Give Students Limitless Opportunities with Linux Courses
Welcome to the 1st session of the *Intro to Linux* webinar series!

- Use the Q and A panel to ask questions.
- Use the Chat panel to communicate with attendees and panelists.
- A link to a recording of the session will be sent to all registered attendees.
- Please take the feedback survey at the end of the webinar.
Presenters and Panel

- Grace Bixby – NDG Linux Course Product Manager
- Rich Weeks – NDG President
- Jorge Leiton – Cisco Linux Course Product Manager
- Richard Myers – Director of Support Services Linode
- Matt Rice – Linux Professional Institute (LPI) Executive Director
- Fabian Thorn – LPI Director of Certification Development
- Josh Good – Cisco Customer Support Engineer
  Data Center Solutions
Agenda

• Why should you learn or teach Linux?
• Job opportunities for people that know Linux.
• Example of a business using Linux to serve the marketplace.
• Brief overview of NDG courses available via Cisco Networking Academy.
• Linux Professional Institute will explain how to document your job skills.
• Example of how a Cisco engineer uses Linux at work.
What Is Linux?

Linux [lin-uh ks]

*Computers, Trademark.*

1. an operating system created by Linus Torvalds, based on UNIX, that runs on many different hardware platforms and whose source code is available to the public.
Linux is Everywhere!
THE WORLD RUNS SMARTER WITH LINUX

99% of the world's top supercomputers run Linux

1.4 Billion active users of Linux-based Android devices

80% of all stock exchanges rely on Linux
LINUX GOES WHERE NO MAN HAS GONE BEFORE

32 space missions completed with Linux

Linux is helping NASA’s Curiosity Rover explore Mars

SpaceX uses Linux on the Dragon and Falcon 9 spacecraft
LINUX IS TRANSFORMING TRANSPORTATION

US air traffic control runs on Linux

Queensland Motorways relies on Linux for smart traffic management

Linux helps run bullet trains in Japan
SWIMMING THE SEAS WITH TUX

Poseidon Linux is the preferred GNU/Linux distribution for oceanography.

1.2 Million nautical miles traveled by the Linux-powered Wave Glider® ocean robot.

Linux helps smart buoys detect tsunami formations in the Indian Ocean.
LINUX IS BIG IN HOLLYWOOD

95% of desktops and servers use Linux for animation and visual effects.

Titanic was the first feature film produced on Linux servers.

It took 9100 computing render-years to produce The Croods.
FROM BIG DATA TO THE BIG BANG

Linux helps IBM’s Watson analyze 200 Million pages of clinical data in 15 seconds.

“The God Particle” was discovered using CERN’s Linux-powered Large Hadron Collider.

Google, Amazon, even Microsoft use Linux to power their cloud services.
Companies That Use Linux

Cisco
Microsoft
United States Postal Service
Wikipedia
Netflix
Department of Defense
Google
Tesla
NASA
Amazon
McDonald's
Spacex
Interesting Opportunities for Linux Professionals

Take a drive with Bill Gates in a Tesla Model X

Microsoft “loves Linux” as it makes Azure bigger, better

11 million servers, new giant VMs, and more third-party app support.

by Peter Bright - Oct 20, 2014 10:00pm EDT

Microsoft ❤️ Linux
Linux Is Open Source
Advantages of Open Source

- Community
- Security
- Flexibility
- Adaptability
- Freedom
- Quality
- Cost
Popular Linux Distributions

debian

ubuntu

redhat

fedora

openSUSE
Linux Skills Are In Demand

97% of hiring managers plan to hire Linux talent within 6 months

88% of hiring managers say it is difficult to find qualified Linux talent

90% of professionals say that knowing Linux has advanced their careers

Source: 2015 Linux Jobs Report (Linux Foundation and Dice)
Linux Skills Are In Demand

<table>
<thead>
<tr>
<th>Jobs</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>76,594</td>
<td>China</td>
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<tr>
<td>63,929</td>
<td>USA</td>
</tr>
<tr>
<td>19,867</td>
<td>Japan</td>
</tr>
<tr>
<td>19,030</td>
<td>India</td>
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<td>1,255</td>
<td>Australia</td>
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<td>1,187</td>
<td>Mexico</td>
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</tbody>
</table>

