

Oracle Solaris 11 Cheat Sheet Service Management Facility (SMF)

What is the Service Management Facility?

The Oracle Solaris Service Management Facility (SMF) is responsible for managing system and application services, replacing the legacy `init` scripting start-up mechanism common to other UNIX operating systems. SMF helps improve the availability of a system by ensuring that essential services run continuously even in the event of any software or hardware failures with an automatic restart capability. SMF is a part of the wider predictive self-healing capability in Oracle Solaris. Another crucial component of this is the Fault Management Architecture (FMA), responsible for reporting and isolating failed hardware components.

Understanding the SMF Fault Managed Resource Indicator (FMRI)

Each SMF managed service instance is uniquely described by an FMRI, that an administrator can use to enable or disable the service, find out information about or modify configuration properties related to that service. For example, the file system automounter service described by `svc:/system/filesystem/autofs:default`

FMRI Segment	Description
<code>svc:/</code>	FMRI scheme
<code>system/filesystem</code>	Service category
<code>autofs</code>	Service name
<code>default</code>	Service instance

Many SMF commands allow FMRI abbreviations by specifying the instance name, or any of the trailing portion of the service name, assuming it is unique on the system. For example, administrators could also refer to the above service as `filesystem/autofs:default`, `autofs:default`, and `autofs`. We will deliberately use multiple abbreviations in this cheat sheet.

Enabling, disabling and restarting services

Enable service `svc:/network/smtp:sendmail:`

```
# svcadm enable smtp:sendmail
```

Disable service `svc:/network/telnet:default:`

```
# svcadm disable telnet
```

Restart service `svc:/network/httpd:apache22:`

```
# svcadm restart apache22
```

Listing information about services

Show all enabled services (including temporarily disabled services):

```
# svcs
```

Show all enabled and disabled services:

```
# svcs -a
```

List detailed information about `svc:/system/zones:default:`

```
# svcs -l zones:default
```

List processes associated with `svc:/network/netcfg:default:`

```
# svcs -p network/netcfg
```

Show why services that are enabled but are not running (or preventing other services from running):

```
# svcs -xv
```

Display all services which depend on the `svc:/network/ssh:default:`

```
# svcs -D network/ssh
```

List all services `svc:/network/ssh:default` depends on:

```
# svcs -d network/ssh
```

Show all service state notifications that are configured on a system:

```
# svcs -n
```

Did you know?

You can find out more information about the Oracle Solaris Service Management Facility, including product documentation, how-to guides, and other resources on Oracle Technology Network:

<http://www.oracle.com/technetwork/server-storage/solaris11/technologies/smf-1690889.html>

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Configuration layers in the SMF repository

Service configuration is defined in a number of layers within the SMF configuration repository that helps preserve any local administrative customizations during system upgrade, particularly when the underlying vendor provided default configuration changes. A service property could have different values at different layers of the repository. A simple priority mechanism is used to determine which value is used by the service.

Configuration Layer	Description
manifest	Values provided as part of SMF manifests located in <code>/lib/svc/manifest/</code>
system-profile	Values provided as part of SMF profiles located in <code>/etc/svc/profile/generic.xml</code>
site-profile	Values provided as part of SMF profile located in <code>/etc/svc/profile/site/</code>
admin	Values provided by interactive use of SMF commands or libraries

Listing service property configuration

Service configuration can be listed using two different commands, `svccfg` and `svccfg`, and can be used interchangeably.

List all properties (including inherited properties) of the service instance `svc:/network/ssh:default`:

```
# svccfg ssh:default
```

List properties specific to the service instance `svc:/network/ssh:default`:

```
# svccfg -c ssh:default
```

List the `pkg/port` property of the service instance `svc:/application/pkg/server:default`:

```
# svccfg -p pkg/server pkg/server:default
```

List all properties within the `pkg` property group of the service instance `svc:/application/pkg/server:default`:

```
# svccfg -p pkg pkg/server:default
```

Interactively display the `general/enabled` property for the service `svc:/network/ssh:default`:

```
# svccfg
svc:> select ssh:default
svc:/network/ssh:default> listprop general/enabled
svc:/network/ssh:default> exit
```

```
# svccfg -s switch:default listcust -L
```

Setting service property configuration

Configure the `config/nodename` property on the `svc:/system/identity:node` service instance::

```
# svccfg
# svc:>select identity:node
# svc:/system/identity:node> setprop config/nodename = "myhost"
# svc:/system/identity:node> refresh
# svc:/system/identity:node> exit
```

Configure the `config/nameserver` property on the `svc:/network/dns/client` service with two IP addresses:

```
# svccfg -s dns/client
svc:/network/dns/client> setprop config/nameserver =
("192.168.0.1" "10.0.0.4")
svc:/network/dns/client> select default
svc:/network/dns/client:default> refresh
```

List all configuration changes (at all layers) to `svc:/system/name-service/switch:default`:

```
# svccfg -s switch:default listcust -L
```

Delete an administrative customization to the `config/nameserver` property in the `svc:/network/dns/client` service:

```
# svccfg -s dns/client
svc:/network/dns/client> delcust config/nameserver
svc:/network/dns/client> refresh
```

Delete the `config/nameserver` property from the `svc:/network/dns/client` service (and thus masking it):

```
# svccfg -s dns/client
# svc:/network/dns/client> delprop config/nameserver
```

Extract an SMF system profile in order to apply configuration to other systems:

```
# svccfg extract -a > system-profile.xml
```

Apply an SMF system profile to a system:

```
# cp system-profile.xml /etc/svc/profile/site
# svcadm restart manifest-import
```

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Contact Us

For more information about Oracle Solaris 11, visit oracle.com/solaris or call +1.800.ORACLE1 to speak to an Oracle representative. Last updated: Jul 22, 2012.



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