



# RedHat Enterprise Linux Essential

## Unit 9: Basic System Configuration Tools

# Objectives

- ❖ Upon completion of this unit, you should be able to:
  - Configure date, network and printer settings
  - Send text to the printer
  - Set the system's date and time

# TCP/IP Network Configuration

## ❖ Important network settings:

- IP Configuration
- Device Activation
- DNS Configuration
- Default Gateway

# Managing Ethernet Connections

- ❖ Network interfaces are named sequentially: **eth0**, **eth1**, **etc**
  - Multiple addresses can be assigned to a device with aliases
  - Aliases are labeled **eth0:1**, **eth0:2**, **etc.**
  - Aliases are treated like separate interfaces
- ❖ View interface configuration with **ifconfig**  
**ifconfig ; ifconfig -a ; ifconfig eth0**
- ❖ Enable interface with **ifup ethX [ifconfig ethX up]**
- ❖ Disable interface with **ifdown ethX [ifconfig ethX down]**

# Graphical Network Configuration

## system-config-network

### ❖ System->Administration->Network

- Activate/Deactivate interfaces
- Assign IP Addresses/DHCP
- Modify DNS settings
- Modify gateway address

# Network Configuration Files

## Ethernet Devices

❖ Device configuration is stored in text files

- */etc/sysconfig/network-scripts/ifcfg-ethX*

syntax: **variable=value**

- Complete list of options in */usr/share/doc/initscripts-\*/sysconfig.txt*

Dynamic Configuration	Static Configuration
DEVICE=ethX HWADDR=0:02:8A:A6:30:45 BOOTPROTO=dhcp ONBOOT=yes Type=Ethernet	DEVICE=ethX HWADDR=0:02:8A:A6:30:45 IPADDR=192.168.0.254 NETMASK=255.255.255.0 GATEWAY=192.168.2.254 ONBOOT=yes Type=Ethernet

# Network Configuration Files

## Other Global Network Settings

### ❖ Global Settings in /etc/sysconfig/network

- Many may be provided by DHCP
- GATEWAY can be overridden in ifcfg file

NETWORKING=yes

HOSTNAME=server1.example.com

GATEWAY=192.168.2.254

# Network Configuration Files

## DNS Configuration

- ❖ Domain Name Service translates hostnames to network addresses
- ❖ Server address is specified by dhcp or in `/etc/resolv.conf`

```
search example.com cracker.org
```

```
nameserver 192.168.0.254
```

```
nameserver 192.168.1.254
```



# Printing in Linux

- ❖ Printers may be local or networked
- ❖ Print requests are sent to queues
- ❖ Queued jobs are sent to the printer on a first come first served basis
- ❖ Jobs may be canceled before or during printing

# Printing Commands

- ❖ **lpr** sends a job to the queue to be printed
  - Accepts ASCII, PostScript, PDF, others
- ❖ **lpq** views the contents of the queue
- ❖ **lprm** removes a job from the queue
- ❖ System V printing commands such as **lp**, **lpstat** and **cancel** are also supported

# Printing Utilities

- ❖ **evince** views PDF documents
- ❖ **lpstat -a** lists configured printers
- ❖ **enscript** and **a2ps** convert text to PostScript
- ❖ **ps2pdf** converts PostScript to PDF
- ❖ **mpage** prints multiple pages per sheet

# Setting the System's Date and Time

## ❖ GUI: **system-config-date**

- System->Administration->Date & Time
- Can set date/time manually or use NTP
- Additional NTP servers can be added
- Can use local time or UTC

## ❖ CLI: **date [MMDDhhmm[[CC]YY][.ss]]**

```
# date 01011330
```

```
# date 010113302007.05
```



Thank You !