SAGE2™

Scalable Amplified Group Environment

www.sagecommons.org

LAVA · evl · NSF

SAGE2 is a user-centered platform for small groups or large distributed teams to access digital media datasets from various sources and juxtapose, share and investigate content on tiled display walls. SAGE2 builds on SAGE (Scalable Adaptive Graphics Environment), developed with prior NSF funding. With 90 SAGE2 sites worldwide since 2015, SAGE2 is having a transformative effect on data exploration, visualization and collaboration, making cyberinfrastructure more accessible to end users, both in the laboratory and in the classroom. SAGE2 has a number of features, the more recent ones listed here:

- SAGE2 accessible via web browsers on laptops, tablets and smartphones
- Share screens—e.g., push laptop displays or individual windows
- Share digital media (PDF, JPG, MP4, etc.)
- Supports distance collaboration through media sharing and wall mirroring
- Supports multi-user interaction and control, locally and remotely
- Applications can be linked; i.e., applications can pass data between one another
- Application menus have intuitive user interaction widgets
- Quick Notes let users post messages and/or annotate digital media documents
- Multi-resolution image viewer makes it easy to zoom and pan through high-resolution imagery
- Ensures a secure SAGE2 web server environment
- Extended launcher supports initial setup and editing of configurations
- Supports walls driven by a single PC or computer cluster
- Distributed as open source; commercial license available
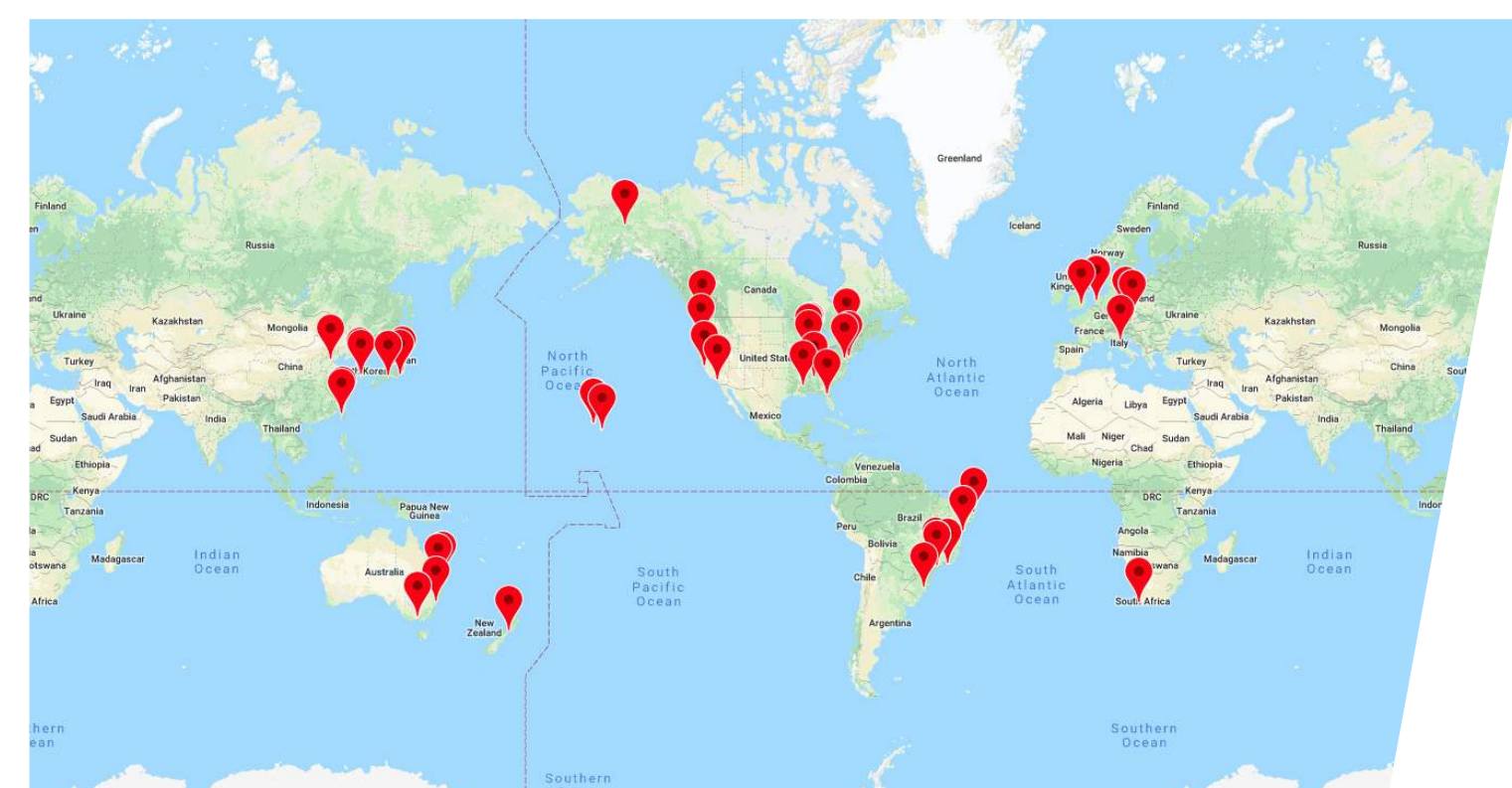
WORK WITH JUPYTERLAB
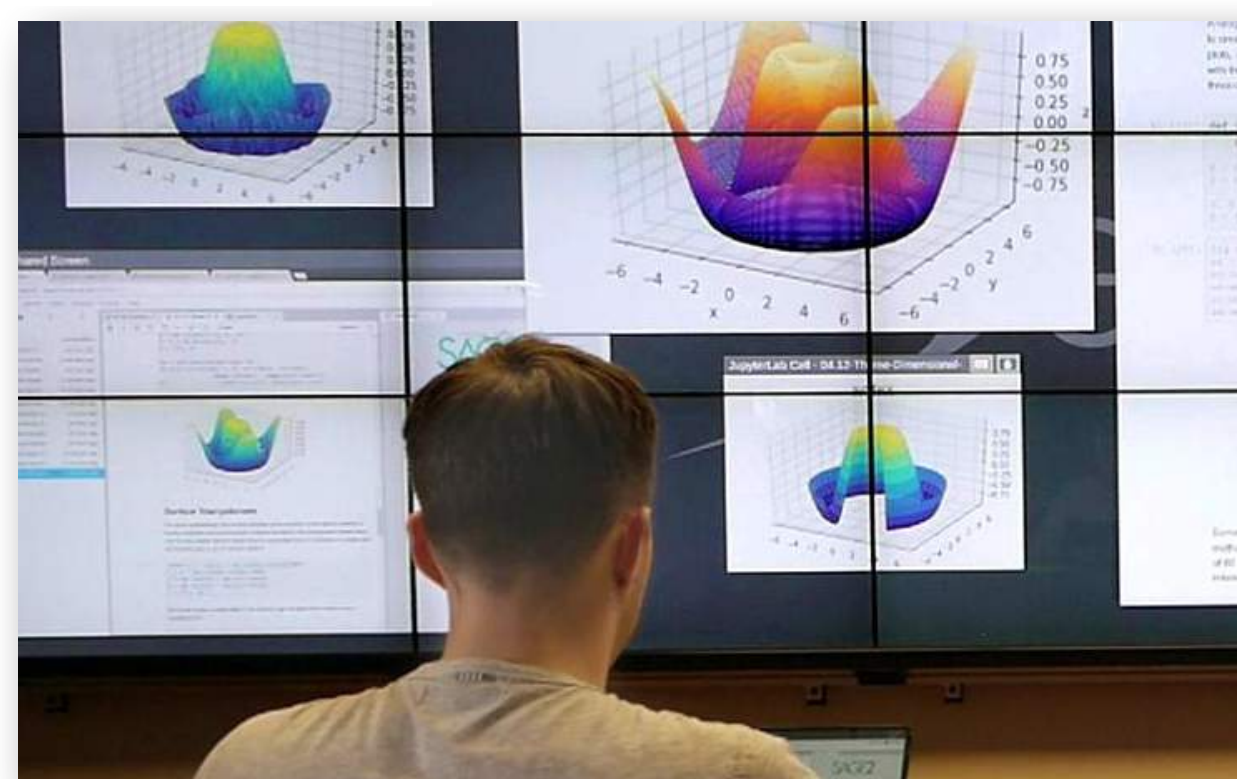
Jupyter Notebooks and cells (sections of notebooks), a data science platform web application that allows one to create and share documents that contain live code, equations, visualizations and narrative text, can be shared among multiple SAGE2 users.