Indeed.com Job Search
Keyword = Linux

New! Join Indeed Prime - Get offers from great tech companies

Network/Server Administrator (IDC Onsite)
CAMIWell - Santa Clara, CA
Position: Network/Server Administrator (5) Job type: Full-time City: Santa Clara, CA, USA Start date: April 2016 Requirements: * Fluent in English and Chinese...
Easily apply
17 days ago - email

Sponsored

Linux Technical Support
Linode - Haddonfield, NJ
Linux System Administration experience. Comfortable with the Linux command line. Familiarity with common Linux server applications such as Apache2, Nginx,...
Easily apply
30+ days ago - email
Sponsored
It’s not just one type of job.

- System Admin
- Cloud Computing
- DevOps
- Networking
- Cyber Security
- Design/Arch Planning
- Data Management
Linux is a core skill for all IT professionals.
Linode.com
Cloud Servers for Designers, Developers, Ideas and You
What Does Linode Do?

Cloud Hosting (IaaS)
What’s Linode’s Story?

2003
From an Apartment to This
What’s So Great About Linux?

• Dominant operating system for servers on the Internet
• It’s open source so:
  • It’s more secure
  • It’s a constantly advancing technology
  • It’s free
  • Other “cool” technologies use it
  • More and more companies are outsourcing IT to Linux based IaaS providers.

• Money & Jobs
• Start-ups
What Can You Do if You Know Linux?

- Linode’s Current Needs
  - Front-end Engineer
  - Back-end Engineer
  - Technical Support

- Other Linux/Linode Jobs
  - Security
  - Networking
  - Hardware
Come help us build a better cloud

Open Positions
How do our employees learn?

- Customized training
- Use of courseware like NDG Linux courses
- Use of other learning modules online
- Interacting with other Linodians
- Lunch-and-learns & other knowledge-shares
- Books
- Just do it
Why Do Our Customers Like Linode?
Why Do We Like Linode?

• Great benefits
• Great Vice Presidents
• Chance to work with leading edge technology
• Chance to “make a difference, not just fill a hole”
• Treated like a human being
• Egalitarian environment
• Generous environment
• Lots of opportunity
NDG Linux Courses Offered to Cisco Networking Academies

- NDG Linux Unhatched
- NDG Linux Essentials
- NDG Linux 1
- NDG Linux 2
Available in Networking Academy
Easy to Use

Delivered on the Networking Academy learning platform

Lectures, content, labs, assessments, and classroom aids

Real command-line experience through NDG virtual terminal
Learn By Doing!

“I hear and I forget.
I see and I remember.
I do and I understand.”

Confucius
3.6 head Command

The purpose of the `head` command is to view the beginning of a file or output. By default, the `head` command will display the first ten lines of a file's contents. For example, the following command displays the first ten lines of the `alpha.txt` file:

```
sysadmin@localhost:~$ head alpha.txt
A is for Apple
B is for Bear
C is for Cat
D is for Dog
E is for Elephant
F is for Flower
G is for Goose
H is for Happy
I is for Ink
J is for Juice
```

There are several options for the `head` command that are useful. For instance, there is the ability to use a number as an option to indicate how many lines of output to display. For example, to display the first three lines of the `alpha.txt` file execute:

```
sysadmin@localhost:~$ head -3 alpha.txt
A is for Apple
B is for Bear
C is for Cat
```

There is also an option, `-n`, which takes an argument for the number of lines to display. So, the following command displays the first five lines:

```
sysadmin@localhost:~$ head -n 5 alpha.txt
A is for Apple
B is for Bear
C is for Cat
D is for Dog
E is for Elephant
```
Easy to Get Started

