SciServer ([www.sciserver.org](http://www.sciserver.org)) is an IDIES-developed online system for scientific research and education with big data. The system offers access to several Petabyte-scale scientific datasets in fields ranging from astronomy to turbulence to genomics, along with a set of simple but powerful browser-based tools to visualize and analyze those datasets.

SciServer has grown over the past year to become even more powerful and flexible. The new SciServer Dashboard offers quick access to all SciServer tools and datasets, and to all your prior work within the system. Through the Dashboard, you can manage your uploaded data files, and you can create collaborative groups to share datasets and scripts publicly or with selected colleagues. SciServer makes it easy to share exactly the right data with exactly the right people.

SciServer’s Compute tool continues to enable online computational analysis of big data through Jupyter notebooks. With only a few clicks, you can create a customized environment on fast high-memory virtual machines hosted by IDIES, where you can write or upload Python, R, or Matlab scripts to perform all sorts of data-intensive tasks. The new release of SciServer allows these scripts to be run in either interactive or batch mode, meaning that even the most demanding data-intensive analyses can be completed with ease.

In addition to SciServer’s obvious potential for data-intensive science and engineering research,

Over the next few months, SciServer will grow to enable new ways to share data and analysis with colleagues worldwide. A brand-new SciServer Dashboard will offer quick access to prior work across all system components, with views of all accessible datasets and previously-submitted queries and scripts. The new system will allow scripts to run in batch mode, taking advantage of increased hardware resources and improved APIs. The new SciServer also simplifies data sharing and access control through a new workspace feature. Workspaces will allow for sharing many diverse types of data in the same manner, with sophisticated access controls allowing data providers to choose exactly who can read which datasets and write to which container filesystems.

All these new features will work together to make SciServer an even more powerful toolkit for research and education. The new system is currently being tested with “Early Adopters” within IDIES, working in diverse fields such as fluid mechanics, oceanography, astronomy, genomics, and materials science. We are actively seeking new Early Adopters, and we would particularly love to hear from teams with datasets they want to make available online. To learn more about our Early Adopters program, or to apply for an Early Adopter invite, please email the SciServer Helpdesk at sciserver-helpdesk@jhu.edu.

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