ORGANIZE WALL CONTENT

Screen partitions enable users to create specific locations on tiled walls where groups of applications can independently be moved, resized, closed, cleared or saved.
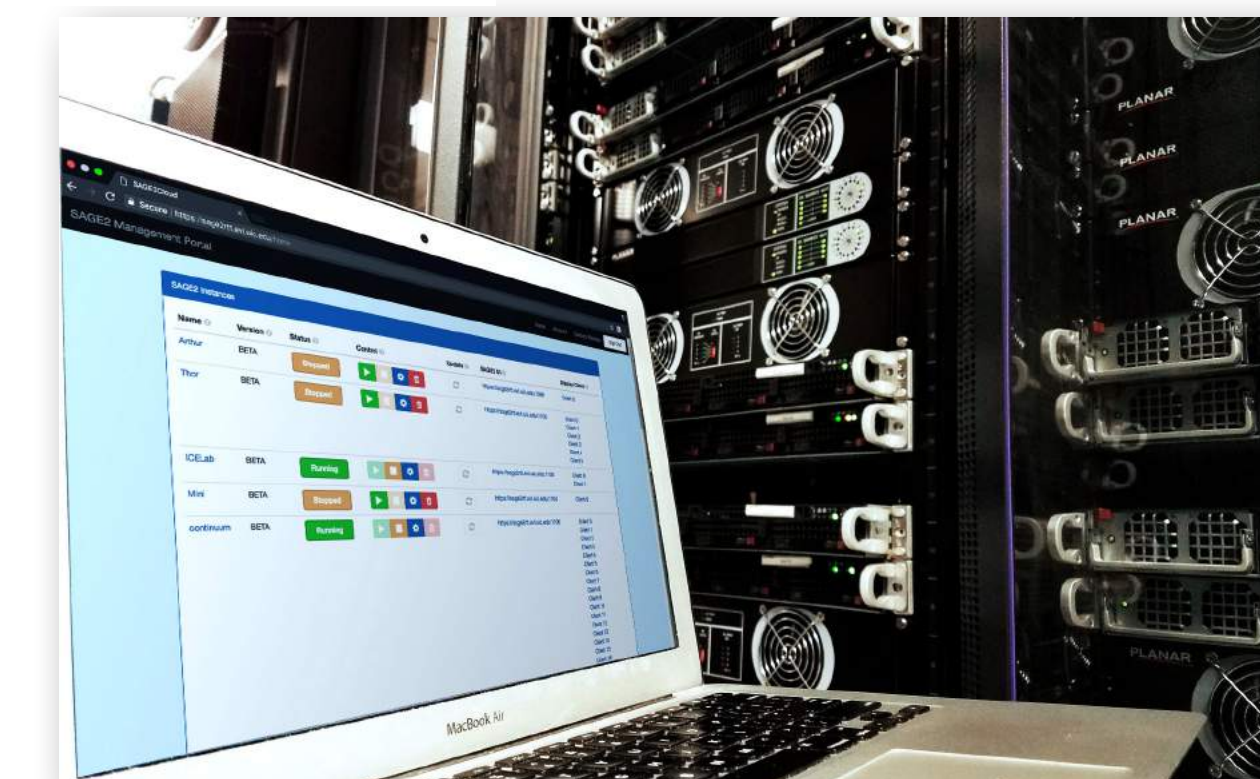
MONITOR PERFORMANCE

The **performance utility** provides administrators a comprehensive view of the health of a SAGE2 system.

RUN EXISTING WEB APPS

SAGE2 enables basic browser functionality so users can access commonly used **web-based applications**.
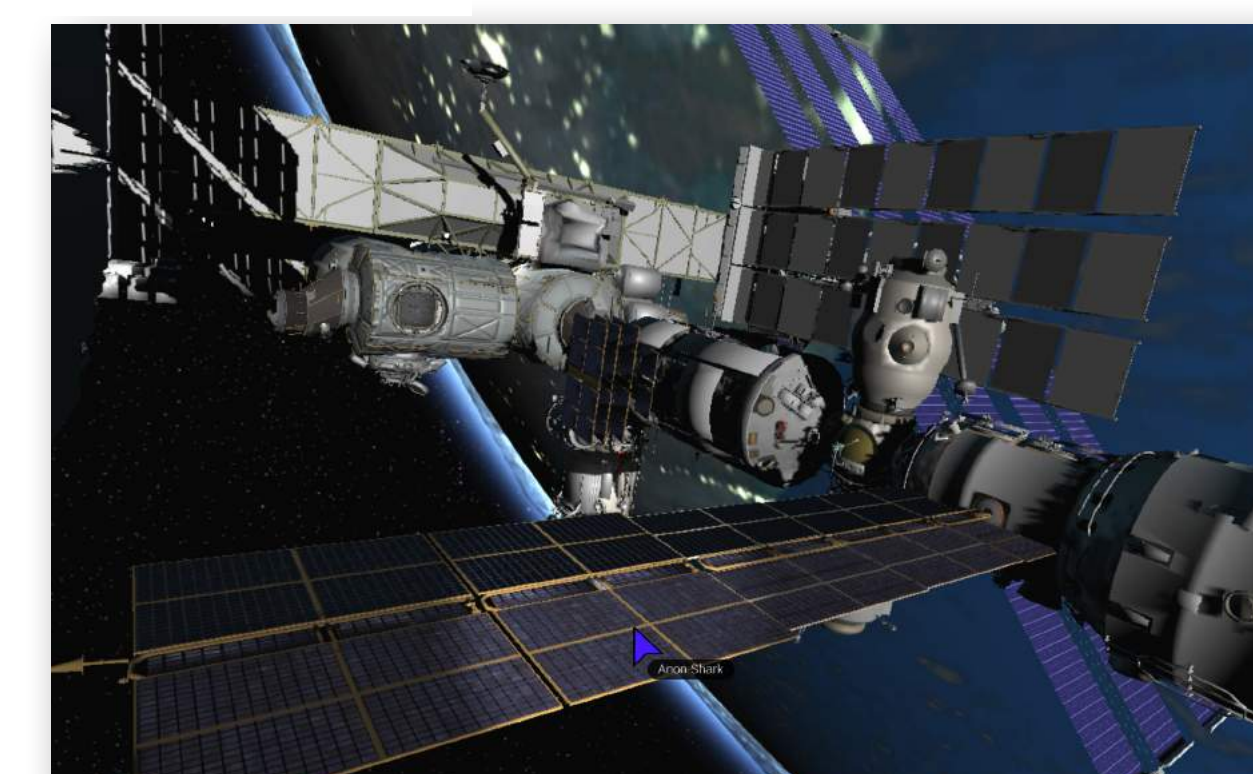
RUN ON THE CLOUD

