RED HAT
ON THE MAINFRAME
THE REASONS ARE COMPELLING

IBM.

Current & Future State of Linux on System z

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MISSION STATEMENT:

TO BE THE CATALYST IN COMMUNITIES OF CUSTOMERS, CONTRIBUTORS, AND PARTNERS CREATING BETTER TECHNOLOGY THE OPEN SOURCE WAY.

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OSS In Universities

- **Carnegie Mellon** folds Open Source Into New Degree Offering http://www.iosn.net/foss/news/carnegie-mellon-folds-open-source-into-new
- **NC State University** – Leader in OSS education and research. Open Source Community page - (https://opensource.ncsu.edu/)
- **Oregon State University** - Has a Course in Open Source Development and an Open Source Education Lab - (http://web.engr.oregonstate.edu/~budd/419/)
- **Seneca College** - Organizes Seneca Free Software and Open Source Symposium, which has grown into a two-day event attracting participants from across North America. http://zenit.senecac.on.ca/wiki/index.php/Main_Page)
- **Trinity College**, **Wesleyan University, and Connecticut College** - Running “The Humanitarian Free and Open Source Software (FOSS) Project” (http://www.hfoss.org/)

Red Hat OSU Goals

To enable thousands of colleges and universities around the world to **teach open source principles**, **programming and system administration** to hundreds of thousands of students

To **create communities** of participating schools, instructors, students paired OSS community **to learn from each other**, to develop open source curricula and **to contribute to OSS projects**

To make available **high quality Red Hat courseware** and a scalable, **open platform** for hosting and managing OSS courses

To make the combined program self-funding, but not to maximize profitability for Red Hat

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What We Believe Schools Want

- High quality course materials and labs
- Accreditations/certifications that will make their students marketable upon graduation
- Curricula that will attract students to their school
- Opportunities for communities to share ideas with other educators and in our case with the OSS community
- Access to potential corporate and government grants
- The program to be either free or heavily subsidized

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Overview of Red Hat Training

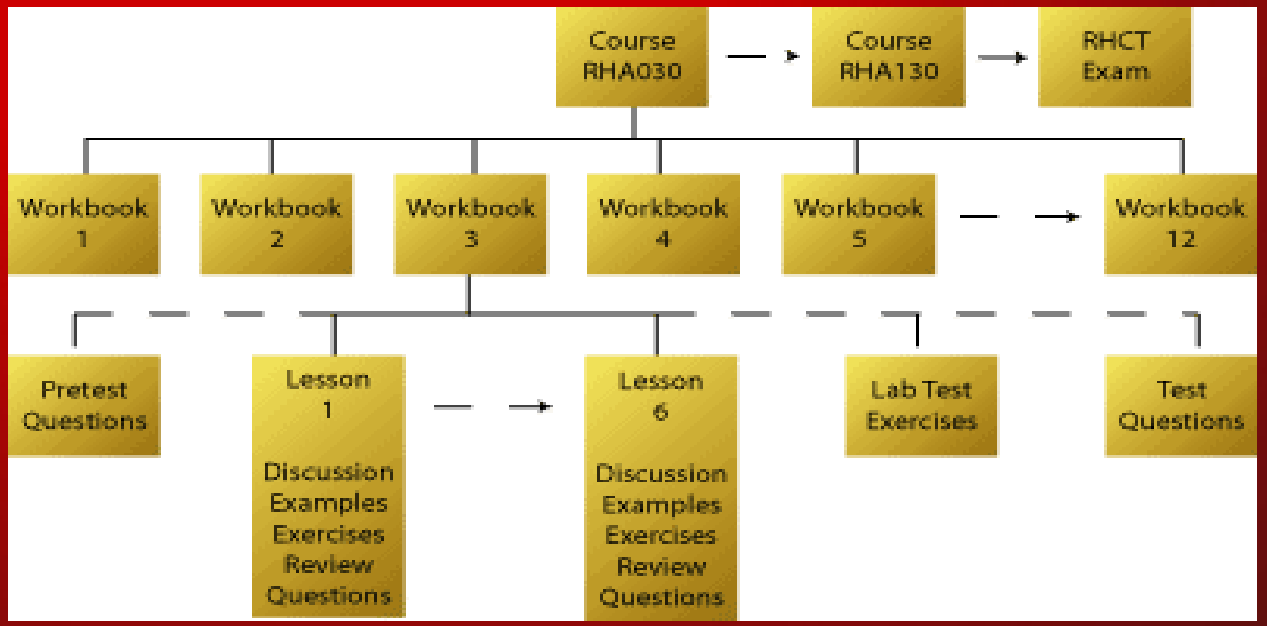
- Red Hat training and certification is a $50M annual business
- 32,000 RHCEs and 23,000 RHCTs spread across 150 countries
- Open enrollment schedule in 40+ countries
- Comprehensive Linux and JBoss curricula of 30+ courses, most are 4 day
- Recognized leader in performance based certification testing
- Designated by IDC in leader quadrant in December 2007, ranked ahead of M$ and many others

