ESGF Local Node Deployment Tutorial

This page shows how to deploy an ESGF Node that provides data, index, compute and idp services and belongs to the esgf-test federation. The purpose of this node is to test publication and other processes before applying them into production.

UNICAN belongs to the Tier 2 group of nodes so the production node MUST be data only.

This page assumes that command are executed by the root user (or sudo -s).

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Prerequisites

1. You have to create a globus account - ?https://www.globusid.org/create
2. Open ports: Required open ports

```
[root@spock ~]# iptables -L
Chain INPUT (policy DROP)
target     prot opt source               destination
ACCEPT     all  --  anywhere             anywhere
ACCEPT     all  --  anywhere             anywhere            state RELATED,ESTABLISHED
ACCEPT     tcp  --  anywhere             anywhere            tcp dpt:http state NEW
ACCEPT     tcp  --  anywhere             anywhere            tcp dpt:https state NEW
ACCEPT     tcp  --  192.168.202.0/24     anywhere            tcp dpt:ssh
ACCEPT     tcp  --  193.144.202.0/24     anywhere            tcp dpt:ssh
ACCEPT     tcp  --  anywhere             anywhere            state NEW tcp dpt:gsiftp
ACCEPT     tcp  --  anywhere             anywhere            state NEW tcp dpt:7512
ACCEPT     tcp  --  anywhere             anywhere            state NEW tcp dpts:50000:51000
ACCEPT     icmp --  192.168.202.0/24     anywhere
ACCEPT     icmp --  anywhere             anywhere            icmp echo-request state NEW,RELATED,ESTABLISHED

Chain FORWARD (policy DROP)
target     prot opt source               destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source               destination

Chain SSHSCAN (0 references)
target     prot opt source               destination
```

1. Previous installation clean up

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

```
[root@spock ~]# esg-node stop


 EEEEEEEEEEEEEEEEEEEE   SSSSSSSSSSSSSSS         GGGGGGGGGGGGGFFFFFFFFFFFFFFFFFFFFF
 E::::::::::::::::::E SS:::::::::::::::S     GGG::::::::::::GF::::::::::::::::::F
```

```
 E::::::::::::::::::::ES:::::SSSSSS::::::S   GG:::::::::::::::GF::::::::::::::::::::F
 EE::::::EEEEEEEEE::::ES:::::S     SSSSSSS  G:::::GGGGGGGG::::GFF::::::FFFFFFFFF::::F
   E:::::E       EEEEEES:::::S             G:::::G       GGGGGG  F:::::F       FFFFFF
   E:::::E             S:::::S            G:::::G               F:::::F
   E::::::EEEEEEEEEE    S::::SSSS         G:::::G               F::::::FFFFFFFFFF
   E::::::::::::::E     SS::::::SSSSS    G:::::G    GGGGGGGGGG  F::::::::::::::F
   E::::::::::::::E       SSS::::::::SS  G:::::G    G::::::::G  F::::::::::::::F
   E::::::EEEEEEEEEE          SSSSSS::::S G:::::G    GGGGG::::G  F::::::FFFFFFFFFF
   E:::::E                         S:::::SG:::::G        G::::G  F:::::F
   E:::::E       EEEEEE            S:::::S G:::::G       G::::G  F:::::F
 EE::::::EEEEEEEE:::::ESSSSSSS     S:::::S  G:::::GGGGGGGG::::GFF:::::::FF
 E::::::::::::::::::::ES::::::SSSSSS:::::S   GG::::::::::::::GF::::::::FF
 E::::::::::::::::::::ES::::::::::::::SS      GGG::::::GGG:::GF::::::::FF
 EEEEEEEEEEEEEEEEEEEEE SSSSSSSSSSSSSSS           GGGGGG   GGGGFFFFFFFFFFF.llnl.gov

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

Using IP: 193.144.184.40
Stopping Globus Services for Data-Node... (GridFTP) stop_globus_services for datanode
Stopping globus-gridftp-server: OK
Stopping dashboard provider...
Shutting down ESGF Information Provider... [OK]
Shutting down :  esgfnmdNode Manager process not present. Attempting to wipe  PIDFILE and LOCKFILE.
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)
5 Z tomcat    7111     1  0  80   0 -     0 do_exi  2017 ?        00:24:39 [jsvc] <defunct>
postmaster (pid  30159) is running...
Stopping postgresql service:                               [  OK  ]
Stopping httpd:                                            [  OK  ]
Running shutdown hooks...

---------------------------
Running Node Services...
node type: [ data ] (4)
---------------------------
---------------------------
```

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

Installation from scratch using autoinstaller

The autoinstaller allows the installation of data only and data+idp+compute+index nodes. Any other combinations should be installed manually. See ?https://github.com/ESGF/esgf-installer/wiki/ESGF-Installation-Using-Autoinstaller.