SAGE2Cloud provides a scalable environment for creating, deploying and managing multiple, local and remote SAGE2 servers (leveraging Docker containers to run each instance of a SAGE2 server).
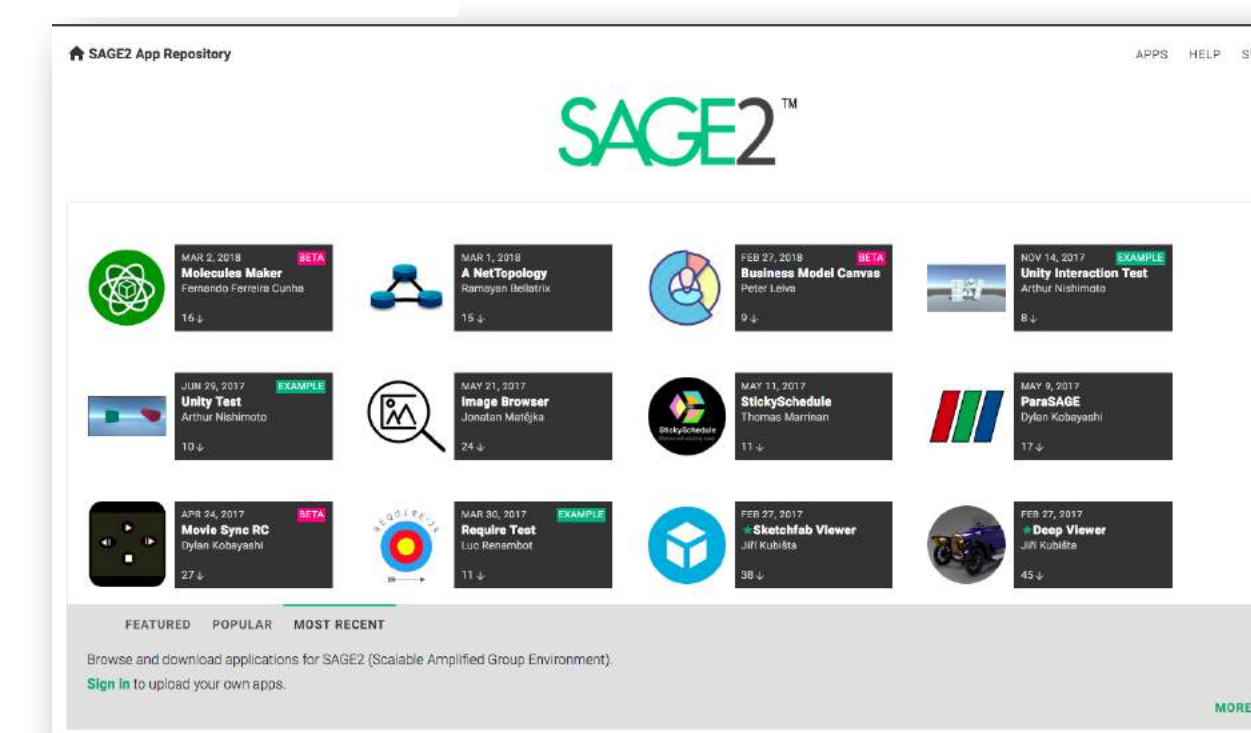
SPEAK TO SAGE2

Interact with a SAGE2 UI wall and/or application using **voice commands**.

RUN UNITY3D APPLICATIONS

Unity3D WebGL applications can be stored in the UI Media Browser with other applications and displayed in the same way—by dragging and dropping a zipped application folder on the SAGE2 web UI.

SHARE SAGE2 APPS

Developers can share applications in the **SAGE2 App Store** and users can easily download an application zip file that drags and drops onto their SAGE2 User Interface to automatically install and use.