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Amazon Web Services and Microsoft Azure in Teaching

Magdalena Balazinska

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

UNIVERSITY OF WASHINGTON

<http://www.cs.washington.edu/people/faculty/magda>



Why Use the Cloud When Teaching?

- CSE344 – Introduction to Data Management
 - For computer science & eng. majors
- CSE414 – Introduction to Database Systems
 - For non-majors
- Course goals: Learn to use a DBMS
 - DBMS = Database Management System
- Many DBMSs are offered as cloud services
- **Students need to learn how to use them!**

What do We Teach?

Use a cloud DBMS to

- Store data
- Query data with SQL
- Build transaction processing applications
- Perform big data analytics

Which Clouds do We Use?

Microsoft Azure

- Microsoft Azure

- Store data in SQL Server (= SQL Azure)
- Query data using SQL
 - Use the browser or SQL Server Management Studio
- Build a Java application that uses SQL Azure
 - Transaction processing application (flight reservation)

- Amazon Web Services

- Use a 20-node EC2 cluster
- Analyze 0.5TB dataset with Elastic MapReduce
- Learn Pig Latin

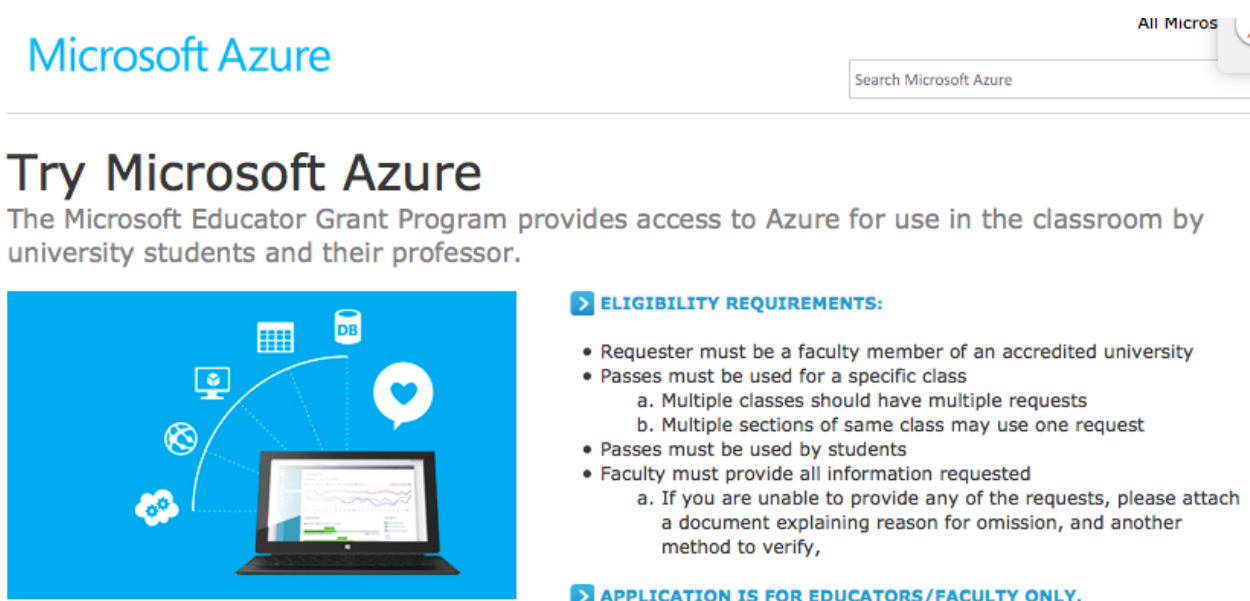


How Does Azure Work?

1. Apply for credits

1. Go to <https://www.microsoftazurepass.com/azureu>
2. Fill out the form
3. Ask for enough passes to cover the Tas

2. Distribute codes to students



The screenshot shows the Microsoft Azure website. At the top, there is a search bar with the text "Search Microsoft Azure" and a "All Micros" dropdown menu. Below the search bar, the heading "Try Microsoft Azure" is displayed, followed by the text: "The Microsoft Educator Grant Program provides access to Azure for use in the classroom by university students and their professor." Below this text is a blue graphic with a laptop and various icons representing cloud services like databases, calendars, and social media. To the right of the graphic, there are two sections: "ELIGIBILITY REQUIREMENTS:" and "APPLICATION IS FOR EDUCATORS/FACULTY ONLY."

Microsoft Azure

Search Microsoft Azure

Try Microsoft Azure

The Microsoft Educator Grant Program provides access to Azure for use in the classroom by university students and their professor.

> ELIGIBILITY REQUIREMENTS:

- Requester must be a faculty member of an accredited university
- Passes must be used for a specific class
 - a. Multiple classes should have multiple requests
 - b. Multiple sections of same class may use one request
- Passes must be used by students
- Faculty must provide all information requested
 - a. If you are unable to provide any of the requests, please attach a document explaining reason for omission, and another method to verify,

> APPLICATION IS FOR EDUCATORS/FACULTY ONLY.

How Does Amazon Work?

- New Amazon Educate Website:
 - <https://aws.amazon.com/education/awseducate/members/>
 - Register to get credits
 - Students should register there to get credits
- Website has teaching materials



Home

Build Your Course

Skill Up on AWS

Collaborate

FAQs

Free Access to AWS

AWS Educate provides educators, teaching assistants, and students with AWS credits to use AWS services. For educators, we are providing these credits for you to build your courses.

Lessons Learned

- Instructions and procedures change a LOT
 - Start early when preparing for your course
 - Expect instructions to change
- Students forget instances and accumulate charges
 - Warn students! And tell them to setup alarms
 - Contact cloud provider in case something goes wrong
- Instructions for cloud services change all the time
 - Need to test and update assignment every quarter