



COMVERSE
UNIVERSITY

Cron

Lesson Objectives

By the end of this lesson you will be able to:

- Describe Cron principles
- Explain Cron in Comverse ONE
- Explain Cron characters
- Read and understand Cron expressions



Agenda

Cron Overview

Cron in Comverse ONE

Cron Expressions

Cron Overview

- Cron is a time-based job scheduler (daemon) in UNIX-like computer operating systems
- Enables users to schedule jobs to run periodically at certain times or dates
- Used to automate system maintenance or administration



Crontab (Cron Table)

- A configuration file that controls the Cron
- Specifies shell commands to run periodically on a given schedule
- Stored where the lists of jobs and other instructions to the cron daemon are kept

```
[root@upm ~]# crontab -l  
0 23 * * * /oracle/oracle8/backup_restore/arcmgr.ksh 1>/dev/null 2>/dev/null  
[root@upm ~]#
```

- Not all Comverse ONE servers have Crontabs on them

Agenda

Cron Overview

Cron in Comverse ONE

Cron Expressions

Cron with Login Windows

- Used to determine if the current time satisfies the Cron expression.
- For login time windows, the Security Server checks whether the current time of the login action occurs during a time that satisfies the Cron expression.

Security Server
Checks Cron
satisfaction for user
login time windows




mShell – Login Windows


Ensure that certain users can log in only during specific times, such as in a time window between 8:00 A.M. and 5:00 P.M., Monday through Friday

```
upm1:root:mshell> modify_group -rlid DEMO_REALM1 -gid demo_group1  
-aa loginwindow:"* * 8-17 ? * MON-FRI"  
Status Message:  
    Group updated successfully  
upm1:root:mshell>
```


UPM GUI – Cron with UPM Processes



Comverse ONE
Unified Platform

Welcome, secadmin | 
Last Updated:02/07/2012 6:12:43

HOMEEVENTTASKINVENTORYPROCESSPROVISIONING

>>

StatusWork Flow

DetailsPropertiesLog FileControl Report

Name

Value

Submit

NAME	VALUE	DELETE
module.group	application	×
module.resource.group	host_rg	×
module.schedule.format	cron	×
module.type	process	×
module.valid	valid	×
process.description	Asynchronous Server	×
process.memory.expression	0 0/2 * * * ?	×
process.monitor.expression	0 0/10 * * * ?	×
process.monitor.path	/home/asynch_batch/batch/bin/monitorBatchProcess.sh	×
process.monitor.timeout	5	×
process.monitor.user	obsuser	×
process.name	asynch	×
process.start.expression	0 0 1 * * ? 2099	×
process.start.path	/home/asynch_batch/batch/bin/startBatch.sh	×
process.start.timeout	600	×

