LBHttpSolrServer

What is LBHttpSolrServer?

LBHttpSolrServer or "Load Balanced HttpSolrServer" is just a wrapper to CommonsHttpSolrServer. This is useful when you have multiple SolrServers and query requests need to be Load Balanced among them. It offers automatic failover when a server goes down and it detects when the server comes back up.

This should NOT be used for indexing in traditional master/slave architectures since updates have to be routed to the correct master. In SolrCloud architectures, use CloudSolrServer which will take advantage of this class automatically.

How to use?

```
SolrServer lbHttpSolrServer = new LBHttpSolrServer("http://host1:8080/solr/","http://host2:8080/solr","
http://host3:8080/solr");
//or if you wish to pass the HttpClient do as follows
httpClient httpClient =  new HttpClient();
SolrServer lbHttpSolrServer = new LBHttpSolrServer(httpClient,"http://host1:8080/solr/","http://host2:8080
/solr","http://host3:8080/solr");
```

This can be used like any other SolrServer implementation.

How does the Load Balancing happen ?

This is a dumb round-robin Load Balancing. First request goes to 'host1' then to 'host2' and then 'host3' and it starts with 'host1' again.

How does failover happen?

LBHttpSolrServer does not keep pinging the servers to know if they are alive. If a request to a server fails by an Exception then the host is taken off the list of live servers and moved to a 'dead server list' and the request is resent to the next live server. This process is continued till it tries all the live servers. If atleast one server is alive the request succeeds , and if not it fails.

How does it know if a server has come back up ?

LBHttpSolrServer keeps pinging the dead servers once a minute (default value) to find if it is alive. The interval can be changed using

```
  lbHttpSolrServer.setAliveCheckInterval(60*1000); //time in milliseconds
```

The ping is done in a separate thread.

Can I add and remove servers ?

Yes, there are methods to add or remove servers to an existing LBHttpSolrServer;

example:

```
//remove one
lbHttpSolrServer.removeSolrServer("http://host2:8080/solr");
//and add another
lbHttpSolrServer.addSolrServer("http://host4:8080/solr");
```

When to use this ?

This can be used as a software load balancer when you do not wish to setup an external load balancer.

Alternatives to this built-in approach are to use a dedicated hardware load balancer or to use Apache httpd with mod_proxy_balancer as a load balancer. See Load balancing on Wikipedia.