

Dataless ingest and station configuration in SC3

Instrumental Software
Technologies, Inc.



SCConfig Overview

Scconfig the GUI for all* Seiscomp configuration

Scconfig is organized into the following sections:

Information

System: SC3 application en-/disabling, status

Inventory: used to import/export and view stream configuration data

Modules: per application configurations

Bindings: Network/Station configurations



scconfig

File Edit



System

The current status of the system

The current status of the system

Information

Update Start Stop Restart Check Enable module(s) Disable module(s) Update configuration

All commands (such as 'start', 'stop') will affect all modules which rows are currently selected. If no row is selected, all modules are affected. You can clear the row selection with ESC.

System 2,5

Inventory 1,3

Modules

Bindings 4

Auto	Module	Status
On	spread	not running
On	istiWM	not running
On	istiMT	not running
On	scmag_isti	not running
On	scautoloc	not running
On	scmag	not running
On	istiPAmp	not running
On	scautopick	not running
On	scamp	not running
On	scmaster	not running
On	scevent	not running
On	scqc	not running
On	seedlink	not running
Off	scvsmaglog	not running
Off	istiAP	not running

```
Idle
spread;0;0;1
scmaster;0;0;1
arlink;0;0;0
arlinkproxy;0;0;0
diskmon;0;0;0
ew2sc3;0;0;0
fdsnws;0;0;0
istiAP;0;0;0
istiAlarm;0;0;0
istiFFS;0;0;0
istiMT;0;0;1
istiPAmp;0;0;1
istiWM;0;0;1
ql2sc;0;0;0
scalert;0;0;0
scamp;0;0;1
scautoloc;0;0;1
scautopick;0;0;1
scdb;0;0;0
scenvelope;0;0;0
scevent;0;0;1
scevtlog;0;0;0
scimex;0;0;0
scimport;0;0;0
scm;0;0;0
scmag;0;0;1
scmag_isti;0;0;1
```

Workflow

1. Import metadata

Best practice: limit import to one or two network files

2. Save and update database. Repeat step 1 as necessary

3. Sync keys

4. Finish updating station 'keys'/bindings

5. Save again and update the database



Inventory: selecting dataless source

The screenshot shows the SeisComP3 system configuration interface. The main window is titled "Inventory" and contains a list of metadata files. An "Import" dialog box is open, showing the "Format" set to "dlsv" and a "Source" field with a browse button. An "Open" file dialog is also open, showing the directory "/home/alexander/Desktop/Dataless_Files" with a list of dataless files. The "Import" and "Open" dialog boxes are highlighted with red rectangles.

Applications Places System Tue Jul 25, 15:06 alexander

SeisComP3 - system configuration @ localhost.localdomain

File Edit

Inventory

Shows available inventory files and provides options to import inventory data also from other formats via import_inv.

Import Test sync Sync Sync keys

Name	Size
US_00-16_metadata_-HZ.483770.dataless.xml	1.9 MB
README	47 byte(s)
JP_00-16_metadata_...	3 KB
IU_00-16_metadata_...	3 MB
II_00-16_metadata_E...	3 MB
GE_00-16_metadata_...	7 KB
G_00-16_metadata_...	2 KB
AU_00-16_metadata_...	7 MB
AT_00-16_metadata_...	1 KB
arrayDefinitions.test	3 KB
AK_00-16_metadata_-HZ.108892.dataless.xml	2.1 MB

Look in: /home/alexander/Desktop/Dataless_Files

2004_TW_-HZ_metadata.461521.dataless	IM_00-16_metadata_-HZ
AK_00-16_metadata_-HZ.108892.dataless	IU_00-16_metadata_-HZ
AT_00-16_metadata_BH-.701645.dataless	JP_00-16_metadata_-HZ.
AU_00-16_metadata_-HZ.487951.dataless	LD_00-16_metadata_-HZ
C1_00-16_metadata_-HZ.812344.dataless	MS_00-16_metadata_-HZ
C_00-16_metadata_-HZ.740200.dataless	NE_00-16_metadata_HH
CM_00-16_metadata_BHZ.291257.dataless	PS_00-16_metadata_BHZ
G_00-16_metadata_-HZ.289232.dataless	TA_4-C_00-16_metadata
GE_00-16_metadata_BHZ.165588.dataless	TA_D-H_00-16_metadata
II_00-16_metadata_BHZ.232475.dataless	TA_I-M_00-16_metadata

File name: Open

Files of type: All Files (*) Cancel

alexander@local... PreprocessData.c... alexander@local... alexander@local... prefilterssac.c (... alexander@local... SeisComP3 - syst... Import

Dataless import: success!

