This lab introduces the core JSR-283 APIs of JSR-170 using Apache jackrabbits and Java. Adobe CQ and similar content management systems use these JSR specifications to store content. The lack of good educational resources increases design issues and code complexity in systems that are primarily used. With only a basic knowledge of the JCR specification, you can make stronger decisions on platforms that use it. The larger the system that uses JCR, the more layers of the framework are placed on top of the product. This means that developers' decisions about how to access certain features can be confusing or offer many options. The purpose of this tutorial series is to showcase core functionality in a JSR-compliant way. Audience The core audience sits in a classroom environment. Readers who run this tutorial have just finished their overview of the Apache Jackrabbit and JCR specifications and are looking for examples of how to use them. Most people are at work or sitting where they can read from tutorial pages and code in their editor. Summary The intention of this lab (and what follows) is for everyone to explore apache jackrabbits comfortably. Apache Jackrabbit seems different from the typical server platform in that it uses a common platform to run packages that download several packages and start the server. In another project, you'll probably write code that will connect to that server to start some drivers or store data. Jackrabbit is actually an API that abstracts how things are stored and concentrates only on tiered content storage. Apache Jackrabbit is designed to be included in the project and is not an appliance that stands alone. Leave it up to the developer to get the most out of the API. Knowing that, let's start with a typical quickstart project and include Apache Jackrabbit in a simple console application. Maven is a great starting point to generate quickstart projects using quickstart projects. Instead of using pre-built archetypes, let's create them and modify them to support the operations you need to do. This will help you build your own project structure with comfort with Maven. To start a basic quickstart project, you can use the following command line: mvn Archetype: Generate -DgroupId=org.code Affection.Training -DartifactId=Jackrabbit-Tutorial - DarchetypeArtifactId=maven-Archetype-QuickStart -DinneractiveMode= false Open the IDE now and import this project (use whatever you like). In order to execute the main method of the console application in Maven, you need to add a plug-in that can run the project using Maven. This will only speed up a few things for us later. In our POM, you can addSection to project root: &lt;build&gt; &lt;plugins&gt; &lt;plugins&gt; &lt;groupId&gt;org.codehaus.mojo&lt;/groupId&gt; &lt;artifactId&gt;exec-maven-plugin&lt;/artifactId&gt; &lt;version&gt;1.2.1&lt;/version&gt; &lt;executions&gt; &lt;execution&gt; &lt;goal&gt; &lt;goal&gt;&lt;/goal&gt; &lt;/goal&gt; java-maven-plugin&lt;/execution&gt; &lt;/ executions&gt; 1.2.1 java &lt;configuration&gt; &lt;mainClass&gt;org.code loveado.training.App&lt;/mainClass&gt; &lt;/configuration&gt; &lt;/plugin&gt; &lt;/plugins&gt; &lt;/build&gt; If you go to the Now command line and do mvn compile exec: java can run the application and see the report happily: [INFO] --- exec-maven-plugin:1.2.1:(default cli ---)[INFO -----------------------------------] ----------------------------------- [INFO] Build Success [INFO] --- Running Java classes and JAR projects can be very cumberable when using Maven as a build tool. This will take you to our target directory so that you don't have to run the jar by hand, but if you're more comfortable running like that, that's fine. Adding some dependencies to a POM It is necessary to actually run JCR programming: &lt;dependency&gt; &lt;groupId&gt;javax.jcr&lt;/groupId&gt; &lt;artifactId&gt;jcr jcr&lt;/artifactId&gt; &lt;version&gt;2.0&lt;/version&gt; &lt;/dependency&gt; &lt;dependency&gt; &lt;groupId&gt;org.apache.jackrabbit&lt;/groupId&gt; &lt;artifactId>Jackrabbit Core </ artifactId&gt; &lt;version&gt;2.5.0&lt;/version&gt; &lt;/dependency&gt; &lt;dependency&gt; &lt;groupId&gt;org.slf4j&lt;/groupId&gt; &lt;artifactId&gt;slf4j log4j12&lt;/artifactId&gt; &lt;version&gt;1.6.1&lt;/version&gt; &lt;/dependency&gt; javax.jcr library is required to write code to JCR. The jackrabbit core library is the actual jackrabbit software itself, and slf4j is a jackrabbit requirement and is used for logging. Starting a repository for the first time may not be so obvious at the moment, but it's actually easy. Let's go into the main method and add the following line to the main method: repository repository = newTransientRepository(); session session = repository.login (new simple credential (admin, administrator.toCharArray()) system.out.printon (Hello World!). Session .logout() So what is all of this? The class explains that the standard flow of calling JCR is centered: use the repository to get a reference to the repository and log in, then use the session to get the node, or the root node will save the session logout In the code above, save the session logout. Enough to build us a repository. But let's take a look at what we've accomplished with this code. Repository Repository = The new temporary repository () Apache Jackrabbit has an implementation of a repository (BTW interface) called a transient repository. It is called Transparent because it starts when needed and shuts down where the session is not connected. This is the primaryUsed with samples to represent the most common repositories used by other applications. Session session = repository.login (new simple credentials (administrator, .toCharArray());Here we are using the repository to log in. Login uses a set of credentials (a different interface) called SimpleCredentials. Currently, the version you are using contains only guests and simple credentials. In most cases, however, JCR is part of another application or framework. It is not externally connected. This is how you log out of the session, as is obvious. It's somewhat verbose here, but it's a good habit. First run the application with the modified Maven command that runs now: Note the results of the stream. Now that you've updated the root of your project in the IDE, let's take a look. You will see some new configuration files with several directories created for you and automatically placed in the root of the project. Apache Jackrabbit created a repository in the project root and set it up and executed it for you. Ask the repository for some of its features, so let's ask the repository for some of the information. Use a method called getDescriptor to get questions