

ESGF Local Node Deployment Tutorial

This page shows how to deploy an ESGF Node that provides data, index and idp services and belongs to the esgf-test federation. The purpose of this node is to test the process of publication in the ESGF.

This page assumes that command are executed by the root user (not sudo).

Index

1. Previous installation clean up
2. Installation from scratch
3. Configuration for publishing
4. Known issues
5. References

1. Previous installation clean up

Execute `/usr/local/bin/esg-node stop` in order to stop the current ESGF services (in case they are running).

```
[root@spock ~]# /usr/local/bin/esg-node stop
```

```

EEEEEEEEEEEEEEEEEEEE     SSSSSSSSSSSSSS           GGGGGGGGGGGGGGFFFFFFFFFFFFFFFFFFFFFFF
E::::::::::::::::::::E SS::::::::::::S           GGG::::::::::::GF::::::::::::F
E::::::::::::::::::::ES::::SSSSS::::S           GG::::::::::::GF::::::::::::F
EE:::::EEEEEEEE::::ES::::S           SSSSSS  G::::GGGGGGG::::GFF:::::FFFFFFF::::F
  E::::E           EEEEEES::::S           G::::G           GGGGGG  F::::F           FFFFFF
  E::::E           S::::S           G::::G           G::::G           F::::F
  E:::::EEEEEEEE     S::::SSS           G::::G           F:::::FFFFFFF
  E::::::::::::E     SS::::SSSS           G::::G           GGGGGGGGGG  F:::::FFFFFFF
  E::::::::::::E     SSS::::SS           G::::G           G:::::G           F:::::FFFFFFF
  E:::::EEEEEEEE     SSSSS::::S  G::::G           GGGGG::::G  F:::::FFFFFFF
  E::::E           S::::SG::::G           G::::G           F::::F
  E::::E           EEEEE           S::::S  G::::G           G::::G           F::::F
EE:::::EEEEEEEE::::ESSSSSS  S::::S  G::::GGGGGGG::::GFF:::::FF
E::::::::::::ES::::SSSSS::::S  GG::::::::::::GF:::::::::FF
E::::::::::::ES:::::SS           GGG:::::GGG:::GF:::::FF
EEEEEEEEEEEEEEEEEEEE     SSSSSSSSSSSSSS           GGGGGG  GGGGFFFFFFFFFFFFF.llnl.gov

```

```
Checking that you have root privs on spock.meteo.unican.es... [OK]
```

```
Checking requisites...
```

```
Using IP: 193.144.184.40
```

```
Stopping search services...
```

```
Using solr_workdir=/usr/local/src/esgf/workbench/esg/solr-5.5.3
```

```
Using solr_install_dir=/usr/local/solr-home/slave-8983
```

```
Using solr_data_dir=/esg/solr-index/slave-8983
```

```
Using solr_server_dir=/usr/local/solr
```

```
Using solr_logs_dir=/esg/solr-logs
```

```
Using esg_dist_url=http://esg-dn2.nsc.liu.se/esgf/dist
```

```
sudo: source: command not found
```

```
Sending stop command to Solr running on port 8983 ... waiting 5 seconds to allow Jetty process 16339 to stop gracefully.
```

```
Sending stop command to Solr running on port 8984 ... waiting 5 seconds to allow Jetty process 16554 to stop gracefully.
```

```
Stopping Globus Services for Data-Node... (GridFTP) stop_globus_services for datanode
```

```
globus-gridftp-server: unrecognized service
```

```
Stopping Globus Services for Index-Node... (MyProxy server) stop_globus_services for gateway
```

```
Stopping myproxy-server: [ OK ]
```

```
No MyProxy Process Currently Running...
```

```
Tomcat (jsvc) process is running...
```

```

stop tomcat: /usr/local/tomcat/bin/jsvc -pidfile /var/run/tomcat-jsvc.pid -stop org.apache.catalina.startup.Bootstrap
(please wait)
postmaster (pid 16024) is running...
Stopping postgresql service:          [ OK ]
Stopping httpd:                       [ OK ]
Running shutdown hooks...

-----

Running Node Services...
node type: [ data index idp compute ] (60)
-----
-----

```

Execute `source /usr/local/bin/esg-purge.sh && esg-purge all`

2. Installation from scratch

Change directory to `/usr/local/bin/`

```
[root@spock ~]# cd /usr/local/bin/
```

```

[root@spock bin]# wget -O esg-bootstrap http://distrib-coffee.ipsl.jussieu.fr/pub/esgf/dist/devel/esgf-installer/2.4/esg-b
[root@spock bin]# chmod 555 ./esg-bootstrap
[root@spock bin]# ./esg-bootstrap