The screenshot shows a Linux desktop environment with the following elements:

- Top Panel:** Applications, Places, System, and system tray with date/time (Tue Jul 25, 15:07) and user name (alexander).
- Main Window:** "SeisComP3 - system configuration @ localhost.localdomain". The left sidebar shows a navigation menu with "Inventory" selected. The main area displays a list of metadata files, with "MS_00-16_metadata_-HZ.535801.dataless.xml" highlighted in red.
- Terminal Window:** "/seiscomp3/bin/seiscomp". It shows the execution of the seiscomp command, including debug messages for adding plugin paths, registering the dbpostgresql plugin, and processing station information for MS BESC. A green box at the bottom of the terminal window contains the text "Program exited normally".

```
Generating output to /seiscomp3/etc/inventory/MS_00-16_metadata_...
15:07:20 [debug] Adding plugin path: .
15:07:20 [debug] Adding plugin path: /home/alexander/.seiscomp3/plu
15:07:20 [debug] Adding plugin path: /seiscomp3/lib/plugins
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/share/plugins
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/lib
15:07:20 [debug] Adding plugin path: /seiscomp3/share/plugins/dlsv2i
15:07:20 [debug] Trying to open plugin at /seiscomp3/share/plugins/db
15:07:20 [info] Plugin dbpostgresql registered
15:07:20 [info]
Plugins:
-----
[1]
description: PostgreSQL database driver
author: GFZ Potsdam <seiscomp-devel@gfz-potsdam.de>
version: 0.9.1
API: 1.15.0

15:07:20 [info] START PROCESSING DATALESS
15:07:20 [debug] Start processing station information
15:07:20 [info] Processing station MS BESC 1996,153,00:00:00
15:07:20 [debug] Getting the description of the network
15:07:20 [debug] Insert station

Program exited normally
```

Updating the database: round 1

File Edit

System

The current status of the system

Update Start Stop Restart Check Enable module(s) Disable module(s) **Update configuration**

All commands (such as 'start', 'stop') will affect all modules which rows are currently selected. If no row is selected, all modules are affected. You can clear the row selection with ESC.

Auto	Module	Status
On	spread	running
On	istiWM	not running
On	istiMT	not running
On	scmag_isti	not running
On	scautoloc	not running
On	scmag	not running
On	istiPAmp	not running
On	scautopick	not running
On	scamp	not running
On	scmaster	running
On	scevent	not running
On	scqc	not running
On	seedlink	not running
Off	scvsmaglog	not running
Off	istiAP	not running

```
15:10:11 [info] Outgoing messages are encoded to match schema version 0.7
15:10:11 [info] user "_sccfgupd_" connected successfully to localhost:4803
15:10:11 [info] Setting message encoding to binary
15:10:11 [info] Connect to database
15:10:11 [info] Received database service parameters
15:10:11 [info] Trying to connect to postgresql://sysop:sysop@localhost/seiscomp3
15:10:11 [debug] trying to open database postgresql://sysop:sysop@localhost/seiscomp3
15:10:11 [debug] Found database version v0.7
15:10:11 [info] Connected successfully
15:10:11 [info] Loading configuration module
15:10:11 [info] Finished loading configuration module
15:10:11 [debug] Leaving ::done
station WDC Whiskeytown Dam, Shasta County, California, USA
+ station WMOK Wichita Mountains, Oklahoma, USA
+ station WRAK Wrangell Island, Southeastern Alaska, Alaska, USA
+ station WUAZ Wupatki, Arizona, USA
+ station WVOR Wild Horse Valley, Oregon, USA
+ station WVT Waverly, Tennessee, USA
* configure slarchive
* configure trunk
+ default
+ read 637 stations
+ scautopick
+ read 637 stations
- database is already up-to-date
* configure syncarc
```

Station bindings: an intro

File Edit


Bindings

Configuration of module-station bindings and binding profiles.

