

## **Wikiprint Book**

**Title: ESGF Local Node Deployment Tutorial**

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## Table of Contents

<b>ESGF Local Node Deployment Tutorial</b>	<b>3</b>
Index	3
0. Prerequisites	3
1. Previous installation clean up	3
2. Installation from scratch	4
Configuration for publishing	7
Publish the test dataset	8
Publish cordex datasets	9
Known issues	9
#error "Pycopg requires PostgreSQL client library (libpq) >= 9.1	9
Failed building wheel for Pillow	9
References	9



```

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/esgcert to enable users to be able to publish thredds catalogs fr
%> 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
```



(reference documentation - [?https://acme-climate.atlassian.net/wiki/display/ESGF/Guide+to+ESGF+Publishing+and+Best+Practices](https://acme-climate.atlassian.net/wiki/display/ESGF/Guide+to+ESGF+Publishing+and+Best+Practices))

```

esgctl=# select * from esgf_security.role;
id | name | description
-----+-----+-----
1 | super | Super User
2 | none | None
3 | default | Standard
4 | publisher | Data Publisher
5 | admin | Group Administrator
6 | user | user role
(6 rows)

esgctl=# select * from esgf_security.group;
id | name | description | visible | automatic_approval
-----+-----+-----+-----+-----
1 | wheel | Administrator Group | t | t
2 | test_group | test group | t | t
3 | cordex_group | cordex group | t | t
(3 rows)

esgctl=# select * from esgf_security.permission;
user_id | group_id | role_id | approved
-----+-----+-----+-----
2 | 2 | 4 | t
2 | 2 | 6 | t
2 | 3 | 6 | t
2 | 3 | 4 | t
(4 rows)

```

Add the following elements to /esg/config/esgf\_policies\_local.xml

```

<policy resource=".*test.*" attribute_type="test_group" attribute_value="user" action="Read"/>
<policy resource=".*test.*" attribute_type="test_group" attribute_value="publisher" action="Write"/>
<policy resource=".*cordex.*" attribute_type="cordex_group" attribute_value="user" action="Read"/>
<policy resource=".*cordex.*" attribute_type="cordex_group" attribute_value="publisher" action="Write"/>

```

Add the following elements to /esg/config/esgf\_ats\_static.xml

```

<attribute
  type="test_group"
  attributeService="https://spock.meteo.unican.es/esgf-idp/saml/soap/secure/attributeService.htm"
  description="Test group for test data"
  registrationService="https://spock.meteo.unican.es/esgf-idp/secure/registrationService.htm"/>

<attribute
  type="cordex_group"
  attributeService="https://spock.meteo.unican.es/esgf-idp/saml/soap/secure/attributeService.htm"
  description="Test group for cordex data"
  registrationService="https://spock.meteo.unican.es/esgf-idp/secure/registrationService.htm"/>

```

Generate your credentials for publication - globus certificate

```
myproxy-logon [ -b ] -s <openid_server> -l <your_esgf_username> -p 7512 -t 72 -o $HOME/.globus/certificate-file
```

The certificate is valid for 72 hours when specified by -t. If you are publishing for the first time, you will need to mkdir \$HOME/.globus and use -b to bootstrap its trustroots with the server. The esgf\_username is the simply the username portion of your openid rather than the entire openid string, e.g. sashakames, not [?https://pcmdi.llnl.gov/esgf-idp/openid/sashakames](https://pcmdi.llnl.gov/esgf-idp/openid/sashakames)

## Publish the test dataset



## Publish cordex datasets

### Known issues

#### #error "Pycpg 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
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](https://github.com/ESGF/esgf.github.io/wiki/ESGFNode%7CFAQ)