```

Your directory should look like this:

```

[root@spock bin]# ls
esg-bootstrap  esg-functions  esg-init  esg-node  esg-purge.sh  jar_security_scan  setup-autoinstall

```

Check your node's version:

```

[root@spock bin]# ./esg-node --version
Version: v2.4.24-master-release
Release: Bifrost
Earth Systems Grid Federation (http://esgf.llnl.gov)
ESGF Node Installation Script

```

Set node's type:

```

[root@spock bin]# ./esg-node --set-type data idp index
node type set to: [ index data idp ] (28)

```

Install the node:

```
[root@spock bin]# ./esg-node --install
```

Please select the ESGF distribution mirror for this installation (fastest to slowest):

```

-----
[1] http://dist.ceda.ac.uk/esgf
[2] http://esg-dn2.nsc.liu.se/esgf
[3] http://aims1.llnl.gov/esgf
[4] http://distrib-coffee.ipsl.jussieu.fr/pub/esgf
-----

```

```
select [1] > 1
```

```

Are you ready to begin the installation? [Y/n]
Configured host IP address does not match available IPs...
Detected multiple IP addresses bound to this host...
Please select the IP address to use for this installation
-----
[0] : 193.xxx.xxx.xxx
[1] : 192.xxx.xxx.xxx
-----
select [] > (select the one that fits your case)

```

```

Welcome to the ESGF Node installation program! :-)

What is the fully qualified domain name of this node? [spock.meteo.unican.es]:
What is the admin password to use for this installation? (alpha-numeric only) []:
Please re-enter password:
What is the name of your organization? [unican]:
Please give this node a "short" name: []: unican
Please give this node a more descriptive "long" name []: unican
What is the namespace to use for this node? (set to your reverse fqdn - Ex: "gov.llnl") [es.unican.meteo]:
What peer group(s) will this node participate in? (esgf-test|esgf-prod) [esgf-test]:
What is the default peer to this node? [spock.meteo.unican.es]:
What is the hostname of the node do you plan to publish to? [spock.meteo.unican.es]:
What email address should notifications be sent as? []:
Is the database external to this node? [y/N]:
Please enter the database connection string...
(form: postgresql://[username]@[host]:[port]/esgct)
What is the database connection string? [postgresql://dbsuper@localhost:5432/esgct]: postgresql://
entered: postgresql://dbsuper@localhost:5432/esgct
What is the (low priv) db account for publisher? [esgct]:
What is the db password for publisher user (esgct)? []:

```

```

Enter password for postgres user dbsuper:
Re-enter password for postgres user dbsuper:
Please Enter PostgreSQL port number [5432]:>

```

```

Would you like a "system" or "user" publisher configuration:
-----
*[1] : System
[2] : User
-----
[C] : (Custom)
-----
select [1] >

You have selected: 1
Publisher configuration file -> [/esg/config/esgct/esg.ini]

Is this correct? [Y/n]
Your publisher configuration file will be: /esg/config/esgct/esg.ini
What is your organization's id? [unican]:

```

```

Would you like to use the DN: (OU=ESGF.ORG, O=ESGF) ? [Y/n]:
...
Please enter the password for this keystore :

```

```

Enter a single ip address which would be cleared to access admin restricted pages.
You will be prompted if you want to enter more ip-addresses

Do you wish to allow further ips? y/n

```

```
n
```

```
Create user credentials
```

```
Please enter username for tomcat [dnode_user]:
```

```
Please enter password for user, "dnode_user" [*****]:
```

```
Would you like to add another user? [y/N]:
```

```
Please Enter the public (i.e. routable) IP address of this host [193.xxx.xxx.xxx]:>
```

```
Do you wish to use an external IDP peer?(N/y):
```

```
Do you want to continue with the Globus installation and setup? [Y/n] :
```

```
Do you want to register the MyProxy server with Globus? [Y/n]:
```

```
Please provide a Globus username []: YOUR-GLOBUS-USER
```

```
Globus password []:
```

