

NVS

SAP Co-pilot

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Introduction.

Sometimes it is necessary to start/stop many systems simultaneously to update for example and launch them again when the downtime window is over.

NVS SAP co-pilot can help in this situation. All you need to prepare is provide the credentials <sid>adm for every system for control or (simpler) to add single user on OS and give him sudo rights.

Of course, you need correct describe your SAP landscape (ip, sid, sys_nr and etc.) to let NVS connect to every SAP system with sapcontrol command.

To refresh status of SAP systems NVS uses commands :

```
sapcontrol -nr <NR> -function GetSystemInstanceList or GetProcessList
```

To start/stop system, next commands are used

```
sapcontrol -nr <NR> -function StartSystem ALL or Start
```

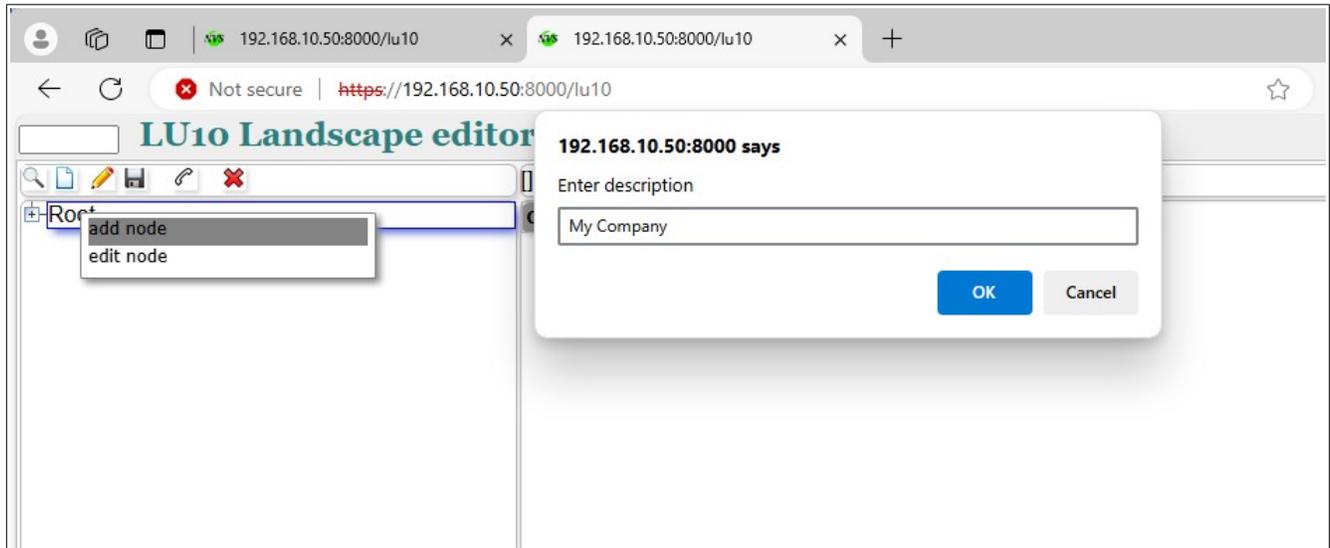
```
sapcontrol -nr <NR> -function StopSystem ALL or Stop
```

NVS co-pilot will correct start DB (SAP Hana) before APP and shutdown in reversed order.

You can as administrator start this procedure manually or by schedule.

Describe your SAP landscape

Use tcode **LU10 Landscape editor** to describe your SAP systems in hierarchy.



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To decorate text in the tree, change column “clazz”. You can set

- firma
- project
- sapsys or sapsysprd

“firma” for company, “project” for 2-th level (ERP, BI, APO and etc.) and sapsys or sapsysprd for SAP system.

The screenshot shows the LU10 Landscape editor interface. The browser address bar indicates the URL is <https://192.168.10.50:8000/lu10>. The page title is "LU10 Landscape editor". The interface is divided into two main sections. On the left, there is a tree view showing a hierarchy starting with "Root" and a sub-entry "My Company". On the right, there is a table titled "[2] My Company" with two columns: "Column name" and "Column value". The table contains the following data:

Column name	Column value
id	2
description	My Company
nn	100
clazz	firma
rsys_id	0
remote_sys	

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Finally, you will see something like this:

The screenshot shows a web browser window with the address bar displaying `192.168.10.50:8000/lu10?ssokey=` and a full URL starting with `https://192.168.10.50:8000/lu10?ssokey=D6A03511475E76695CCF30E59C4936B5F6DDA6FBA55F4...`. The page title is "LU10 Landscape editor".

