DEPLOYING DATABRICKS LABS ON VOCAREUM

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About Vocareum

Secure, scalable, and budget-friendly digital labs

for learning AI, Cloud, and Data skills

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Learning Platform Partners

Academic Partners

Arizona State · Auburn · Carnegie Mellon · Columbia · Cornell · Delft University · Georgia Tech

Indiana University · IMT Atlantique · Johns Hopkins · NJIT · Northeastern · Northwestern - Kellogg · Penn State

Purdue · SUTD (Singapore University of Technology and Design) · Southern NH · Stanford · Tecnologico de Monterrey · RMIT University · UC San Diego

University of Illinois · University of Missouri · Univ of Notre Dame · Univ of Washington · Univ of Wisconsin · USC · Western Illinois

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2.4M

learners to-date

11,800

live courses

125K

cloud labs started per day

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Vocareum Fully Managed Labs For Hands-on Skills Training

Tools & Packages
Tools and packages

Provisioning & Guardrails
Scaling, termination, budgets, policy

Identity
LTI, SAML, SSO Custom roles

Persistence
Retain student work

Deliver Data
Files, databases

Assessments
Grading, Feedback, Peer Review

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Vocareum's Managed Databricks Labs

Provide students with direct SSO access to a fully managed Databricks user account

Each learner's Databricks account is constrained by the following:

- Time Budget: target maximum amount of time allowed in a lab
- Policy Rules: specify number and types of services/clusters allowed
- Session length: specify duration of an interactive session

Additional features:

- Vocareum-managed or Bring Your Own (BYO)** accounts (Databricks, AWS)
- Teacher has access to student work areas to provide feedback and assessment
- Can leverage spot-instances to reduce cost
- Tiered and managed billing at Org, Course and learner levels
- IDE: content-only, terminal, vscode, etc.
- LMS: access to the labs directly from Vocareum or your LMS via LTI
- REST API: SSO, request credentials, end lab, extend budget, etc.

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Partnership w/ Databricks University Alliance

We have teamed up to provide DBUA members with fixed-cost access to the Vocareum Managed Databricks labs, with no need to bring your own Databricks or AWS accounts.

Based on pilots and prior usage, we are offering two options that should cover 95% of the common academic scenarios without requiring extra costs or mods.

- One lab per user
- Unlimited DBU credits
- Fixed time on CPU or GPU per course

Cost: $60 per user / course

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DBUA - Option 1 - CPU Cluster

Scope	Setting	Description
Organization	Fleet Size	N / A
Lab	Session Length	120 minutes
Lab	Users per Workspace	250
Lab	End Lab Behavior	Stop resources
Lab	Total Time Budget	160 hours
Lab	Monthly Time Budget	unlimited
Lab	Cluster Configuration	Spark runtime version: <customer-selection> Worker type: i3.xlarge Min/Max Workers: 1 Idle Timer: 15 minutes Num On-Demand Instances: 1 DBUs per Hour: 100

DBUA - Option 2 - GPU Cluster

Scope	Setting	Description
Organization	Fleet Size	N / A
Lab	Session Length	120 minutes
Lab	Users per Workspace	250
Lab	End Lab Behavior	Stop resources
Lab	Total Time Budget	40 hours
Lab	Monthly Time Budget	unlimited
Lab	Cluster Configuration	Spark runtime version: <customer-selection> Worker type: g5.2xlarge Min/Max Workers: 1 Idle Timer: 15 minutes Num On-Demand Instances: 1 DBUs per Hour: 100

Case Study - University of Rochester

Previously:

Professor Lloyd Palum reported it was too time consuming to set up and manage DB workspaces & clusters.

Managing DB workspace & clusters

- Each student gets an account
- Students assigned to groups
- Each group has a cluster assigned
- Each group has a S3 bucket
- Pools of AWS spot instances used by clusters (cost management)
- Shared resources for the class follow a naming convention (hive metadata and model registry)
- Students use Git workflow within their groups

Too much systems administration between AWS and Databricks!

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Pilot Details:

- Course with 65 students
- Students grouped in 13 teams
- Access to i3.xlarge clusters
- Teacher access to user workareas
- Integration with Blackboard LMS via LTI

Outcome:

- All infrastructure needs handled by Vocareum
- Total spend:
  - DBU: free w/ DBUA credits
  - AWS: ~$2000 ($30 per student)

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Pricing

Databricks University Alliance

- Subscription: $60 / student / course
- No administration fees

- Features:
  - Choice of fixed lab configurations
  - DBU and AWS fees included
  - Instructor setup includes 80-hours of compute

Standard Pricing

- Subscription: $10 / student / month
- Administration + setup: $1000 per month

- Features:
  - Scripting interface for lab configuration and automated assessments
- Notes:
  - Institution brings own AWS and Databricks accounts

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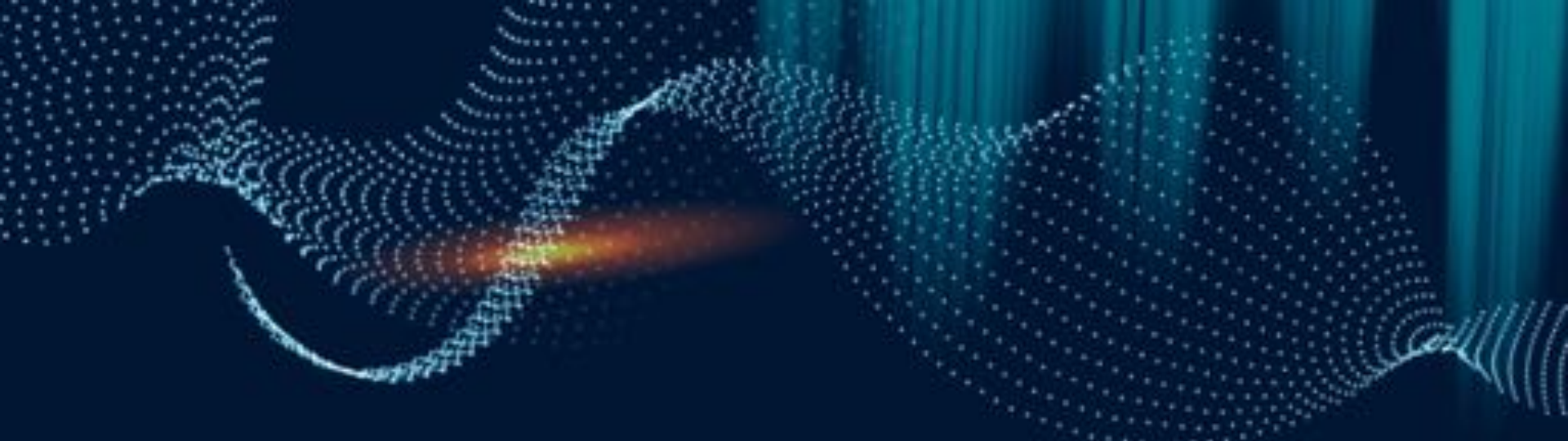
Next Steps

Join the Databrick
University Alliance

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Get started with
Vocareum

sales@vocareum.com

Have questions?

support@vocareum.com

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Thank you

www.vocareum.com

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