projectEUREKA!

TECHNICAL BRIEF

by Omnibond

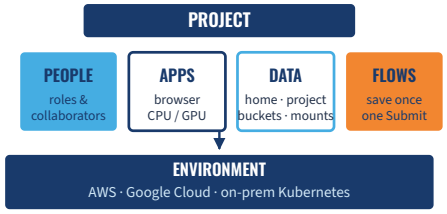
PROJECT-CENTRIC AI AND SIMULATION WORK

Notebooks on one system, simulations on another, data somewhere else.

projectEUREKA! is a project-centric platform for AI and simulation work. One browser workspace holds your people, apps, data, and saved flows next to the data.

- **Collaborate** with Owner, Editor, and Reader roles on one project.
- **Launch** 35 ready-made apps (or any container) on CPU or GPU in the browser.
- **Keep data close:** home folders, project storage, S3/GCS buckets, NFS or OrangeFS mounts.
- **Deploy** on AWS, Google Cloud, or on-prem Kubernetes.

ONE PROJECT HOLDS IT ALL



Same project model wherever you place the environment

People, apps, data, and flows share one project, with Owner, Editor, or Reader access.

FROM THE BROWSER TO YOUR INFRASTRUCTURE



Laptops stay the client. Heavy AI and simulation work runs next to project data in the environment you operate.

1 Team access that stays with the project

- **Owner, Editor, Reader** set who can change apps, flows, and storage.
- Scope bots and agents the same way: only the role, data, and app access each one needs.
- Outside collaborators join the same project, without re-imaging laptops.
- Estimated cost on the project card keeps spend visible.

2 Apps next to the data

- **35 ready-made apps** (19 launch + 16 flow), or any container you add.
- Jupyter, VS Code, RStudio, ParaView, QGIS, Octave, Ollama, Linux desktop, and more.
- Pick CPU or GPU on the launcher: cores, RAM, GPUs, and price at a glance.

3 Storage on the project

- **Home** and **project** folders for personal and shared files.
- Attach **AWS S3** and **Google Cloud** buckets, usable wherever the environment runs.
- Mount existing **NFS** or **OrangeFS** without copying data in.

4 Placement you control

- **AWS** or **Google Cloud** in the account and region you choose.
- **On-prem Kubernetes** when policy or data residency needs local control.
- Machines start when needed and shut down when the work ends.

Who uses it: teaching, research, and commercial teams

Courses & teaching

Run a semester as a project. Students open course apps in the browser, so you skip installing course tools on every laptop and cut setup tickets for TAs.

Labs & research groups

Share people, data, and flows you run again. Separate initiatives by project without rebuilding machines for every group.

Platform & IT (enterprise)

Standardize AI and simulation workspaces on infrastructure you operate: AWS, GCP, or on-prem Kubernetes under your policies.

Product, ML & applied R&D

Shared projects for model work, evaluation, and simulation support. Environments that keep overnight runs and shift handoffs going.

BOTS & AGENTS

Give each bot or agent only the access it needs. Assign Owner, Editor, or Reader on the project, and limit data and apps to that project. For a course lab or commercial R&D workflow, mistakes stay limited to that project instead of a broad shared login.

TEACHING & RESEARCH

Free for non-commercially funded teaching and research. Cloud usage, cluster time, and GPUs stay with your institution or lab.

ENTERPRISE & COMMERCIAL

Separate licensed path for commercial engagement, production governance, and teams that need a governed pattern across groups. Cloud and cluster costs always remain yours.

Free for non-commercially funded teaching and research

Cloud and cluster costs stay with your institution or lab. Enterprise is a separate licensed path.

projecteureka.ai
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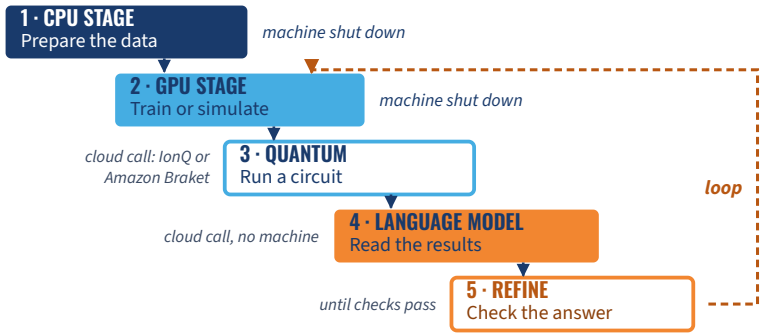
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ONE RUN. MIXED STAGES.

Saved flows turn multi-step AI and simulation work into something you can run again. Build once on the project, then start a run. Stages pass files forward; CPU or GPU machines shut down when their stage ends.

ONE FLOW, MIXED STAGES



One run executes the stages in order. Each CPU or GPU machine shuts down when its stage ends.

Why flows help

- **Save once, run again.** Import a sample or build your own. Each run keeps the flow and prior run files.
- **Mix stage types** in one sequence: CPU, GPU, quantum, language model, file copy, and refine.
- **Refine until checks pass.** A refine stage can repeat a model call until your checks succeed.
- **Roles on the project.** Readers can run a saved flow. Editors and Owners create and edit. Owners can stop any run.
- **Monitor the run.** See each step waiting, running, or done (with duration) from the browser.

AFTER YOU START A RUN: WHAT STAYS AND WHAT GOES



Stage types that mix

- **CPU / GPU jobs:** scripts on a sized machine; optional containers (OpenFOAM, GROMACS, BLAST, PyTorch, WRF, and more).
- **Quantum:** circuit as a cloud call (IonQ or Amazon Braket).
- **Language model:** cloud call; files from earlier stages as context.
- **File copy:** move bytes among home, project, buckets, or a machine.

Machines only when needed

- CPU/GPU stages start a machine, then **shut it down when the stage ends**.
- Quantum and language-model stages need **no session machine**.
- Launchers show cores, memory, GPUs, and an **estimated price**.
- Interactive apps: start, stop, or delete from the project card.

Catalog and samples

- **35 ready-made apps** at containers.projecteureka.ai.
- Download a container once; every project on the environment reuses it.
- Import **sample flows** (BLAST, GROMACS, OpenFOAM, quantum checks, PyTorch, and more), then run them.
- Admins can add any SIF container your team needs.

Education and research

- **Faculty and instructors:** shared course tools without debugging every laptop.
- **Research staff and graduate students:** shared projects, data, and overnight jobs.
- **Campus labs and centers:** consistent virtual workstations next to shared storage.
- **Course and lab agents:** Reader or Editor on the course project only, so a scripted helper cannot wander into other classes or storage.

Commercial and enterprise

- **Platform and infrastructure teams:** a common pattern for AI and simulation workspaces under your policies.
- **Product and ML engineering:** shared projects for models, evaluation, and long-running work.
- **Simulation and CAE groups:** virtual desktops and data next to the codes.
- **Security-minded IT:** project-level access on infrastructure you operate, including on-prem Kubernetes when policy requires it.
- **Bots and agent workflows:** same project roles limit what an automated helper can launch, submit, or read.

Use case: give bots and agents only the access they need

Limit what an automated helper can reach. Put each bot or agent on a project with only the Owner, Editor, or Reader role, plus the data and apps that project already exposes. Education teams keep a course helper inside one semester project. Commercial teams keep an R&D or ops agent inside one initiative. Access stays on that project's members, data, and apps instead of a broad shared account. **Learn more:** projecteureka.ai · info@omnibond.com

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