Information

Name	Profile
Networks	
AK	
AT	
AU	
G	
GE	
II	
IU	
JP	
US	

Network/Station profiles



Station-application configurations are used to provide site-specific configurations. Examples include: 'global' data selectors to specify which stream to use at a station, scautopick bindings specifying filters appropriate for picking at the station in question, and seedlink bindings specifying which Seedlink server will provide the data for that site

Name
arlink
arlink-access
global
scautopick
seedlink
slarchive

Station-application configurations

Modules

Bindings

AK	AT	AU
G	GE	II
IU	JP	US

Empty configuration area for station-application configurations.

Syncing keys

File Edit

Inventory

Shows available inventory files and provides options to import inventory data also from other formats via import_inv.

Import Test sync Sync Sync keys

Name	Size	Type	Date Modified
AK_00-16_metadata_-HZ.108892.dataless.xml	2.1 MB	xml File	17 May 2017 15:16:04
arrayDefinitions.test.dataless.xml	8 KB	xml File	17 May 2017 15:16:04
AT_00-16_metadata_BH-.701645.dataless.xml	391 KB	xml File	23 Jul 2017 16:05:08
AU_00-16_metadata_-HZ.487951.dataless.xml			
G_00-16_metadata_-HZ.289232.dataless.xml			
GE_00-16_metadata_BHZ.165588.dataless.xml			
II_00-16_metadata_BHZ.232475.dataless.xml			
IU_00-16_metadata_-HZ.524105.dataless.xml			
JP_00-16_metadata_-HZ.772238.dataless.xml			
MS_00-16_metadata_-HZ.535801.dataless.xml			
README			
US_00-16_metadata_-HZ.483770.dataless.xml	1.9 MB	xml File	17 May 2017 15:16:04

Sync keys

Unless an error is raised the current unsaved bindings configuration will be lost. Make sure that you have saved all changes.
Do you want to continue?

New network added

Applications Places System Tue Jul 25, 15:13 alexander

SeisComP3 - system configuration @ localhost.localdomain

File Edit

Bindings

Configuration of module-station bindings and binding profiles.

global/BHZ

Name	Profile
Networks	
AK	
AT	
AU	
G	
GE	
II	
IU	
IP	
MS	
BESC	
BTDF	
KAPK	
NTU	
PTK	
US	
AAM	
global	BHZ
scautop...	pick_profile
seedlink	tsunami_iris
ACSO	
AGMN	
AUP	

global

detecStream **detecLocid**

Defines the channel code of the preferred stream used eg ...

Defines the location code of the preferred stream used ...

MLh

maxavg **ClippingThreshold** **params**

Define combiner operation for both horizontals (min, ...)

MLh clipping level, in raw counts, eg. 80% of 2^{23} = ...

Defines attenuation parameters for MLh. Format: ...

amplitudes

Defines general parameters for amplitudes of a certain type.

EHZ BHZ BHZ_10 BHZ_00 SHZ HHZ global_pr... global_pr...

[alexander@localhos...] [PreprocessData.c (~...)] [alexander@localhos...]

[alexander@localhos...]

[prefilterssac.c (~/ti...)] [alexander@localhos...]

SeisComP3 - system ...

Post-network configuration:

Applications Places System Tue Jul 25, 15:14 alexander

SeisComP3 - system configuration @ localhost.localdomain

File Edit Bindings

Configuration of module-station bindings and binding profiles.

Information

System
Inventory
Modules
Bindings

Name	Profile
Networks	
AK	
AT	
AU	
G	
GE	
II	
IU	
IP	
MS	
BESC	
global	BHZ
scautop...	pick_profile
seedlink	tsunami_iris
BTDF	
KAPK	
NTU	
PTK	
US	
AAM	
global	BHZ
scautop...	pick_profile

global/BHZ

global

detecStream **detecLocid**

Defines the channel code of the preferred stream used eg ...

Defines the location code of the preferred stream used ...

MLh

maxavg **ClippingThreshold** **params**

Define combiner operation for both horizontals (min, ...)

MLh clipping level, in raw counts, eg. 80% of 2^{23} = ...

Defines attenuation parameters for MLh. Format: ...

amplitudes

Defines general parameters for amplitudes of a certain type.

