NetApp Software-Defined Core Infrastructure Team-Pitt Capstone Project Fall 2019

Develop an Extendable REST API server and Composite UI Based on Microservices

Project Background

A principle of the Unix philosophy is "*do one thing and do it well*". This is a tenet embodied by the increasingly popular microservice architectural style. The microservice model is commonly associated with the "back-end" of an application. In this style of architecture, the logic behind an application is composed from independent and tightly-coupled microservice pieces.

A shopping website, for instance, might have a microservice for retrieving inventory details, another microservice for managing the shopping cart, and yet another microservice for payment processing. Each piece can be developed independently, and then composed together to form the larger application.

A web UI might act as the "front-end" layer for this application. We usually consider this layer as one large piece of the application—but why can't it *also* benefit from the microservice model? The UI for our shopping application could be broken down into independent pieces (a microservice for the inventory search box, one for the navigation bar, etc...) and recomposed into the web page displayed in your browser!

Project Summary

The students will develop a proof-of-concept, containerized application. The back-end of the application will be composed of microservices responsible for independently handling different sets of REST API requests. Meanwhile, the front-end of this application will be a web UI composed from independent UI microservices. Once complete, this application will be used as scaffolding for future NetApp-Pitt Capstone projects!

Project Details

Over the course of this Capstone project, students will accomplish the following high-level goals:

- Plan and manage their own Agile-style development project.
- Gain real-world experience participating in a collaborative, product-engineering environment
- Research and engage with container technologies, including Docker
- Implement a full-stack application built on a RESTful architecture and microservices

About NetApp

NetApp is the Data Authority in the Hybrid Cloud.

Throughout the world, leading organizations count on NetApp for software, systems, and services to manage and store their data. We help enterprises and service providers envision, deploy, and evolve their IT environments. Customers also benefit from our open collaboration with other technology leaders to create the specific solutions they need.

Our team is passionate about customer success. Our company culture and work environment support that dedication. Together with our global network of partners, we are united in one goal: to help our customers achieve the outcomes that matter most to them. To learn more, visit www.netapp.com.

The project is driven by the Software-Defined Core Infrastructure team which provides the cluster infrastructure to support ONTAP for FAS and software defined environments. The team owns and maintains the clustering software components that drive the core functionality and scalability of ONTAP.

NetApp At-A-Glance

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- Great Place to Work Institute's "World's Best Multinational Workplaces" list
- Great Place to Work Institute's "Best Companies to Work for in APAC" list
- Great Place to Work Institute's "Best Companies to Work for in Europe" list
- FORTUNE Magazine's "100 Best Companies" list
- A FORTUNE 500® Company
- Member of S&P 500 and NASDAQ
- Stock symbol: NTAP
- Close partnerships with global industry leaders.