As root (not sudo!):

```
cd /usr/local/bin
wget -O esg-bootstrap http://distrib-coffee.ipsl.jussieu.fr/pub/esgf/dist/esgf-installer/2.5/esg-bootstrap --no-check-cert
chmod 555 esg-bootstrap
./esg-bootstrap
```

Edit /usr/local/etc/esg-autoinstall.conf. It should looks like:

```
#!/usr/bin/expect -f
# -*- mode:shell-script -*-
#
# Configuration file for the esg-autoinstall Expect script.
```

```
#
# If you are opening this file as 'esg-autoinstall.template', either
# from /usr/local/etc or from a Git repository, DO NOT MODIFY IT
# DIRECTLY.  It must be copied to /usr/local/etc/esg-autoinstall.conf
# before it will be read.
#
# THIS FILE CONTAINS PASSWORDS -- ensure that when you copy it you set
# the permissions to 600 and the ownership to root, e.g.
#   chown root /usr/local/etc/esg-autoinstall.conf
#   chmod 600 /usr/local/etc/esg-autoinstall.conf
#

### Local Node Settings ###

# Set this to "data" or "data compute" for a data-only node
# Set this to "index" for an index-only node
set NODETYPE "index idp data compute"

# Optional install flags
# Possibilites include "--devel" or "--debug"
set INSTALLFLAGS ""

# Fully qualified domain name of the node
set FQDN "spock.meteo.unican.es"

# Shortname of the node
set SHORTNAME "unican test"

# Long descriptive name of the node
set LONGNAME "unican test"

# Admin password (alphanumeric-only)
set ADMINPASS "PASSWORD"

# IP address cleared for admin-restricted pages
set ADMINIP "0.0.0.0"

# Password for low-privilege publisher database account (alphanumeric-only)
set DBLOWPASS "PASSWORD"

# Globus Online username and password
# (you must have set up this account in advance)
# If your password contains URL special characters, installation may fail.
set GLOBUSUSER "YOUR-GLOBUS-USER"
set GLOBUSPASS "YOUR-GLOBUS-PASSWORD"

# Organization name
set ORGNAME "unican"

# Namespace (reverse FQDN, i.e. "gov.llnl")
set NAMESPACE "es.unican.meteo.spock"

# Peer Group (valid values are usually "esgf-test" and "esgf-prod")
set PEERGROUP "esgf-test"

# Default Peer (set this to empty for the default peergroup member, or to your own FQDN)
set DEFAULTPEER "spock.meteo.unican.es"

# Hostname of the node to publish to
set PUBLISHNODE "spock.meteo.unican.es"
```

```
# Use an external IDP Peer?
# (Unless you know you need to run your own, put y)
set EXTERNALIDP "n"

# FQDN of the external IDP Peer
set IDPPEER "spock.meteo.unican.es"

# E-mail address notifications will be sent as
set ADMINEMAIL "ezequiel.cimadevilla@unican.es"

# Default answer for installing Globus
# Should be be N for upgrade and Y for fresh install
set GLOBUS "y"

# Default answer for automatic peering
# Should be be N for upgrade and Y for fresh install
set AUTOMATICPEER "y"

set THREDDS "N"

### Special-use variables (you probably don't want to change these) ###

# Which install script to run
set ESGNODESCRIPT /usr/local/bin/esg-node

# Disable timeouts (the installer can take a long time)
set timeout -1

# Database connection string
# (form: [username]@[host]:[port]/[database])
# Note: all elements are mandatory, and the "postgresql://" header is
# automatically prepended by the esg-node script!
# Currently, the only allowed database name is "esgcet"
## DO NOT CURRENTLY SET THIS TO ANYTHING BUT ""
#set DBSTRING "esg@localhost:5432/esgcet
set DBSTRING ""

# Is this an externally managed database?
# (if DBSTRING isn't pointed at localhost, the answer is yes)
# DO NOT CURRENTLY SET THIS TO YES
set DBEXTERNAL no

# Low-privilege database account (this may need to be "esgcet")
set DBLOWUSER "esgcet"

# PostgreSQL port number
# DO NOT CURRENTLY CHANGE THIS
set PGPORT 5432

# Force recreation of SOLR replica indexes
set SOLRREINDEX ""
```