# Ai-WorkStation & Ai-HPC-WorkStation

Overview

The Zeblok **Ai-WorkStation** builds upon and virtualizes the ubiquitous Jupyter notebook technology, integrating a powerful multi-class orchestration and scheduling layer to support a variety of workloads, from a single GPU to hundreds. Under the hood, our container-based orchestration engine supports both straightforward (non-computationally intensive) AI/ML model development, as well as computationally intensive workloads.

The Zeblok **Ai-WorkStation** provides enormous freedom to run enterprise workloads in many data centers based on cost profile and tailored to application requirements. A user can select low latency compute resources from business partners' data centers or from public clouds like AWS, GCP and Azure.

Data scientists no longer need waste time optimizing frameworks on GPU platforms. CUDA optimization for popular AI frameworks is available out of the box and ready to go with the click of a button. Popular data science language bindings, such as R, Scala, and Python are also available. We leveraged a community of data scientists to beta-test and harden these containers so enterprise developers can spend their time developing innovative models, rather than attending to infrastructure.

The Zeblok **Ai-WorkStation** also makes it easy for developers to build and share new containers with fellow team members, improving organizational productivity. Dependency management, which is involved in AI-development, is greatly simplified and incorporated with examples for a developer to implement high-quality software. Zeblok's AI-WorkStation also makes it a breeze to promote models developed into APIs via Zeblok's Ai-API™ engine, with a few simple commands.

Data Science Notebooks: Ai-MicroCloud™ places all familiar open-source data science frameworks at your fingertips, e.g. Jupyter Notebook, R Notebook, PySpark Notebook, Nvidia RAPIDS Notebook, TensorFlow Notebook, C++ Notebook etc.
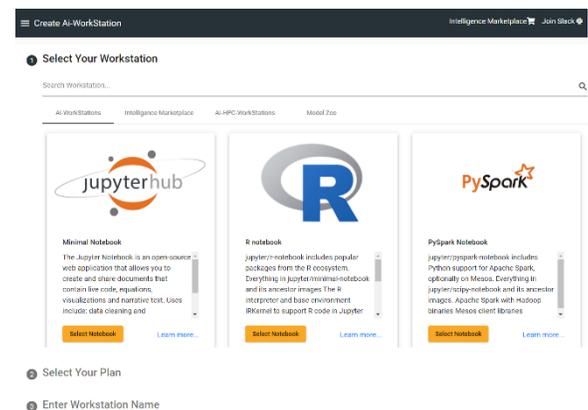
Intelligence Marketplace: Zeblok's Intelligence Marketplace provides easy access to a growing library of proven, original AI algorithms. Quality is ensured by our curation process, including closed loop validation, providing algorithm creators with a means of commercialization not previously available. We ensure that algorithms are easy to read, easy to use and easy to share. These include:

- Ai-Rover™ Notebook: Data Comprehension/Visualization Tool
- Ai-Rover™ Notebook For Time Series Data: Automated Predictive Model Builder

High Performance WorkStation: Zeblok enables you to seamlessly scale high-performance computing (HPC) trend. Access HPC resources via a Jupyter Notebook.
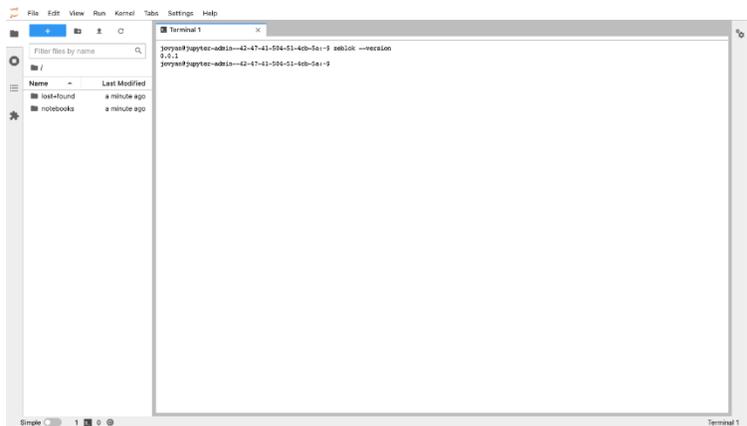
One-click scalability for AI workloads.

