

Cloud Computing - Mini Project Report  
Breaking Down Monoliths  
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## **Short Description and Scope of the Project**

- This problem statement involves breaking down a monolithic application to a microservice architecture.
- We were given a flask app which performs arithmetic calculations.
- That flask application needs to be changed into microservices.
- The given flask application contains all the functions(addition,subtraction) in one container.
- So, if the container is down the whole application won't work.
- So, if we divide that application into different containers, then if a container is down, the whole application won't be unavailable.
- Suppose addition container is down, only that functionality won't work, rest all functionalities work normally.
- This is the advantage of breaking a monolithic application into microservices.

## Methodology

- As the given application is a flask application, we used the Resource class from flask\_restful library to divide it into different containers.
- First there were some changes to be done for the flask application to run.
- After those errors were fixed, we started breaking it.
- For each functionality we created separate directories(containers) and the functionality will be present in that container.
- Each container has its own docker file.
- The landing page routes the application based on functionality using resource class.
- Then we wrote the docker-compose file which executes the required docker files based on the functionalities.

## **Testing**

We have tested the application with different values in every functionality.

## **Results and Conclusions**

Finally we were able to convert the monolithic application into a microservice architecture.

