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# LEARNING

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## solrj

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**#solrj**

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# About

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# Chapter 1: Getting started with solrj

## Remarks

This section provides an overview of what solrj is, and why a developer might want to use it.

It should also mention any large subjects within solrj, and link out to the related topics. Since the Documentation for solrj is new, you may need to create initial versions of those related topics.

## Examples

### Installation or Setup

SolrJ comes as part of the Solr distribution since Solr 1.x. The latest Solr version can be downloaded [here](#). From Solr-6.3.0 that is the latest version available, we need to get the following libraries and add them to our build path: `/dist/apache-solr-solrj-.jar /dist/solrj-lib/`

Once we're done, SolrJ is ready to communicate with our Solr instance. In the following example we'll see how to use SolrJ to query or add content to Solr.

### Add documents to Solr using SolrJ

If we have a schema looking like:

```
<field name="id" type="string" indexed="true" stored="true" required="true" />
<field name="name" type="string" indexed="true" stored="true" />
```

the solrj code to add content to Solr will look like:

```
package com.stackoverflow.solrj.example;

import java.io.IOException;
import java.util.ArrayList;
import java.util.Collection;

import org.apache.solr.client.solrj.SolrClient;
import org.apache.solr.client.solrj.SolrServerException;
import org.apache.solr.client.solrj.impl.HttpSolrClient;
import org.apache.solr.common.SolrInputDocument;

public class SolrJIndexing {

    private final static String SOLR_URL = "http://localhost:8983/solr/mycollection";

    public static void main(String[] args) {
        SolrClient solrClient = new HttpSolrClient.Builder(SOLR_URL).build();
        SolrInputDocument document1 = getDocument(1, "Document example 1");
        SolrInputDocument document2 = getDocument(2, "Document example 2");
        Collection<SolrInputDocument> docs = new ArrayList<SolrInputDocument>();
```

```

docs.add(document1);
docs.add(document2);
try {
    solrClient.add(docs);
    solrClient.commit();
} catch (SolrServerException | IOException e) {
    e.printStackTrace();
}
}

private static SolrInputDocument getDocument(int id, String name) {
    SolrInputDocument document = new SolrInputDocument();
    document.addField("id", id);
    document.addField("name", name);
    return document;
}
}
}

```

## Query Solr with SolrJ

If you added successfully documents to Solr using the previous example, you'll be now able to retrieve them in this way:

```

package com.stackoverflow.solrj.example;

import java.io.IOException;
import java.util.Iterator;

import org.apache.solr.client.solrj.SolrClient;
import org.apache.solr.client.solrj.SolrQuery;
import org.apache.solr.client.solrj.SolrServerException;
import org.apache.solr.client.solrj.impl.HttpSolrClient;
import org.apache.solr.client.solrj.response.QueryResponse;
import org.apache.solr.common.SolrDocument;
import org.apache.solr.common.SolrDocumentList;

public class SolrJQueryExample {

    private final static String SOLR_URL = "http://localhost:8983/solr/mycollection";

    public static void main(String[] args) throws SolrServerException, IOException {

        SolrClient solrClient = new HttpSolrClient.Builder(SOLR_URL).build();
        SolrQuery solrQuery = new SolrQuery();
        solrQuery.setQuery("example");
        solrQuery.setStart(0);
        solrQuery.setRows(10);

        QueryResponse queryResponse = solrClient.query(solrQuery);
        SolrDocumentList solrDocs = queryResponse.getResults();
        Iterator<SolrDocument> iterator = solrDocs.iterator();
        while (iterator.hasNext()) {
            SolrDocument solrDocument = iterator.next();
            String docId = (String) solrDocument.getFieldValue("id");
            String docName = (String) solrDocument.getFieldValue("name");
            System.out.println("Document " + docId + ": " + docName);
        }
    }
}

