**Purpose:**

To install on a suitable server the Open Source Solr search capability, as a service (not run by java –jar). This is built upon Lucene, and offers fast response to queries.

Linux versions all strongly prefer that applications be installed via a Package Manager. Solr has evolved rapidly, and most versions have to Package Manager are significantly outdated. This means it is best to install Solr manually, and the downside is that Package Manager will not be aware of Solr.

This process follows that outlined by Rahul Kuma in <https://tecadmin.net/install-apache-solr-on-ubuntu/>.

Result for changeable quantities should be:

/var/solr ( solr.solr.home directory )

|\_ log4j.properties

|\_ solr-8984.pid

|\_ logs/

|\_ data/ ( solr home directory )

|\_ solr.xml (primary configuration file)

|\_ zoo.cfg

|\_ catalog\_srv/ ( instanceDir )

|\_ core.properties

|\_ conf/

| |\_ solrconfig.xml

| |\_ managed-schema (do not edit)

|\_ schema.xml (optional. If present, used to create managed-schema

| and then renamed as \*.bak)

| |\_ many entries

|\_ data/ ( dataDir )

|\_ index/

| **Step** | **Major Activity** | **References, Forms and Details** |
| --- | --- | --- |
| **1** | Ensure your Java version is 1.8 or better   * java –version   If not, update Java | Version 1.8 or better is required |
| **2** | Download Solr to an appropriate location   * wget http://apache.mirror1.spango.com/lucene/solr/6.6.0/solr-6.6.0.tgz | * Solr version as of time of writing * Investigate and use the recent stable version |
| **3** | Extract the service installer shell script:   * tar xzf solr-6.6.0.tgz solr-6.6.0/bin/install\_solr\_service.sh --strip-components=2 | * extracts the install solr script |
| **4** | Run the installer:   * sudo bash ./install\_solr\_service.sh solr-6.6.0.tgz –i /usr/share/ –p 8984 | * install solr as a sudo bash root-level user * a user “solr” will be created to <own> the application * Solr will be installed in /usr/share/solr (-i /usr/share/). Default install location is /opt/solr-x.y.z (x=6, y=6, z=0 presently). * the port definition “–p {port}” will default to 8983 if option is omitted. GeoNetwork requires the port to be 8984. |
| **5** | Check solr   * sudo service solr stop * sudo service solr start * sudo service solr status | * status request should indicate   + start by user solr,   + on chosen port |
| **6** | Create a new collection for GeoNetwork:   * sudo su – solr \   -c "/usr/share/solr/bin/solr create \  -c catalog\_srv \  -p 8984" | * name must be catalog\_srv for geonetwork * “data\_driven\_schema\_configs” is the default managed schema if omitted |
| **7** | Edit the managed-schema:   * Delete word “example-“ from title * Add field “featureTypeId” as an indexed, not-stored string type * Restart solr | * example removal just for ‘nice-ness’ * second edit seems to be required for indexing to work with geonetwork |
| **8** | (Optional) create a test collection:   * sudo su solr –c “bin/solr create \   –c techproducts \  -n server/configsets/ \  sample\_techproducts\_config \  –p 8984” | * “su solr” means use previous user envir * Should see:   Copying configuration to new core instance directory:  /var/solr/data/mycollection1  Creating new core 'techproducts' using command:  <http://localhost:8984/solr/admin/cores>  ?action=CREATE  &name=techproducts  &instanceDir=techproducts  {  "responseHeader":{  "status":0,  "QTime":15292},   * "core":" techproducts "} |
| **9** | Optional to insert some sample documents into test collection  /usr/share/solr/bin/post –c techproducts example/exampledocs/\*.xml –p 8984 | * will see 14 documents inserted and indexed if working * port required if not 8983 * if not, then fix installation |
| **10** | To delete sample collection:  sudo su – solr –c ”/usr/share/solr/bin/solr delete \  -c techproducts -p 8984 ” | * “su – solr” means use the solr home directory and environment |
| **11** | To examine sample examples  http://localhost:8984/solr/techproducts/select?q=video | * Append “&fl=id,name,price” without the quotes to select fields |
| **12** | To browse the sample collection:  http://localhost:8984/solr/techproducts/browse | * Shows all 32 entries |
| **13** | Access the Solr admin panel with a browser   * [http://localhost:{port}/solr](http://localhost:%7bport%7d/solr) * http://localhost:8984/solr/catalog\_srv/select?q=video&fl-id,name,price | * for the first example above, data directory will be at /var/solr/data/{core}/data/ * 2nd http: filtered result |
| **14** | Check compatibility with geonetwork   * Select a metadata record with a geoserver link * Add to geonetwork map * Switch to map tab * Choose filter tab and select the layer * Should see tabs for spatial extent, filter, table, reset, and heatmap |  |
| **15** | If do not see filter options, then   * open a shell, move to /usr/share and enter   sudo bash ./install\_solr\_service.sh solr-6.6.0.tgz –p 8984 –f   * repeat step 13 | * the “–f” option re-installs solr, and should resolve the problem |
|  | If no data in table tab,   * use “^” * select “clean and index WFS1.1.0” | * indexes about 2K features per second, so can take a while for large files |
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