Tutorial: Agave ToGo Micro Sites: Phenomenal Gateway Power, Itty Bitty Hosting Space

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***Abstract*—The Agave Platform is an open Science-as-a-Service platform that empowers users to run code, manage data, collaborate meaningfully, and integrate easily with the world around them. A common requirement of many projects, is to provide a single-purpose science gateway that allows project members to collaborate on computational experiments and publish data for external consumption. In this short tutorial, we walk attendees through the creation, branding, configuration, and automated deployment of a single-purpose science gateway based on Agave ToGo Micro Sites. At the end of the tutorial, attendees will have a fully functional, zero maintenance gateway hosted free of charge.**

I. Introduction

The Agave Platform is an open Science-as-a-Service platform that empowers users to run code, manage data, collaborate meaningfully, and integrate easily with the world around them [1]. Since its launch in 2011, users have collectively built a catalog of over 1100 shared scientific codes and used them in hundreds of thousands of simulations on computational resources spanning the globe. A common requirement among new and potential Agave users is how they can get a web interface to securely run their code with their data on their resources and restrict the app to just their usage. Representative examples of these boutique sites are the Drug Discovery Portal [2], the IPT portal [3].

II. Agave ToGo

Agave ToGo is the reference implementation of a science gateway built entirely on top of the Agave Platform [4]. It provides authentication, app management and discovery, job submission, real-time notifications, system registration and monitoring, reliable data transfer, data and metadata management, tagging, data publication, usage tracking, management, and account management, just to start. Agave ToGo is currently implemented as a static web application written in AngularJS [5]. In the coming year, mirror implementations will be released in multiple languages on top of popular web frameworks such as Django [6], Wordpress [7], and Express [8].

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https://gateways2016.figshare.com/

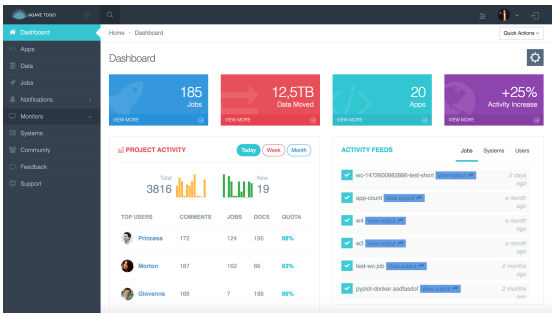

Fig. 1. Screenshot of Agave ToGo.

III. Micro Sites

For users without web development experience, the rich feature set of ToGo can seem overwhelming when all they want to do is provide a simple, streamlined interface to run code and share data. For those users, we recommend Agave ToGo Micro Sites.

Agave ToGo Micro Sites are single-purpose, static web applications that satisfy the basic need of many projects to run code, collaborate, and share results. Each instance is self-configurable, comes bundled with multiple theme and style options, and has a devops best practices built in.

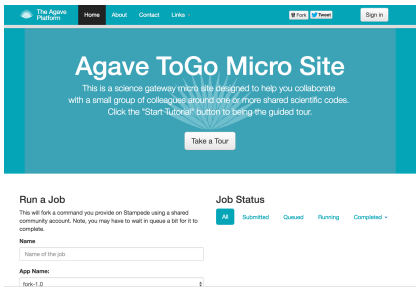

Fig. 2. Screenshot of Agave ToGo MicroSite for running Docker compute containers in the cloud.

IV. Agenda

In this 3 hour tutorial, we walk attendees through the creation, branding, configuration, and automated deployment of a single-purpose science gateway based on Agave ToGo Micro Sites. Attendees will be exposed to current best practices around securing, versioning, testing, and automating the deployment a basic web application. At the end of the tutorial, attendees will have a fully functional, zero maintenance gateway hosted free of charge on GitHub Pages [9].

A detailed agenda for the tutorial is given in Table I below.

Time	Description
09:00 - 09:10	Introduction & ground rules
09:10 - 09:30	Overview: The Agave Platform & Agave ToGo Micro Sites
09:30 - 09:45	Init: Account creation and project checkout
09:45 - 10:30	Ops: Build and deploy your first Micro Site
10:30 - 11:00	Configuration: users, apps, and defaults
11:00 - 11:15	Branding: colors, themes, logos
11:15 - 12:00	Fun & profit: run your first job, invite colleagues

TABLE I
PROPOSED TUTORIAL AGENDA.

V. Participant Requirements

Users should have at minimum, the following requirements in order to effectively participate in and complete the tutorial.

- A laptop with Git installed
- GitHub account
- Basic HTML competency

VI. Recommended competencies

Additionally, participants possessing familiarity with the following technologies may realize additional value from the tutorial.

- JavaScript
- REST and web APIs
- Familiarity with Circle-CI [10]

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