OSU Program Options

- **Red Hat - Open Source University (OSU)**
  - Free program for both students and schools
  - Includes “entry level RHCT and while include basic Java and JBoss administration
  - Open source courses/curricula developed by participating schools
  - Does not include exams or instructor training
  - Limited support
- **Red Hat Academy (OSU plus):**
  - Expanded curriculum: RHCE + more JBoss + Linux Dev
  - Includes instructor training (2)
  - Includes exam vouchers, student seats in RHA, one academic subscription RHEL, and academic desktop subscription
  - Customer support by phone
  - Sample NA price structure:
    - 20 student seats $4694 or
    - 50 student seats $9488
  - Value of a 20 student program
    - Approx. $22,000

Performance Based Testing

- Each course has 10-12 workbooks and each workbook contains a variety of lessons, each followed by live-system lab tests which provide both student and teacher with a definitive measurement of the student's competency before proceeding to the next workbook.
- Such competency measurements accompany traditional cognitive pre-tests, exercises, and final exams to measure overall curriculum knowledge and understanding. With each course designed for demonstrating competency throughout the instruction, students are provided the best Linux education and preparation possible.



Curriculum Outline

- **RHA 030 Red Hat Linux Computing Essentials** - Students will learn to be effective users of Linux systems, acquiring skills and understanding of command line functions, file systems, users and groups, bash shell, process management.

- **RHA 130 Red Hat Linux Core System Administration** - Students will learn to be effective administrators of Linux systems, mastering tasks such as hardware and device configuration, file system management, user administration, network configurations, kernel services.

- **RHA 230 Red Hat Linux Network Applications** - Students learn to deploy and administer the core networking services which have made Red Hat Enterprise Linux popular, including the Apache Web Server, the Samba File Server, BIND.

- **RHA 250 Red Hat Linux Security Administration** - Students learn to implement and administer basic security policies relating to user authentication (including PAM and NIS) and securing network applications using application level access control and kernel level firewalling (ipchains), SELinux, system monitoring, and implementing common encryption protocols including PKI...

Professional Certifications

- **End-of-class assessment**
  - All courses include an extensive series of exercises that can be used for grading.
  - Courses also include end-of-class exams
- **Certification**
  - The RHA materials prepare students for two Red Hat's certification exams and become Red Hat Certified Technicians (RHCTs) or Red Hat Certified Engineers (RHCEs). Two options:
    - **Red Hat Academies** receive exam vouchers for students at more than 70% off the exam list price. These vouchers can be redeemed by the student by registering to attend any of the hundreds of the open enrollment sessions scheduled around the world.
    - **Red Hat Open Source University** students are similarly eligible to sit for exams but would be responsible for paying their own exam fees

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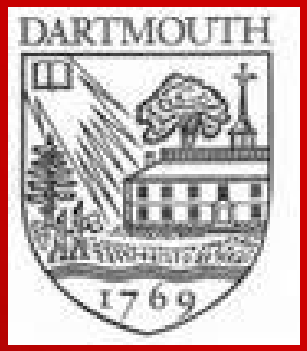
Red Hat Academic Partners



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zAcademic Partners

MARIST

BINGHAMTON UNIVERSITY
State University of New York

SAN DIEGO STATE UNIVERSITY
1897

NORTH CAROLINA CENTRAL UNIVERSITY
TRUTH SERVICE
1910
Durham, North Carolina
James E. Shepard, Founder

REPUBLIC POLYTECHNIC
http://www.rp.sg

Appendix

Referenced Case Studies

COMMERCIAL

- Educational Testing Services
- Scalent
- Learndirect
- Kaplan

APAC

- University of Sydney
- u21Global
- Central Queensland University
-

AMERICAS

- Orange County Public Schools
- Wake Forest
- Dartmouth
- Marshall
- Vanderbilt
- Liberty University