Name
arclink
arclink-access
global
EHZ
BHZ
BHZ_10
BHZ_00
SHZ
HHZ
global_profile
global_profile~

tsunami_... tsunami_...

sid_seed... tsunami_...

tsunami_... tsunami_...

earthworm tsunami_...

[alexander@localhos... [PreprocessData.c (~... [alexander@localhos... [alexander@localhos... [prefilterssac.c (~/ti... [alexander@localhos... SeisComP3 - system ...

Seedlink

File Edit

Bindings

Configuration of module-station bindings and binding profiles.

- Information
- System
- Inventory
- Modules
- Bindings

Name	Profile
Networks	
AK	
AT	
AU	
AR...	
BHZ	
pick_profile	
tsunami_iris3	
AR...	
AS...	
AS...	
AS...	

global scauto... seedlink

seedlink/earthworm

access 0.0.0.0/0 List of IP addresses or IP/mask pairs (in ...)	buffers 100 Size of memory buffer (number of recent Mini-SEED ...)	segments 50 Number of disk buffer segments (files under ...)	segsz 1000 Size of one disk buffer segment in the records (512-byte ...)
blanks 10 Number of blank records to insert after the re-scan of ...	encoding [empty] Encoding of Mini-SEED records created by SeedLink. The ...	backfill_buffer 0 Enable backfilling buffer for out-of-order records when ...	

sources

test_ohio : ewexport

address 192.168.4.15 Hostname or IP of the Earthworm export server.	port 18105 Port of the Earthworm export server.	proc [empty] Name of the proc object (defined in streams.xml); used ...
--	--	--

Name
tsunami_gfz
tsunami_iris1~
sid_seedlink
tsunami_iris3
tsunami_iris1
tsunami_iris2
earthworm
tsunami_iris4
tsunami_iris2~
slexport
tsunami_iris3~
slarchive

tsunami_... tsunami_...

sid_seed... tsunami_...

tsunami_... tsunami_...

earthworm tsunami_...

tsunami_... slexport

Pick Profile

File Edit

Bindings

Configuration of module-station bindings and binding profiles.

Information

System

Inventory

Modules

Bindings

- global
- scauto...
- seedlink

scautopick/pick_profile

global

scautopick

detecEnable
Enables/disables picking on a station.

detecFilter
Defines the filter used for picking.

trigOn
The filtered signal must reach this level.

trigOff
The filtered signal must reach this level.

timeCorr
The time correction applied to a detected pick.

Location
RMHP(10)>>ITAPER(30)>>BW(4,0,7,2)>>STALTA(2,80)

Name

- global_profile
- global_profile~
- SHZ_00
- scautopick
 - pick_NULL
 - pick_LNZ_10
 - pick_BHZ_20
 - pick_BNZ_05
 - pick_LHZ_20
 - pick_BNZ_20
 - pick_ENZ_02
 - pick_BNZ_06

EHZ BHZ

BHZ_10 BHZ_00

SHZ HHZ

global_pr... global_pr...

Final update

File Edit

System

The current status of the system

⚠ The configuration is changed but has not been saved yet. It must be saved to run all configuration commands as expected.

<- hotkey: CTRL + S

Update Start Stop Restart Check Enable module(s) Disable module(s) Update configuration

All commands (such as 'start', 'stop') will affect all modules which rows are currently selected. If no row is selected, all modules are affected. You can clear the row selection with ESC.

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On	scmag	not running
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On	scautopick	not running
On	scamp	not running
On	scmaster	running
On	scevent	not running
On	scqc	not running
On	seedlink	not running
Off	scvsmaglog	not running

```
Idle
spread;1;1;1
scmaster;1;1;1
arlink;0;0;0
arlinkproxy;0;0;0
diskmon;0;0;0
ew2sc3;0;0;0
fdsnws;0;0;0
istiAP;0;0;0
istiAlarm;0;0;0
istiFFS;0;0;0
istiMT;0;0;1
istiPAMP;0;0;1
istiWM;0;0;1
ql2sc;0;0;0
scalert;0;0;0
scamp;0;0;1
scautoloc;0;0;1
scautopick;0;0;1
scdb;0;0;0
scenvelope;0;0;0
scevent;0;0;1
scevtlog;0;0;0
scimex;0;0;0
scimport;0;0;0
scm;0;0;0
```