No Special Training

No Lab Equipment

Free To Instructors
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Cost to Instructors</th>
<th>Cost to Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDG Linux Unhatched</td>
<td>FREE</td>
<td>FREE</td>
</tr>
<tr>
<td>NDG Linux Essentials</td>
<td>FREE</td>
<td>FREE</td>
</tr>
<tr>
<td>NDG Linux I</td>
<td>FREE</td>
<td>$39.95*</td>
</tr>
<tr>
<td>NDG Linux II</td>
<td>FREE</td>
<td>$39.95*</td>
</tr>
</tbody>
</table>

* Paid by the learning institution or the individual student
## Certifications Help Students Stand Out

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>CERTIFICATION EXAM ALIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDG Linux Unhatched</td>
<td>CompTIA A+ (Linux Knowledge)</td>
</tr>
<tr>
<td>NDG Linux Essentials</td>
<td>Linux Essentials Professional Development Certificate</td>
</tr>
<tr>
<td>NDG Linux Series</td>
<td>LPIC-1: Linux Server Professional Certification</td>
</tr>
<tr>
<td></td>
<td>CompTIA Linux+ Powered by LPI</td>
</tr>
</tbody>
</table>
Certifications Help Students Stand Out

44% of hiring managers are more likely to hire a candidate with Linux certification.
Developing and Documenting your Linux Skills with Certifications
Who we are

- Our purpose is to enable economic and creative opportunities for everybody by making open source knowledge and skills certification universally accessible.

- Non-profit organization based in Canada. Our Affiliates provide local support around the world.

- Independent from vendors and Linux distributions.
How we serve the Linux and Open Source community

- **Linux Essentials**
  - LPI LE

- **LPIC 1**
  - LPI 101
  - LPI 102

- **LPIC 2**
  - LPI 201
  - LPI 202

- **LPIC 3**
  - LPI 300
  - LPI 303
  - LPI 304

<table>
<thead>
<tr>
<th>Level</th>
<th>Program</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Level</td>
<td>Certificate Program</td>
<td>0-12 Months</td>
</tr>
<tr>
<td>Junior Level</td>
<td>Professional Certification</td>
<td>1-2 Years</td>
</tr>
<tr>
<td>Advanced Level</td>
<td>Professional Certification</td>
<td>2-3 Years</td>
</tr>
<tr>
<td>Senior Level / Specialty Areas</td>
<td>Professional Certification</td>
<td>3+ Years</td>
</tr>
</tbody>
</table>

More info

- [More info](#)
Guidance in the Linux Jungle

- The flexibility of Linux is overwhelming
- Extending knowledge requires a plan
- LPI certification objectives
  - Describe the expectation for an exam
  - Point out what matters
  - Set the agenda for books and classes
  - Outcome from community consultation
Creating a Community Certification

- LPI has a large community of alumni, academic partners and experts

- Open certification development process:
  - Relevant exams require input and feedback from the whole Linux community
  - Exam topics are updated every 2.5 years
  - Objectives are based on community consultations and are discussed on a public mailing list
  - Alumni are encouraged to provide feedback to the certification development team
  - Public beta exams for quality assurance
Benefits of (LPI) Certifications

- An (LPI) certification ...
  - encompasses numerous qualifications and skills
  - affirms professional competencies as well as engagement in continuing education
  - represents a common standard in both content and quality
  - provides a great adjunct to a formal education and combined with a degree or diploma...
  - makes the best and most distinguishing credential!
How to get started?

- Get your hands dirty!
  - Install Linux on a VM or a Raspberry Pi
  - NDG Linux Courses with VM

- Start using Linux!
  - Use Linux for as much of your daily work as you can

- Accomplish challenges - NDG Linux courses
  - LPI objectives!
  - Cisco Networking Academy
Where to find help

- Find or create a community
  - Ask your teachers, professors, friends
  - Search for Meetups and Linux User Groups
  - Volunteer to provide services at your school, contribute to an FOSS project

- Get documentation
  - LPI objectives are the foundation for numerous books, websites and training offerings
Cisco TAC Support Engineer: Josh Good

- Supporting Linux customers
  - UCS Servers
  - Nexus Switches
  - Vblock and/or FlexPod
- Linux professional that provide solution support to the client
  - SAP Hana (Database) – Red Hat or Suse Linux O/S
Linux Use