EMEA

- French Ministry of Education
- Universitat Basel
- University of Stirling

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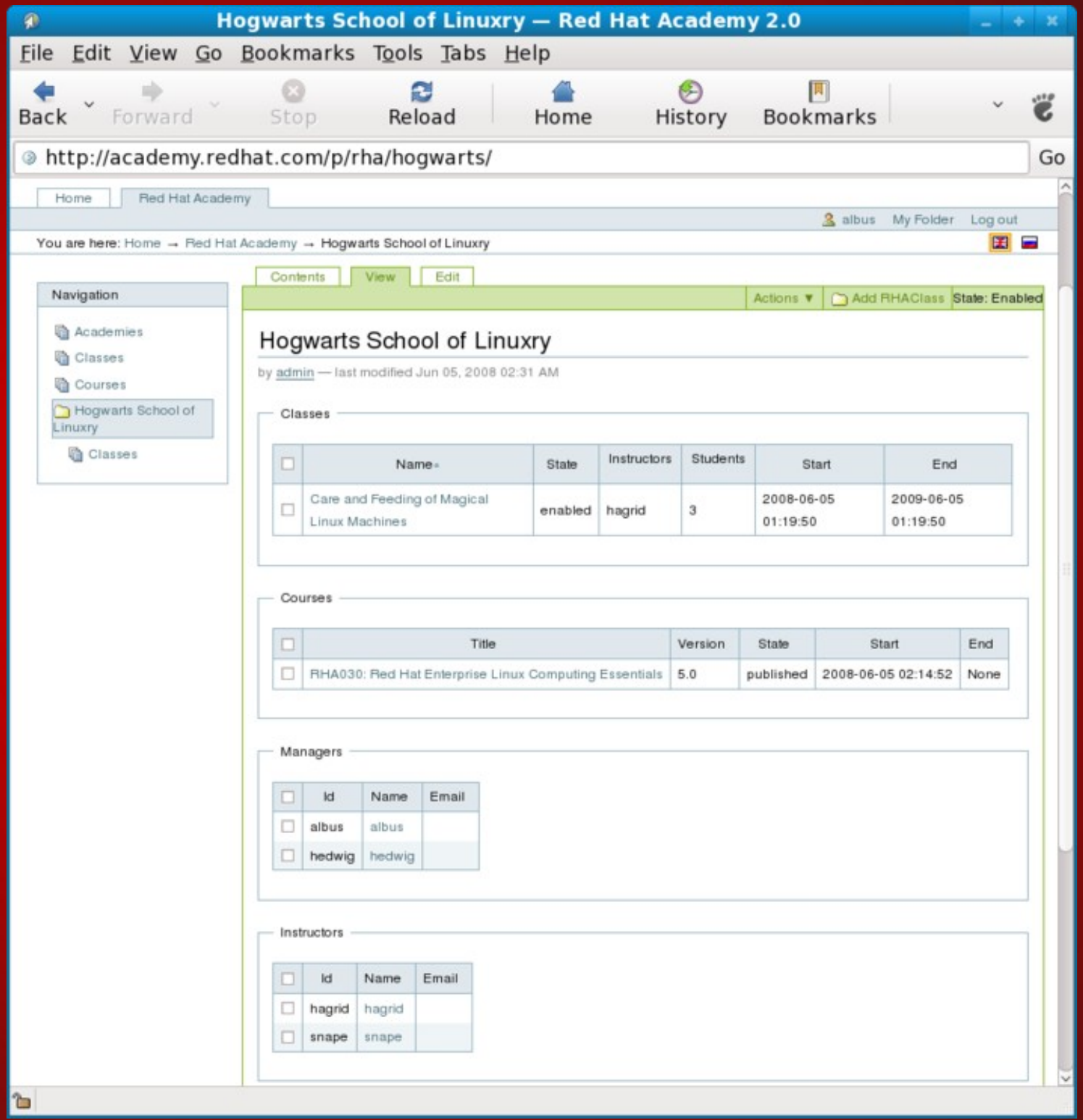
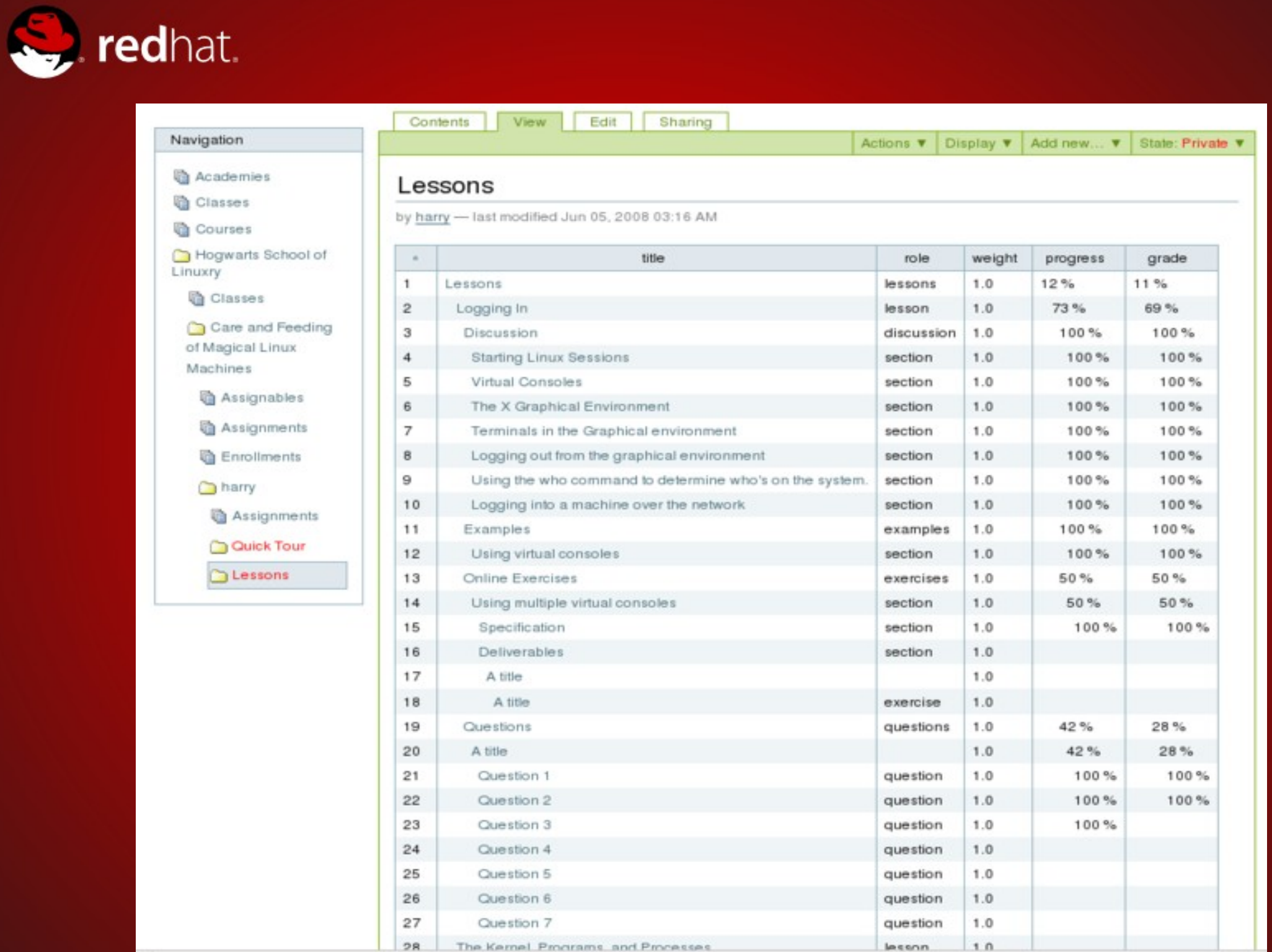
Screen Shots