```

```
}  
}
```

## Init SolrJ client for local STANDALONE cluster vs remote CLOUD with Kerberos

Handy method to initialise SolrJ client based on configuration properties;

```
private void initSolrClient() {  
    if (conf.kerberos().isEnabled()) {  
        System.setProperty("java.security.auth.login.config", conf.kerberos().confPath());  
        HttpClientUtil.addConfigurer(new Krb5HttpClientConfigurer());  
    }  
    if (conf.solr().getMode() == SolrProperties.Mode.STANDALONE) {  
        this.solr = new HttpSolrClient.Builder(conf.solr().url()).build();  
    }  
    if (conf.solr().getMode() == SolrProperties.Mode.CLOUD) {  
        this.solr = new  
CloudSolrClient.Builder().withZkHost(conf.solr().zookeepers()).build();  
    }  
}
```

### REMOTE with Kerberos:

```
solr.conf.mode=CLOUD  
solr.conf.zookeepers=zookeeper-01.mydomain.com:2181,zookeeper-02.mydomain.com:2181,zookeeper-  
03.mydomain.com:2181/solr  
kerberos.enabled=true  
kerberos.confPath=/my/path/to/krb5/jaas-client.conf
```

### LOCAL development:

```
solr.conf.mode=STANDALONE  
solr.conf.url=http://localhost:8983/solr  
kerberos.enabled=false
```

Read Getting started with solrj online: <https://riptutorial.com/solrj/topic/5428/getting-started-with-solrj>

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# Chapter 2: Get highlighted snippets with SolrJ

## Introduction

When we get highlighted snippets in our Solr response programmatically, we need to extract and handle them. The code below shows how to do that with SolrJ.

## Examples

### Get highlighted text for single-valued fields

```
public String getHighlightedText(final QueryResponse queryResponse, final String fieldName,
final String docId) {
    String highlightedText = "";
    Map<String, Map<String, List<String>>> highlights = queryResponse.getHighlighting();
    if (highlights!=null && MapUtils.isNotEmpty(highlights.get(docId))) {
        List<String> snippets = highlights.get(docId).get(fieldName);
        if (CollectionUtils.isNotEmpty(snippets)) {
            highlightedText = getFragments(snippets);
        }
    }
    return highlightedText;
}

private static final String getFragments(List<String> snippets){
    StringBuilder fragments = new StringBuilder();
    for (int i = 0; i < snippets.size(); i++) {
        if (i > 0) {
            fragments.append(".....");
        }
        fragments.append(snippets.get(i));
    }
    return fragments.toString();
}
```

Read [Get highlighted snippets with SolrJ](https://riptutorial.com/solrj/topic/8661/get-highlighted-snippets-with-solrj) online: <https://riptutorial.com/solrj/topic/8661/get-highlighted-snippets-with-solrj>

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# Chapter 3: Get shard leaders using SolrJ

## Introduction

In some cases, for instance when we want to backup solrcloud collections programmatically, we need to know what are the Shard Leaders. The example below shows how that can be achieved using SolrJ.

## Examples

### Get shard leaders using SolrJ API

```
private final String COLLECTION_NAME = "myCollection";
private final String ZOOKEEPER_CLIENT_TIMEOUT_MS = "1000000"

    private Map<String, String> getShardLeaders(CloudSolrServer cloudSolrServer) throws
InterruptedException, KeeperException {
    Map<String, String> shardleaders = new TreeMap<String, String>();
    ZkStateReader zkStateReader = cloudSolrServer.getZkStateReader();
    for (Slice slice : zkStateReader.getClusterState().getSlices(COLLECTION_NAME)) {
        shardleaders.put(slice.getName(), zkStateReader.getLeaderUrl(COLLECTION_NAME,
slice.getName(), ZOOKEEPER_CLIENT_TIMEOUT_MS));
    }
    return shardleaders;
}
```

Read Get shard leaders using SolrJ online: <https://riptutorial.com/solrj/topic/8659/get-shard-leaders-using-solrj>

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# Credits

S. No	Chapters	Contributors
1	Getting started with solrj	<a href="#">AR1</a> , <a href="#">Babu</a> , <a href="#">Community</a>
2	Get highlighted snippets with SolrJ	<a href="#">AR1</a>
3	Get shard leaders using SolrJ	<a href="#">AR1</a>