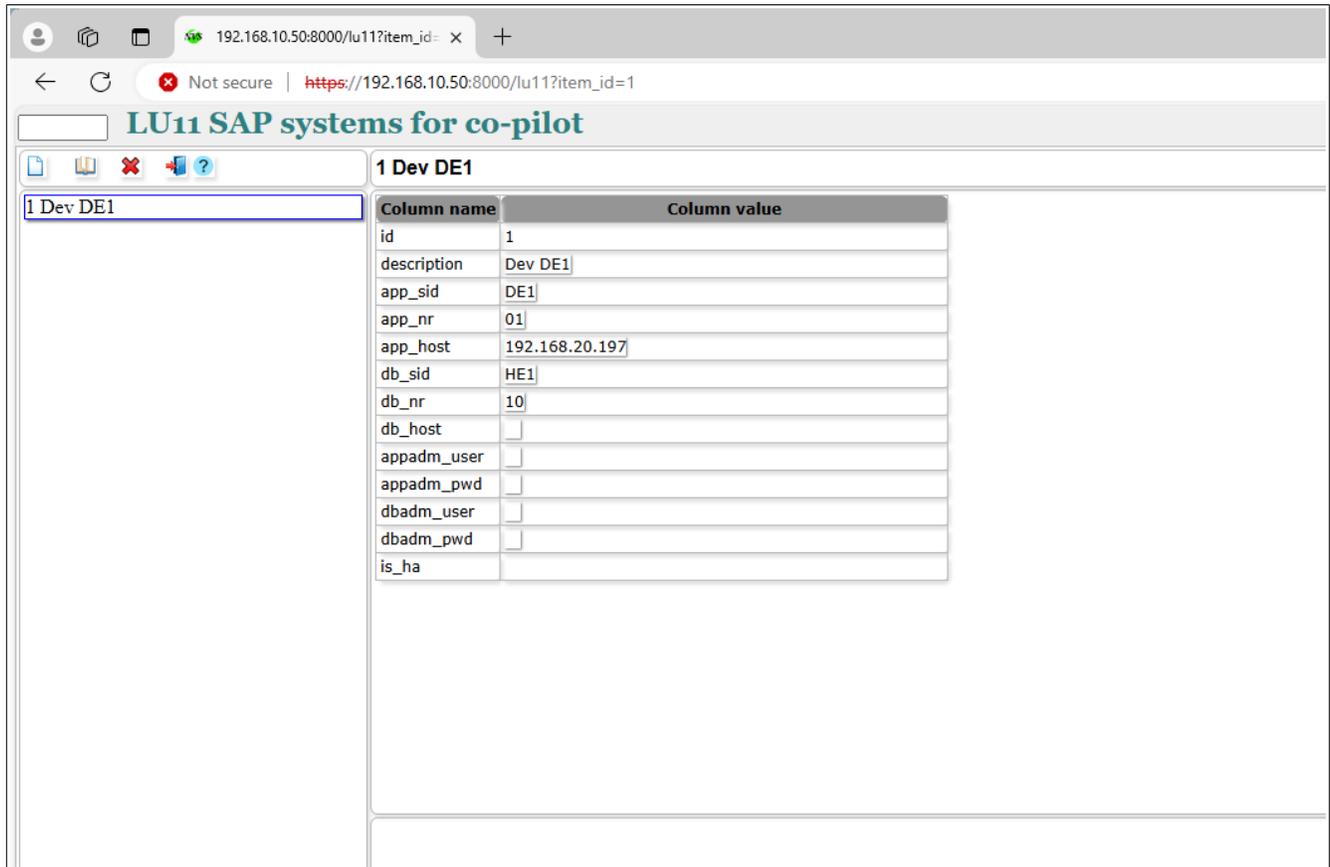
The interface is divided into two main sections:

- Left Panel (Tree View):** Shows a hierarchical structure starting with "Root", followed by "My Company", "ERP", and a selected node "DE1". Other nodes under "ERP" include "QA1" and "PR1".
- Right Panel (Table):** Titled "[4] DE1", it displays a table with the following data:

Column name	Column value
id	4
description	DE1
nn	100
clazz	sapsys
rsys_id	0
remote_sys	

Fill list your SAP systems:

LU11 SAP systems for co-pilot – you can create every SAP system in this place. There is no need to input <sid>adm data if you are going to use single common user.

