**Apache Solr and its Installation Steps**

**Solr :**

1. Solr (pronounced "solar") is an open source enterprise search platform, written in Java, from the Apache Lucene project.
2. Solr is the second-most popular enterprise search engine after Elasticsearch.
3. Solr runs as a standalone full-text search server. It uses the Lucene Java search library at its core for full-text indexing and search,and has REST-like HTTP/XML and JSON APIs that make it usable from most popular programming languages.
4. Solr's external configuration allows it to be tailored to many types of application without Java coding, and it has a plugin architecture to support more advanced customization.

**Installation Steps :**

Integrating Solr(solr-4.3.0) with liferay(6.2 ce ga-4)

Steps:-

1. Download Solr from apache website.
2. Download tomcat from apache website.
3. Create one folder called "solr" under base directory.
4. Unzip both files on solr folder.
5. Copy solr<version>.war from <extracted\_solr>\dist to <extracted\_tomcat>\webapps and rename solr<version>.war to solr.war.
6. Copy all jars in <extracted\_solr>\example\lib\ext to <extracted\_tomcat>\lib.
7. Make changes in server.xml file under Solr\apache-tomcat-7.0.70\conf if you want to change the default http port of tomcat server.
8. Start the tomcat.
9. Check New folder names solr would be available in webapps.
10. Shutdown the tomcat.
11. Modify web.xml located at <extracted\_tomcat>\webapps\solr\WEB-INF
12. Uncomment below entry and update the path for solr\home.

<env-entry>

<env-entry-name>solr/home</env-entry-name>

<env-entry-value><extracted\_solr>/example/solr</env-entry-value>

<env-entry-type>java.lang.String</env-entry-type>

</env-entry>

1. Start the tomcat and access the below URL.

http://[IP ADDRESS]:[PORT]/solr

**How to setup solr-web plugins in liferay :**

Steps:-

* Download solr plugin from liferay marketplace
* Install solar plugin.
* After solr-web plugin is deployed in Liferay, stop Liferay Tomcat server. Also stop the Solr

Tomcat server which we have setup earlier on a separate tomcat instance.

* Go to tomcat-7.0.27(liferay)/webapps/solr-web/WEB-INF/conf directory.
* Copy and replace schema.xml file to <extracted\_solr>example/solr/collection1/conf directory on Solr Server.
* Now go to tomcat-7.0.27/webapps/solr-web/WEB-INF/classes/META-INF on Liferay Server.
* Edit solr-spring.xml file and update value of Solr Server IP Address and Port number as mentioned in below example.

<bean id="com.liferay.portal.search.solr.server.BasicAuthSolrServer" class="com.liferay.portal.search.solr.server.BasicAuthSolrServer">

<property name="defaultMaxConnectionsPerRoute" value="20" />

<property name="httpRequestInterceptors">

<list>

<bean class="com.liferay.portal.search.solr.interceptor.PreemptiveAuthInterceptor" />

</list>

</property>

<property name="maxTotalConnections" value="20" />

<property name="url" value="http://[SOLR SERVER IP]:[PORT]/solr" />

</bean>

* After above changes are done, first start the Solr Tomcat Server after start Liferay Tomcat server.
* When Liferay Server starts successfully, follow below steps,

-> Login with admin user

-> Go to the Control Panel > Server > Server Administration.

-> Click on Execute Button beside Reindex all search indexes.