Solr (standalone)

⊘ This documentation has not been updated for Release 4.0.0 yet. Please see the one host (all-in-one) Manual Installation Instructions.

⚠ This documentation is for Release 3.0.0. For the Release 1 version of this page, see v.81. For the Release 2 version of this page, see v.87.

Intended as guidance for production environments with different hosts for most tasks, these instructions provide a recipe for building only the **Solr** piece of an Avalon system from scratch on CentOS or Red Hat Enterprise Linux. Recipes for the other components for Avalon may be found here.   Fedora (standalone), MySQL (standalone), Web (standalone), Red5 (standalone), and Matterhorn (standalone).

Instructions for building every component on one host (all-in-on) please see here: Manual Installation Instructions.

- Ready the Installation Environment
- Tomcat
- Solr
- Restarting the Server

Ready the Installation Environment

Install EPEL

```
rpm -ivh http://linux.mirrors.es.net/fedora-epel/6/i386/epel-release-6-8.noarch.rpm
```

This package has libyaml-devel which is required by ruby and not provided by Redhat.

Make sure a valid hostname is resolvable

The default hostname is "avalon.dev", so name the machine this and enter it into /etc/hosts

```
# hostname
avalon.dev
# cat /etc/hosts
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4 avalon.dev
```

Configure iptables

The Avalon Media System requires several ports to be open to client browsers.

Here are the port settings that will need to be configured:

Port	Purpose	External?
8983	HTTP (Fedora/Solr)	No

The preferred method is to create a shell script that will do the work for you. Here is an example script that you should look through and customize as needed: avalon-iptables-config.sh

⊘ If you're connected over ssh, it might kick you off.

Save your script to /etc/sysconfig/avalon-iptables-config.sh, make it executable and run it.

```
chmod +x /etc/sysconfig/avalon-iptables-config.sh
/etc/sysconfig/avalon-iptables-config.sh
```

If you run into connection issues you can disable the iptables, by running "service iptables stop". This will completely drop your firewall. When finished troubleshooting run "service iptables start".

Disable SELinux

```
echo 0 > /selinux/enforce
vim /etc/selinux/config #change the value of `SELINUX` from `enforcing` to `permissive`
```

Add the NUL repository

Create the NUL repository config file:

```
vim /etc/yum.repos.d/nul-public.repo
```

Append the following code:

```
[nul_public]
name=NUL Library Public RHEL repository
baseurl=http://yumrepo-public.library.northwestern.edu/x86_64
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-nul
cost=150
```

Install and place the NUL GPG key in the proper location:

```
curl http://yumrepo-public.library.northwestern.edu/RPM-GPG-KEY-nul -o /etc/pki/rpm-gpg/RPM-GPG-KEY-nul
```

Install development libraries and packages for building Ruby

```
yum groupinstall "Development Tools"
yum install readline-devel zlib-devel libyaml-devel libffi-devel openssl-devel libxml2-devel libxslt-devel
```

Tomcat

Install Apache Tomcat with the nulrepo-public repository configured and enabled.

```
yum install tomcat-native
service tomcat start
vim /etc/tomcat/server.xml
```

on line 70, change the Tomcat connector port from 8080 to 8983:

```
<Connector port="8983" protocol="HTTP/1.1"
```

Add Tomcat manager user

By default, no user has access to the Tomcat Manager App.

```
vim /etc/tomcat/tomcat-users.xml
```

Define a user in tomcat-users.xml with access to the manager-gui role. Below is a very basic example.

```
<tomcat-users>
  <role rolename="manager-gui"/>
  <user username="admin" password="tomcat" roles="manager-gui"/>
</tomcat-users>
```

Restart Tomcat

```
service tomcat restart
```

See if you can log in to the manager app at http://<server host name>:8983/manager/html

Try it out on your local machine and on another machine. If you can't reach the app from another machine, your iptables might need to be changed to allow access.

Solr

Avalon makes use of Solr through the Blacklight gem for faceting and relevance-based searching.

Download the solr tarball and unpack it

Download Solr from http://www.apache.org/dyn/closer.cgi/lucene/solr/4.2.0

```
wget http://archive.apache.org/dist/lucene/solr/4.2.0/solr-4.2.0.tgz
tar xvf solr-4.2.0.tgz
mv solr-4.2.0 /usr/local/solr
cd /usr/local/solr/dist/
mkdir -p /usr/share/tomcat/webapps/
cp solr-4.2.0.war /usr/share/tomcat/webapps/solr.war
mv solr-4.2.0.war /usr/local/solr/solr.war
```

Add XML configurations

Edit /etc/tomcat/Catalina/localhost/solr.xml and add

```
<Context docBase="/usr/local/solr/solr.war" debug="0" crossContext="true">
 <Environment name="solr/home" type="java.lang.String" value="/usr/local/solr" override="true"/>
</Context>
```

Edit /usr/local/solr/solr.xml and insert

```
<?xml version="1.0" encoding="UTF-8" ?>
  <solr persistent="true">
    <cores defaultCoreName="avalon" adminPath="/admin/cores" zkClientTimeout="${zkClientTimeout:15000}"
hostPort="8983" hostContext="solr">
    <core instanceDir="avalon/" name="avalon"/>
  </cores>
</solr>
```

Download and Install Avalon specific Solr files from github

```
mkdir /usr/local/solr/lib
mv /usr/local/solr/dist/* /usr/local/solr/lib/
mv /usr/local/solr/contrib /usr/local/solr/lib/

wget https://github.com/avalonmediasystem/puppet-solr/archive/master.zip
unzip master
mv puppet-solr-master/files/avalon /usr/local/solr
chown -R tomcat7:tomcat /usr/local/solr/
chown -R tomcat7:tomcat /usr/local/tomcat
service tomcat restart
```

If you have successfully installed Solr you should be able to access the dashboard page at http://<server host name>:8983/solr

If you can't access the dashboard, check the tomcat logs in */usr/local/tomcat/logs/*. Catalina.out and localhost.<date>.log usually provide the best information.

Restarting the Server

Before you restart your Avalon server, you'll want to make sure all of the services necessary to run Avalon will start automatically after the restart. Run these commands once and you should be set:

```
chkconfig --level 345 tomcat on
chkconfig --level 345 sshd on
```