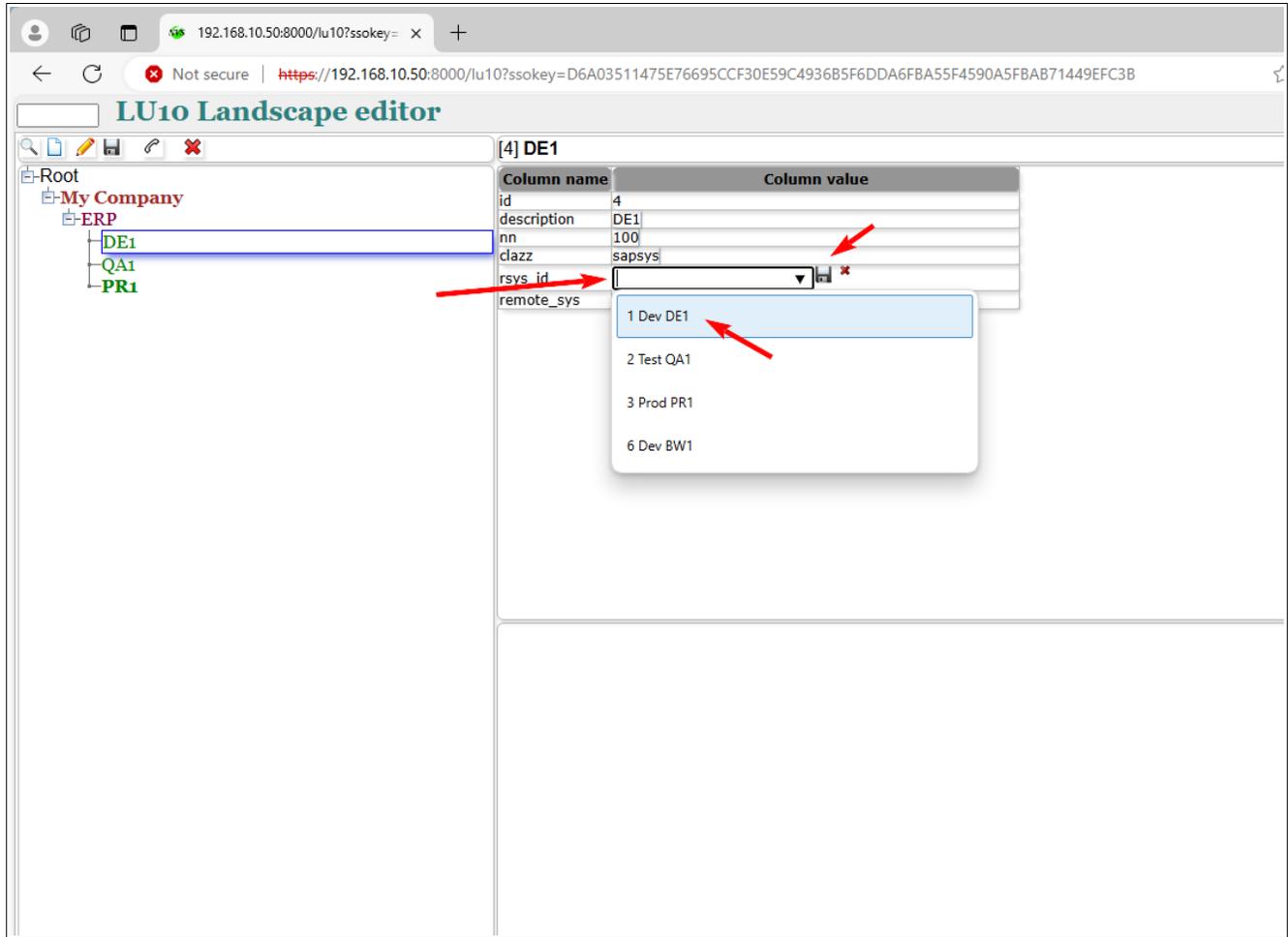


Column name	Column value
id	1
description	Dev DE1
app_sid	DE1
app_nr	01
app_host	192.168.20.197
db_sid	HE1
db_nr	10
db_host	
appadm_user	
appadm_pwd	
dbadm_user	
dbadm_pwd	
is_ha	