When finished, you should see something like this:

```
Running Node Services...
```

```
node type: [ data index idp ] (29)
```

```
-----
myproxy-s 23071    root    5u    IPv4 1526752      0t0  TCP *:7512 (LISTEN)
java      26088    solr    28u   IPv6 1591850      0t0  TCP 127.0.0.1:7983 (LISTEN)
java      26088    solr    92u   IPv6 1591986      0t0  TCP *:8983 (LISTEN)
java      26257    solr    28u   IPv6 1592730      0t0  TCP 127.0.0.1:7984 (LISTEN)
java      26257    solr    92u   IPv6 1593098      0t0  TCP *:8984 (LISTEN)
postmaste 29509    postgres 3u    IPv6 1449862      0t0  TCP [::1]:5432 (LISTEN)
postmaste 29509    postgres 4u    IPv4 1449863      0t0  TCP 127.0.0.1:5432 (LISTEN)
httpd     12706    root    4u    IPv6 1512235      0t0  TCP *:80 (LISTEN)
-----
```

```
Finished!...
```

```
In order to see if this node has been installed properly you may direct your browser to:
```

```
http://spock.meteo.unican.es/thredds
```

```
http://spock.meteo.unican.es/esg-orp
```

```
http://spock.meteo.unican.es/
```

```
Your peer group membership -- : [esgf-test]
```

```
Your specified "default" peer : [spock.meteo.unican.es]
```

```
Your specified "index" peer - : [spock.meteo.unican.es] (url = http://spock.meteo.unican.es/)
```

```
Your specified "idp" peer --- : [spock.meteo.unican.es] (name = SPOCK.METEO.UNICAN.ES)
```

```
Your temporary certificates have been placed in /etc/tempcerts
```

```
You can install them by executing this : esg-node --install-keypair /etc/tempcerts/hostcert.pem /etc/tempcerts/hostkey.pem
```

```
When prompted for the chainfile, specify: /etc/tempcerts/cacert.pem
```

```
[Note: Use UNIX group permissions on /esg/content/thredds/esgcat to enable users to be able to publish thredds catalogs from
```

```
%> chgrp -R <appropriate unix group for publishing users> /esg/content/thredds
```

```
-----
Administrators of this node should subscribe to the
esgf-node-admins@lists.llnl.gov by sending email to: majordomo@lists.llnl.gov
with the body: subscribe esgf-node-admins
-----
```

```
v2.4.24-master-release
```

```
Writing additional settings to db. If these settings already exist, psql will report an error, but ok to disregard.
```

```
ERROR: insert or update on table "permission" violates foreign key constraint "permission_user_id_fkey"
```

```
DETAIL: Key (user_id)=(1) is not present in table "user".
Node installation is complete.
```

Execute the following:

```
[root@spock bin]# ./esg-node --install-keypair /etc/tempcerts/hostcert.pem /etc/tempcerts/hostkey.pem
...
Please set the password for this keystore :
Please re-enter the password for this keystore:
...
certfile> /etc/tempcerts/cacert.pem
certfile>
...
Is the above information correct? [Y/n]
Is the above information correct? [Y/n]
```

Restart the node:

```
[root@spock bin]# ./esg-node restart
```

Check that everything works ([?https://github.com/ESGF/esgf-installer/wiki/ESGF-Post-Installation-Tests](https://github.com/ESGF/esgf-installer/wiki/ESGF-Post-Installation-Tests)).

If the CoG portal does not work, follow the instructions on https://www.earthsystemcog.org/projects/cog/install_or_upgrade.

Known issues

#error "Pycopyg requires PostgreSQL client library (libpq) >= 9.1

This error occurs sometimes during installation but removing the node and installing it from scratch seems to solve it..

```
Traceback (most recent call last):
  File "setup.py", line 110, in <module>
    """
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/distutils/core.py", line 111, in setup
    _setup_distribution = dist = klass(attrs)
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/dist.py", line 239, in __in
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/dist.py", line 263, in fetc
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/pkg_resources.py", line 568, in resolv
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/pkg_resources.py", line 806, in best_m
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/pkg_resources.py", line 818, in obtain
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/dist.py", line 313, in fetc
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
  File "/usr/local/uvcdat/2.2.0/lib/python2.7/site-packages/setuptools-1.4-py2.7.egg/setuptools/command/easy_install.py", l
distutils.errors.DistutilsError: Setup script exited with error: command 'gcc' failed with exit status 1

Sorry...
This action did not complete successfully
Please re-run this task until successful before continuing further

Also please review the installation FAQ it may assist you
https://github.com/ESGF/esgf.github.io/wiki/ESGFNode%7CFAQ
```

Failed building wheel for Pillow

This error seems unavoidable but it also seems that it doesn't affect the esgf functionality.

References

- [?ESGF Installation From Scratch](#)