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Lessons

by harry — last modified Jun 05, 2008 03:16 AM

Questions

Question 1

Which of the following best describes why Linux is referred to as a *multiuser* operating system?

- [ ] A. Multiple users can use the same machine simultaneously, using multiple network connections and dumb terminals.
- [ ] B. Multiple users can use the same machine, but only one at a time.
- [ ] C. Many people contributed to the development of the Linux operating system.
- [ ] D. Linux is not referred to as a *multiuser* operating system.

grade

Question 2

Which of the following is not an advantage of using virtual consoles instead of a graphical interface?

- [ ] A. Virtual consoles often respond more quickly than graphical environments.
- [ ] B. Virtual consoles operate at the kernel level, and so can be used to debug the system when higher level components are mis-configured.
- [ ] C. Virtual consoles are very intuitive, and help is available in an obvious manner.
- [ ] D. Graphical environments add a lot of complexity to a system, and can make them harder to maintain.

grade

Question 3

From the first virtual console, which key sequence(s) will take you to the second virtual console?

Online Exercises

Using multiple virtual consoles

[Warning] **Lab Exercise**

Objective: Learn to manage multiple virtual consoles

Estimated Time: 10 mins.

Specification

Your machine should have been configured with multiple accounts, all with the same password. If your username is `elvis`, for example, you should also have accounts named `elvis_a`, `elvis_b`, and `elvis_c`, all with the same password.

For this exercise, you should log into the first four virtual consoles, using each one of your accounts in order.

Virtual Console	Username
1	*username*
2	*username_a*
3	*username_b*
4	*username_c*

If you have completed the exercise correctly, you should be able to run the **who** command from any terminal, and see output similar to the following:

```
[elvis@staion elvis]$ who
elvis_a  tty2         May  5 16:18
elvis    tty1         May  5 16:18
elvis_b  tty3         May  5 16:18
elvis_c  tty4         May  5 16:18
```

Deliverables

A title

1.
    1. 4 active login sessions, one on each of the first 4 virtual consoles.

grade exercise