Hint: you can bulk insert data via SQL script into NVS database directly:

```
INSERT INTO slu_sapsys (id, description, app_sid, app_nr, app_host, db_sid, db_nr, db_host, is_ha, appadm_user, appadm_pwd, dbadm_user, dbadm_pwd) VALUES (1, 'Dev DE1', 'DE1', '01', '192.168.20.197', 'HE1', '10', '', '', '', '', '', '');
```

Connect (assign) hierarchy tree with SAP system list in LU10 to complete your landscape configuration:



Create OS linux user on every host, controlled by NVS.

This is an example for user **nvsadm**

```
useradd -s /bin/bash -m nvsadm
```

```
passwd nvsadm
```

```
visudo -f /etc/sudoers.d/nvsadm
```

```
nvsadm ALL=NOPASSWD: /usr/bin/su
```

The screenshot shows the SAP landscape co-pilot interface. The main window displays 'LU01 SAP landscape co-pilot' and a table of SAP systems for work. A terminal window is open, showing the execution of commands to create the 'nvsadm' user and configure sudo access.

Id	app:SID	app: status	app:NR	app:host	db:SID	db: status	db:NR	db:host	com
1	DE1	↓	01	192.168.20.197HE1	HE1	↓	10	192.168.20.197	
2	QA1	↓	01	192.168.20.198HA1	HA1	↓	10	192.168.20.198	
3	PR1	↓	01	192.168.20.199HR1	HR1	↓	10	192.168.20.199	

```
192.168.20.199 - PuTTY
Using username "root".
Keyboard-interactive authentication prompts from server:
End of keyboard-interactive prompts from server
Last login: Sun Nov 24 12:33:54 2024 from 192.168.0.56
green199:~ # useradd -s /bin/bash -m nvsadm
green199:~ # passwd nvsadm
New password:
BAD PASSWORD: it is based on a dictionary word
Retype new password:
passwd: password updated successfully
green199:~ # visudo -f /etc/sudoers.d/nvsadm
green199:~ # cat /etc/sudoers.d/nvsadm
nvsadm ALL=NOPASSWD: /usr/bin/su
green199:~ #
```

In tcode **SP21 system parameters**, add login / password for user and reload parameters

SP21 system parameters

35 copilot.user

sys_parameters:

column name	column value
id	35
parameter_name	copilot.user
parameter_group	default
parameter_value	nvsadm
is_encrypted	

1 password_length
2 pdf_font_normal
3 pdf_font_bold
4 pdf_set_password
5 sp09_basis_export_folder
6 se38_default_package
7 iAmAliveSecTimeout
8 sp09_spam_export_folder
9 maxSm13RecordsLimitSapAbap
10 pastMinutesSm13RecordsSapAbap
11 pastMinutesSm22SapAbap
13 mail.smtp.host
14 mail.smtp.port
15 mail.smtp.auth
16 mail.smtp.starttls.enable
17 mail.smtp.user
18 mail.smtp.password
19 mail.smtp.from
24 MsExchangeWebLink
25 MsExchangeUser
26 MsExchangePassword
27 MsExchangeDomain
28 new item
29 new item
30 SapSolmanSSM1
31 SapSolmanMonUser
32 openlayers.map.zoom
33 searchFilesInFolder
34 mail.adminAddress
35 copilot.user
36 copilot.password

Check system daemons

In tcode SD10 check system daemons lu01bkg.sapcopilot.nvs.com* and activate them if needed.

Column name	Column value
id	4
program_name	lu01bkg.sapcopilot.nvs.com.ScheduleWorker
period_sec	20
active	X

Test mass start/stop systems manually

In tcode LU01 SAP landscape co-pilot drag-and-drop SAP systems which you want to control from hierarchy tree to right part of the screen. Next, select them with checkbox and press blue button (start) or gray (stop) on SAP Control.

Warning: Be carefully with systems in Production Mode.