about the repository and what it supports. The repository interface contains several constants that can be used to query information using this method. Change this example to ask a few questions of the repository itself. Mainly, you can see what its vendor, name, and version are: string vendor = repository.getDescriptor(Repository.REP_VENDOR_DESC); string product = repository.getDescriptor(Repository.REP_NAME_DESC; string version = repository.getDescriptor(Repository.REP_VERSION_DESC); system.out.println (We use +vendor++ product + version + version+version). Now I'm running your mvn compile exec:java again and seeing the repository response: we have some other things the Apache Software Foundation Jackrabbit version 2.5.0 [INFO] ---[INFO] build success [INFO] --- repository can tell you. I strongly recommend checking out the repository's interface documentation and trying out some of the other constants. Experiment and get used to this flow. Over time, we use it more and more. GitHub Location If you lost it during the tutorial, you can get the code for this example on GitHub. Content repositories/content stores are essential in the digital world. A content repository/content store is a data store for digital content that has a set of associated data management features. Content repositories typically function as storage engines for large applications such as content management systems and document management systems. Java provides a content repository(JCR) defines how content is accessed in both directions at a level of detail in the content repository. Apache Jackrabbit is a reference implementation of the Java content repository. Jackrabbit Oak is part/flavor of Apache Jackrabbit, which is intended to provide a scalable, high-performance implementation of the Java content repository specification. Oak supports multiple underlying storage for content, including NoSQL, RDBMS, and FS. It also provides features such as full-text search. Oak Storage Flavor Oak comes with two node storage flavors: segment and document. While segment storage is optimized for maximum performance in stand-alone environments, document storage is designed for scalability in clustered environments. This article focuses on document storage flavors that store data in a document-oriented format. The document store supports many backends, such as MongoDB, RDB document store, and memory document store MongoDocumentStore. This article discusses the MongoDocumentStore and explains how to manage content using the Jackrabbit API and MongoDB as back-end storage. Now, let's start with some real code to see how to create a repository in MongoDB. I build my project using Maven and in this example I use Java 8. Maven Dependency&lt;dependency&gt;&lt;groupId&gt;org.apache.jackrabbit&lt;/groupId&gt; &lt;artifactId&gt;oak-jcr&lt;/artifactId&gt; &lt;version&gt;1.7.6&lt;/version&gt; &lt;/dependency&gt; &lt;dependency&gt; &lt;groupId&gt;javax.jcr&lt;/groupId&gt; &lt;artifactId&gt;jcr&lt;/artifactId&gt; &lt;version&gt;2.0&lt;/version&gt; &lt;/dependency&gt; &lt;&lt;;&lt;! -- --&gt; &lt;dependy&gt; &lt;groupId&gt;org.mongodb&lt;/groupId&gt; &lt;artifactId&gt;mongo-java-driver&lt;/artifactId&gt; &lt;version&gt;3.4.3&lt;/version&gt;&lt;&lt;/dependency&gt;Requires oak jcr, jcr, and Mongo Java driver dependencies to connect to MongoDB servers using the Jackrab library. Building/Initializing a Repository javax.jcr.Repository represents a content repository stored in MongoDB. You can create a repository using the following code: String uri = mongodb:// + host + + port;ns = new document MK.builder ().setMangoDB(uri, oak_demo, 16).getNodeStore();repository = new Jcr (new oak (ns))) creation repository ();here is the Mongo database to connect to oak_demo. The creation of node items or content in the node store is managed within the node. After you create a repository, you can log in to the repository using javax.jcr.Repository and get javax.jcr.Session. Sessions are used to interact with repositories. Session session = repository.login (new simple credentials (administrator, administrator.toCharArray();node parent node = session .getRootNode() node child node = parent node .addNode (child node name). Child node.Property (property name, property value). Create a file node A file node is a different type of node than the normal node that you created in the above procedure. The type of node you just created is in the following format:The node type of the file node is nt:file. The file node is added to the existing node (path /node1/node2). Node file node parent = session.getNode (path-to-parent node). /node 1/node 2/ node file node node = file node parent .addNode (file, nt:file); node content = filenode.addNode (jcr:content, nt:resource). The input stream = getFileInputStream (// gets the file data as a stream. Binary binary = create session .getValueFactory(). Properties (jcr: data, binary). Session .save();To enable version control, use version manager version manager vm = session .getWorkspace(). Click < a0>.</a0> A file node must be of type nt:resource to store file data as binaries. Node parent retrieving files from repository node = session .getNode (path to parent node). /node 1/node 2/ node file content = file node parent .getNode (file). getNode (jcr:content); binary bin = file content.get property (jcr:data).) Input stream stream = bin.getStream() bytes[] bytes = IOUtils.toByteArray (stream); bin.dispose();stream.close();getting the version of the content version manager vm = session.get workspace ().getVersionManager(); version history version history = vm.getVersionHistory (file path). Version The current version version = vm.getBaseVersion (file path)//This is the current version of the file version iterator itr = versionHistory.getAllVersions (//you can iterate over the version iterator to get a specific version and its properties). Similarly, you can restore a specific version of content. Version manager vm = session.get workspace (.getVersionManager(); version version = (version) session .getNodeBy identifier (version Id); vm.restore (version, false)//Boolean flag controls what happens in case of identifier collision. Similarly, you can delete or edit files on content stored in the repository. Conclusion This explains the basic steps for using MongoDB and jackrabbit oak libraries. There are other features that Oak provides that are not featured in this article, such as indexing, document search, and access control mechanisms. A complete example can be found in this GitHub repository. Thank you for reading this article, please provide your opinion in the comments. Section.

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