Model Zoo: Algorithms created and tested on Zeblok's Ai-MicroCloud™ by independent software vendors (ISVs), AI startups and renowned academics are available in the Model Zoo for trial and commercialization purposes.
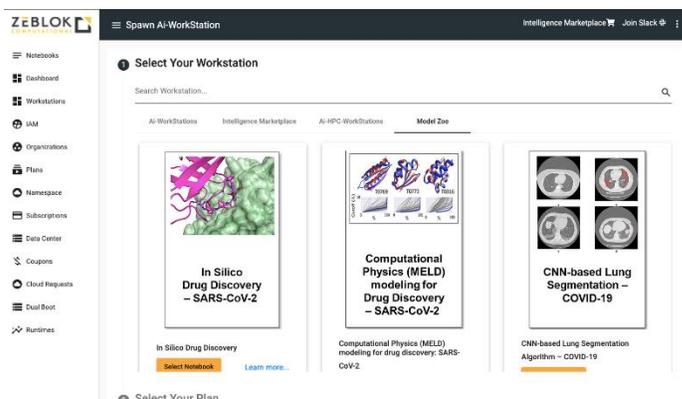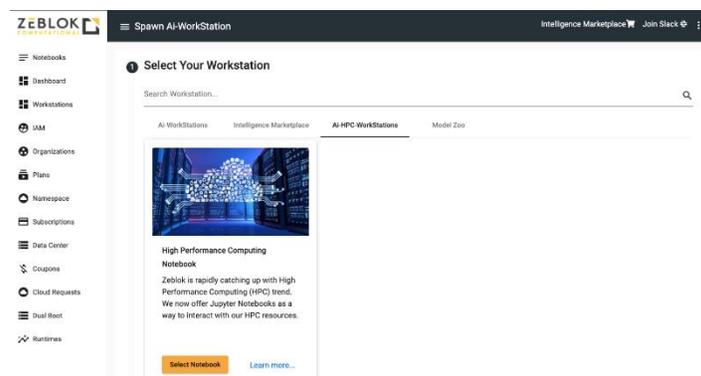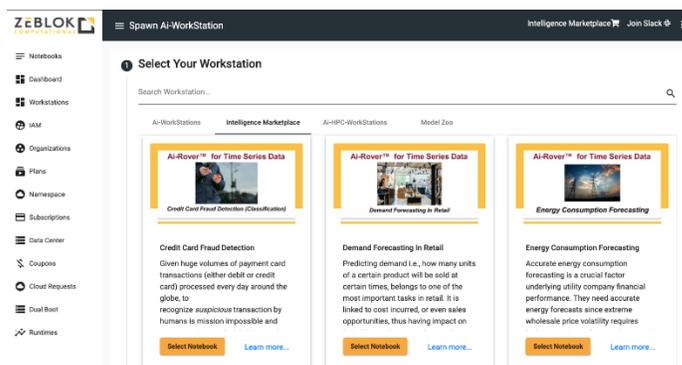
Plan Selection: Allocate appropriate underlying infrastructure resources such as vCPUs, RAM, storage, GPUs to your Ai-WorkStation. Zeblok's Ai MicroCloud™ Manager provides the interface to create different infrastructure plans within your environment. Before a spawning a notebook, users select the appropriate plan.
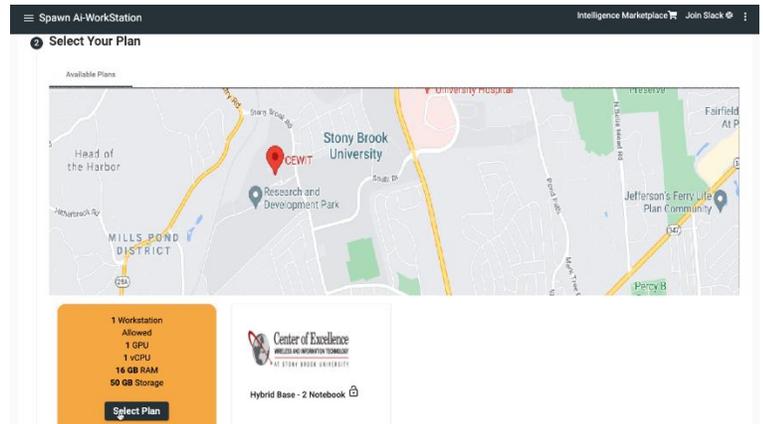
Command Line Interface Within a Notebook: In Jupyter notebook command mode, you can edit the notebook as a whole, but not type into individual cells. The keyboard is mapped to a set of shortcuts that let you perform notebook and cell actions efficiently. Enter command mode by pressing Esc or using the mouse to click outside a cell's editor area.

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