The screenshot shows the 'LU01 SAP landscape co-pilot' web interface. On the left is a hierarchy tree with 'My Company' selected. The main area is titled 'SAP Control' and contains a table of 'SAP systems for work: 14:19:59'. The table has columns for Id, app:SID, app: status, app:NR, app:host, db:SID, db: status, db:NR, db:host, command, and comment. Three systems are listed: 1.DE1, 2.QA1, and 3.PR1. Below the table is a 'Schedule:' section with a 'start' button and a table with columns 'Id', 'description', 'command', and 'start time'. A list of commands is shown below the button: 'run: start_sap_db_app for system 1.DE1', 'run: start_sap_db_app for system 2.QA1', and 'run: start_sap_db_app for system 3.PR1'.

Id	app:SID	app: status	app:NR	app:host	db:SID	db: status	db:NR	db:host	command	comment
1	DE1	✔	01	192.168.20.197HE1	✔	10	10	192.168.20.197	[06-12-2024 14:19:30]wait 30 sec. (118)	
2	QA1	●	01	192.168.20.198HA1	✔	10	10	192.168.20.198	[06-12-2024 14:19:30]wait 30 sec. (118)	
3	PR1	●	01	192.168.20.199HR1	✔	10	10	192.168.20.199	[06-12-2024 14:19:30]wait 30 sec. (118)	

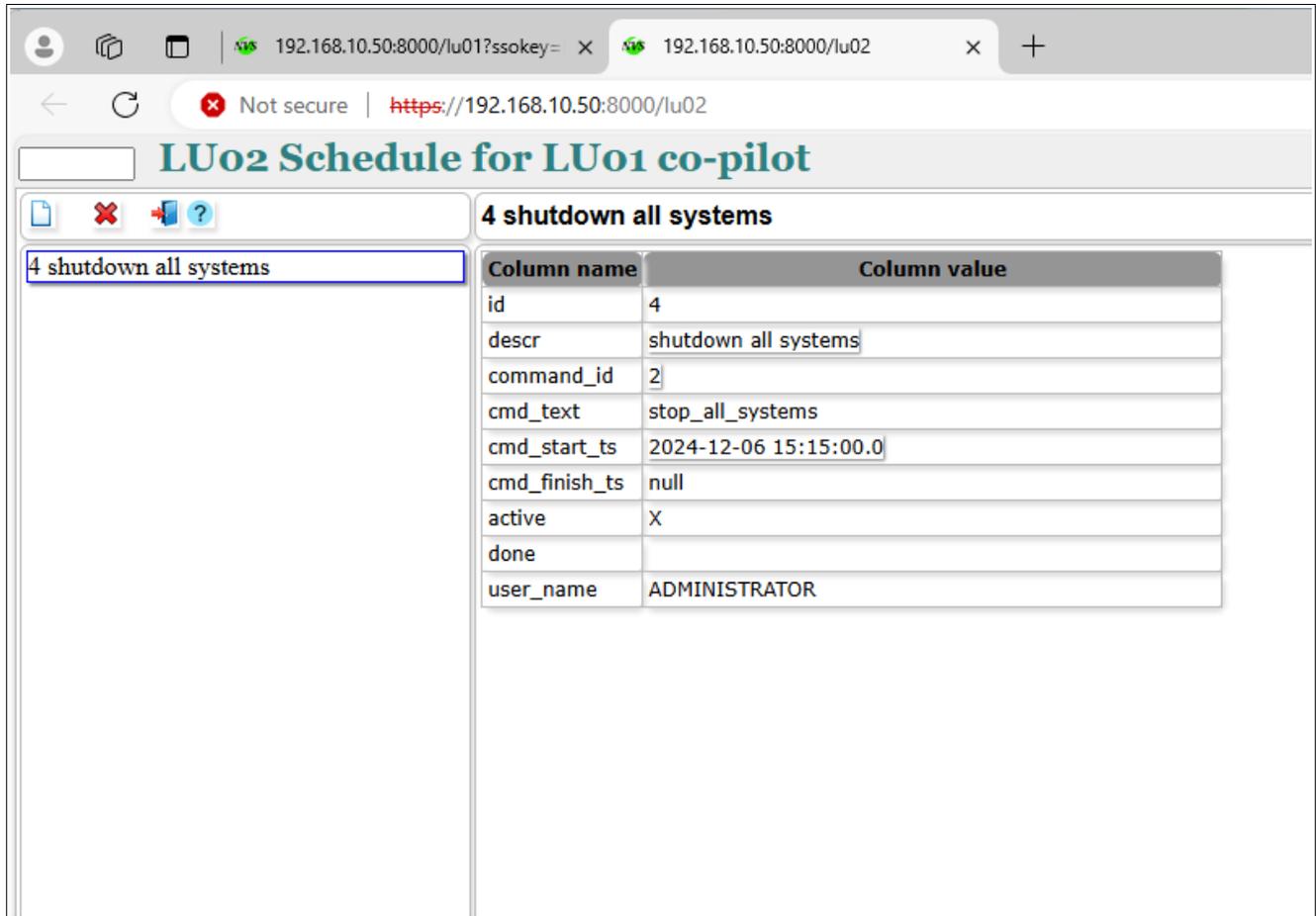
Schedule:

Id	description	command	start time
		run: start_sap_db_app for system 1.DE1	
		run: start_sap_db_app for system 2.QA1	
		run: start_sap_db_app for system 3.PR1	

Test mass start/stop by schedule.

Press button with clock in left lower part of the screen LU01 or directly go to **LU02 Schedule for LU01 co-pilot** and add new command start_all_systems or stop_all_systems.

Set correct start time and via context menu set “active” flag. Notice that “done” flag must be empty.



Column name	Column value
id	4
descr	shutdown all systems
command_id	2
cmd_text	stop_all_systems
cmd_start_ts	2024-12-06 15:15:00.0
cmd_finish_ts	null
active	X
done	
user_name	ADMINISTRATOR

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Ensure all systems were started (or stopped) in scheduled time.

The screenshot shows the SAP Control web interface. The browser address bar indicates the URL: <https://192.168.10.50:8000/lu01?ssoskey=D6A03511475E76695CCF30E59C4936B5F6DDA6FBA55F4590A5FBAB71449EFC3B>. The page title is "LU01 SAP landscape co-pilot".

The interface is divided into several sections:

- Navigation:** A tree view on the left shows "Root" and "My Company".
- SAP Control:** A section with "SAP Control" and "SAP systems for work: 15:18:07".
- System Status Table:** A table listing three SAP systems (DE1, QA1, PR1) with their respective app:SID, app: status, app:NR, app:host, db:SID, db: status, db:NR, db:host, command, and comment.
- Schedule:** A section showing a scheduled task with details.

<input type="checkbox"/>	Id	app:SID	app: status	app:NR	app:host	db:SID	db: status	db:NR	db:host	command	comment
<input type="checkbox"/>	1	DE1	↓	01	192.168.20.197	HE1	↓	10	192.168.20.197	[06-12-2024 15:17:40]stopsap_finish_ok	
<input type="checkbox"/>	2	QA1	↓	01	192.168.20.198	HA1	↓	10	192.168.20.198	[06-12-2024 15:17:40]stopsap_finish_ok	
<input type="checkbox"/>	3	PR1	↓	01	192.168.20.199	HR1	↓	10	192.168.20.199	[06-12-2024 15:17:40]stopsap_finish_ok	

Id	description	command	start time
4	shutdown all systems	stop_all_systems06	2024-12-15:15:00.0

Conclusion

NVS SAP co-pilot can help system administrator in many standard situations, but certainly doesn't replace his/her if things went wrong. Spend time, please, for testing co-pilot before using it in production environment.

create /usr/nvs/DEV_D00/tmp/stop.flag - if something goes wrong and NVS will freeze

```
drwxr-xr-x  3 devadm greenex 4096 Sep 27 16:10 e558f81d-023f-4c00-82f0-fcb770b68e8
drwxr-xr-x  3 devadm greenex 4096 Oct  5 16:45 f7f50e60-db37-4554-89f6-497a8b407de
drwxr-xr-x  3 devadm greenex 4096 Aug 16 10:38 f8179269-f06f-40cc-965a-8b3b878d808
drwxr-xr-x  4 devadm greenex 4096 Nov  3 20:31 fcc9bfd3-788f-4e82-9cf3-80f04cb122f
root@green50:/gre/tmp# pwd -P
/usr/nvs/DEV_D00/tmp
root@green50:/gre/tmp# touch /usr/nvs/DEV_D00/tmp/stop.flag
root@green50:/gre/tmp#
```

Thank you!