- Authentication – services such as LDAP or Kerberos Authentication
- Administration – SSH
- Automation - puppet/chef/ansible/kickstart
- Monitoring – nagios/zenoss/UCS Peformance Manager
- WebAPP – Apache/nginx
- Databases Oracle/SAP
- Hardware – Cisco Nexus Switches/Cisco UCS
- Mobile phones/tablets – Apple IOS /Android OS
- Embedded devices – FireTV/Chromecast

After 100 days of running data centers built on Cisco UCS servers, customers improved IT productivity by 30 to 50% and reduced project execution time by 75%, according to a recent study by Forrester Research. Business moves fast. You can move faster with Cisco UCS.
How To Access

1. Go to [http://netacad.com](http://netacad.com)
How To Access

2. Click Courses
3. Choose Course

If you are not part of the Cisco Networking Academy, you can only enroll in Linux Essentials.

NDG Linux Unhatched
Establish basic knowledge that starts to build Linux expertise, a valuable skill needed for in-demand IT careers.
- Beginning
- Self-paced

NDG Linux Essentials
Learn basic open source concepts and how to use the Linux operating system and command line.
- Beginning
- LPI Linux Essentials Professional Development
- Instructor-led / Self-paced

NDG Linux I & II
Learn Linux system administration skills and prepare for LPI LPIC-1 or CompTIA Linux+ powered by LPI certification.
- Intermediate
- CompTIA Linux+ Powered by LPI
- Instructor-led / Self-paced
How To Access

4. Click **Enroll Now**
How To Access
If you are part of Cisco Networking Academy...

5. Click **Enroll in Course**
How To Access
If you are NOT part of Cisco Networking Academy...

5. Fill out the **Sign Up Now** box.

Course Summary
NDG Linux Essentials is designed for learners who are beginning to build Linux knowledge for a career in IT. This is the self-paced course for students who are new to Cisco Networking Academy.

- Learn basic open source concepts.
- Understand how Linux is used and the basics of the command line.
- Apply skills using Linux virtual machine with step-by-step and hands-on lab activities.
- Build foundational knowledge for progressively mastering Linux commands.
- Connect with the global Cisco Networking Academy community.

Languages: English

After you sign up, check your email for a login to the Networking Academy web site and a link to your course.

Tips for Accessing Networking Academy

- Recommended browsers: Mozilla Firefox, Google Chrome.
- If you don’t receive your email, check your spam folder.
- If you still can’t find it, add noreply@netacad.com to your safe sender list and resend activation email.
- If you are locked out after too many attempts, try again in 10 to 15 minutes.
For more info visit: ndg.tech/linux1

Linux System Administrator
Salary Range: $41,000 to $105,000
National Average: $67,000

Linux System Engineer
Salary Range: $59,000 to $118,000
National Average: $89,018

Network Administrator
Salary Range: $48,000 to $82,000
National Average: $63,584

Network Engineer
Salary Range: $54,000 to $108,000
National Average: $73,165

Support Technician
Salary Range: $23,000 to $51,000
National Average: $36,337

Support Engineer
Salary Range: $43,000 to $97,000
National Average: $70,000

DevOps Engineer
Salary Range: $68,000 to $142,000
National Average: $100,000

Cloud Engineer/Developer
Salary Range: $50,000 to $120,000
National Average: $95,000

Software Engineer
Salary Range: $67,000 to $132,000
National Average: $95,195

Software Developer
Salary Range: $44,000 to $127,000
National Average: $85,000

IT Manager
Salary Range: $41,000 to $131,000
National Average: $70,628

IT Technician
Salary Range: $23,000 to $57,000
National Average: $35,839
Q&A: Linux is a core skill for all IT professionals.
NEXT SESSION:

Linux in the Industry

16 November, 2016 – 8:00 A.M. PST

Register at: bit.ly/LinuxWeb
Interested in Joining Cisco Networking Academy?

• Go to netacad.com
• Scroll Down to Get Started
• Click Find an Academy
• Need Help? karsulli@cisco.com
Thank you.