Agenda

Cron Overview

Cron in Comverse ONE

Cron Expressions

Cron Characters

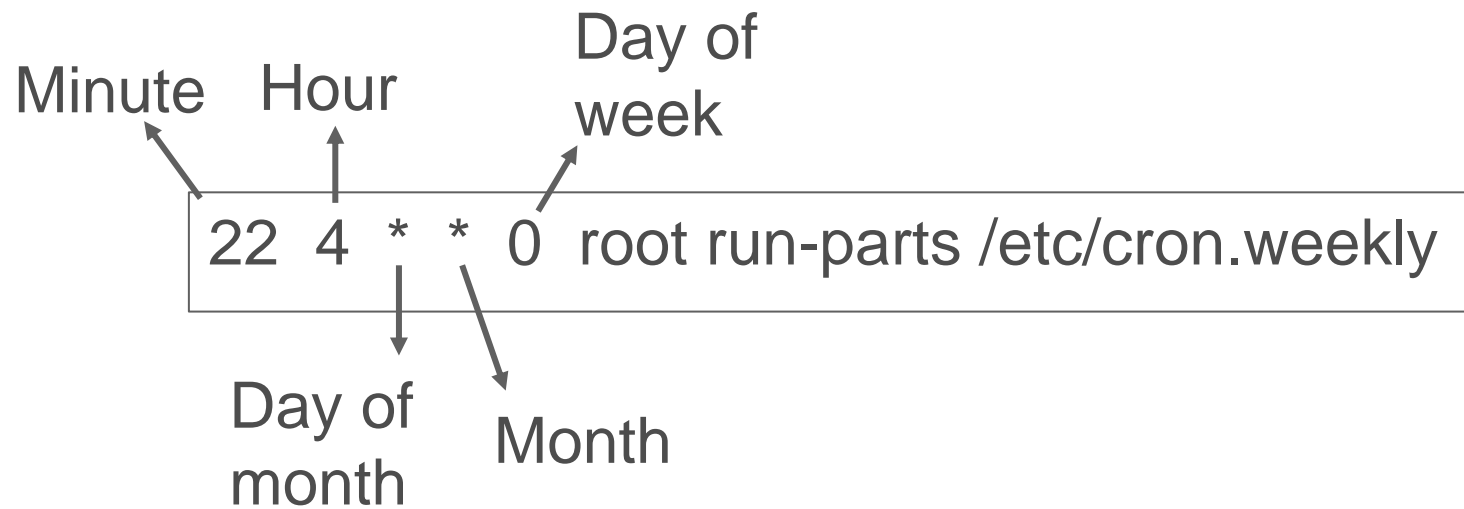
Variables for
the cron

```
SHELL=/bin/bash  
PATH=/sbin:/bin:/usr/sbin:/usr/bin  
MAILTO=root  
HOME=/
```

Configure
when a cron is
run, who it runs
as, and what it
executes

```
# run-parts  
01 * * * * root run-parts /etc/cron.hourly  
02 4 * * * root run-parts /etc/cron.daily  
22 4 * * 0 root run-parts /etc/cron.weekly  
42 4 1 * * root run-parts /etc/cron.monthly
```

Cron Example



Cron Special Characters

Special Character	Description
Asterisk (*)	indicates that the cron expression will match for all values of the field
Slash (/)	used to describe increments of ranges
Percent (%)	all data after the first % will be sent to the command as standard input
Comma (,)	used to separate items of a list
Hyphen (-)	used to define ranges
L	stands for “last”
W	used to specify the weekday (Monday-Friday) nearest the given day
Hash (#)	allowed for the day-of-week field, and must be followed by a number between one and five
Question mark (?)	used instead of '*' for leaving either day-of-month or day-of-week blank

Cron Special Characters Examples

Cron Expression	Description
* * * * *	Every minute
*/1 * * * * or 0 0/1 * * * ?	Every 1 minute
0 23 ? * MON-FRI	At 23:00 every weekday
* 8-17 ? * 5#3	Anytime between 8:00 A.M. and 5:00 P.M. on the third Friday of every month
15 10 ? * 6L 2012-2015	At 10:15 A.M. on the last Friday of every month during the years 2012, 2013, 2014, and 2015.

Cron with UPM Processes

HOME

EVENT

TASK

INVENTORY

PROCESS

PROVISIONING

Status

Work Flow

Details

Properties

Log File

Control Report

Name

Value

Submit

NAME	VALUE	DELETE
module.group	application	×
module.resource.group	host_rg	×
module.schedule.format	cron	×
module.type	process	×
module.valid	valid	×
process.description	Asynchronous Server	×
process.memory.expression	0 0/2 * * * ?	×
process.monitor.expression	0 0/10 * * * ?	×
process.monitor.path	/home/asynch_batch/batch/bin/monitorBatchProcess.sh	×
process.monitor.timeout	5	×
process.monitor.user	obsuser	×
process.name	asynch	×
process.start.expression	0 0 1 * * ? 2099	×
process.start.path	/home/asynch_batch/batch/bin/startBatch.sh	×
process.start.timeout	600	×

Summary

This lesson has covered the following topics:

- Cron principles
- Cron in Comverse ONE
- Cron characters
- Cron expressions