

Enhance K8S Ingress with Istio Gateway and API Gateway

The proposal period for 2022 internships is now closed
The proposal period for 2023 internships will open in November 2022

This is new project, more information coming soon. If you are interested in this project contact [Lorraine Chapman](#).

Instructions: K8S Ingress, provide Loadbalancing, SSL terminate and Virtual hosting. Istio Gateway will have additional features: Advanced traffic routing, Fault injection and other benefits provided by Istio API Gateway, beside Kubernetes Ingress will provide Traffic routing, API lifecycle management, API operation monitoring, API access authorization, API key management, API transformation and API Billing and Rate limit.

Reference <https://medium.com/@zhaohuabing/which-one-is-the-right-choice-for-the-ingress-gateway-of-your-service-mesh-21a280d4a29c> for related topics introduction.

This project will explore Istio Gate and API Gateway on Azure as basic Kubernetes Ingress enhancement.

Specify the parameters of a new project idea. Project ideas must be suitable for student to complete during a 12 week internship. Projects may contribute a new feature, enhancement, POC to the HPCC Systems Platform or an interesting use case leveraging HPCC Systems. Supply enough information that it is clear what must be included in a project proposal seeking to solve the problem/produce the desired result. Supply links to additional resources and itemise a checklist of deliverables.

Find out about the [HPCC Systems Summer Internship Program](#).

Project Description

More details coming soon.

If you are interested in this project, please contact [Add email link to mentor](#).

Completion of this project involves:

- <4+ high level tasks to be completed>

By the mid term review we would expect you to have:

- <What must be completed to pass the evaluation and continue on to complete the project>

Mentor	<p>Add Mentor Name Add link to Email Address</p> <p>Backup Mentor: Add Backup Mentor Name Add link to Email Address</p>
Skills needed	<ul style="list-style-type: none"><See below some ideas add ones appropriate to the project.>Ability to build and test the HPCC system (guidance will be provided).Ability to write test code. Knowledge of ECL is not a requirement since it should be possible to re-use existing code with minimal changes for this purpose. Links are provided below to our ECL training documentation and online courses should you wish to become familiar with the ECL language.
Deliverables	<p>Midterm</p> <ul style="list-style-type: none"><Deliverable(s) to be achieved> <p>End of project</p> <ul style="list-style-type: none"><Deliverables expected by the end of the internship>
Other resources	<ul style="list-style-type: none">HPCC Systems websiteJIRA issue for this project:Blog: <Where relevant or other online resource>Existing examples: <github links etc>Learning ECL documentation and on-line training courses.