



# A Cloud Tool to Provide an Aggregated View for Billing



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## Introduction

This project is the development of a cloud tool to aggregate the view for billing. The web application is called Billow.

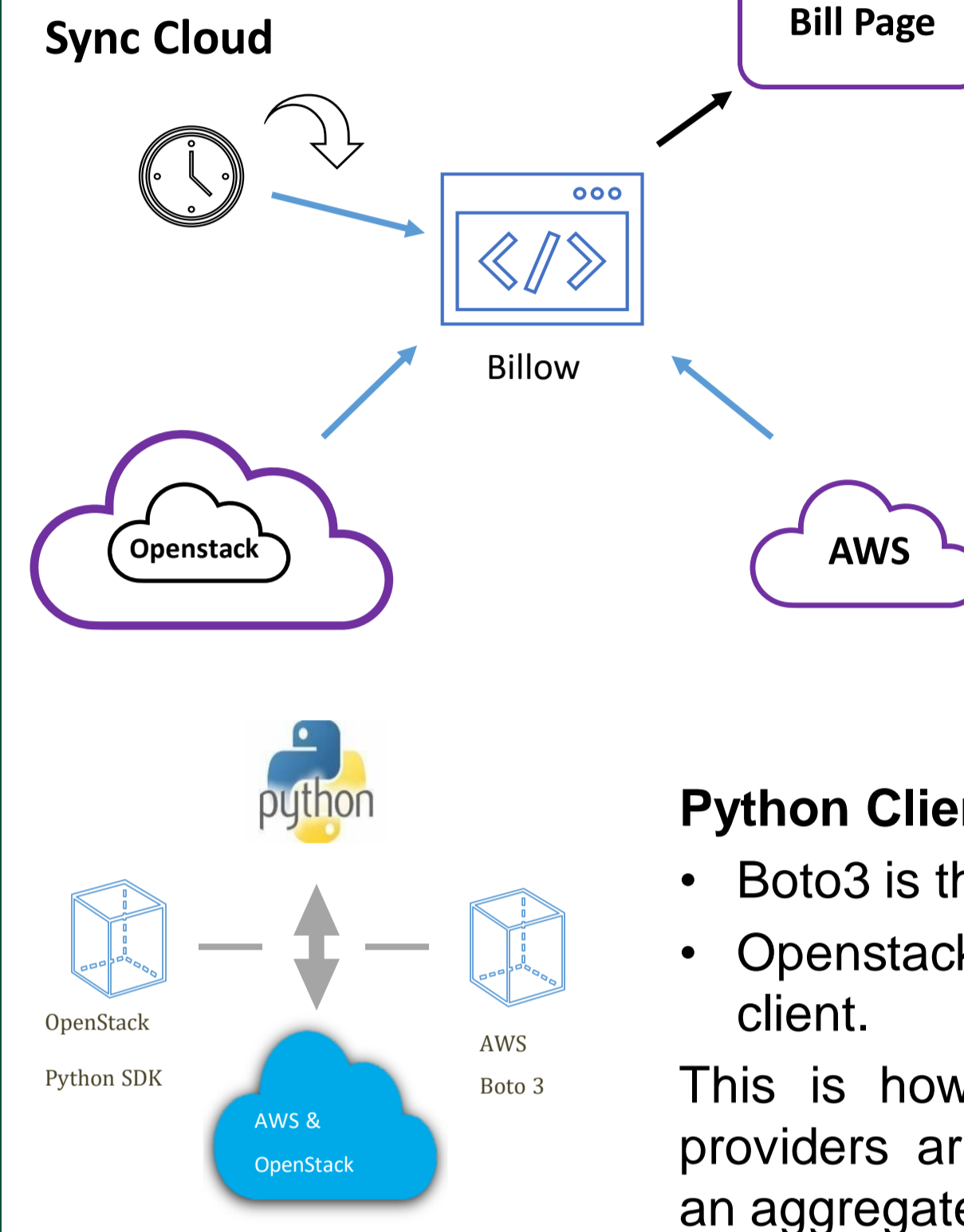
This tool aggregates the billing for instances on AWS a private cloud and Openstack a public cloud.

The tool has the ability to stop, start, create and delete instances. The project uses Django as its web framework and Python API Clients to gather information from AWS and OpenStack.

## Aim

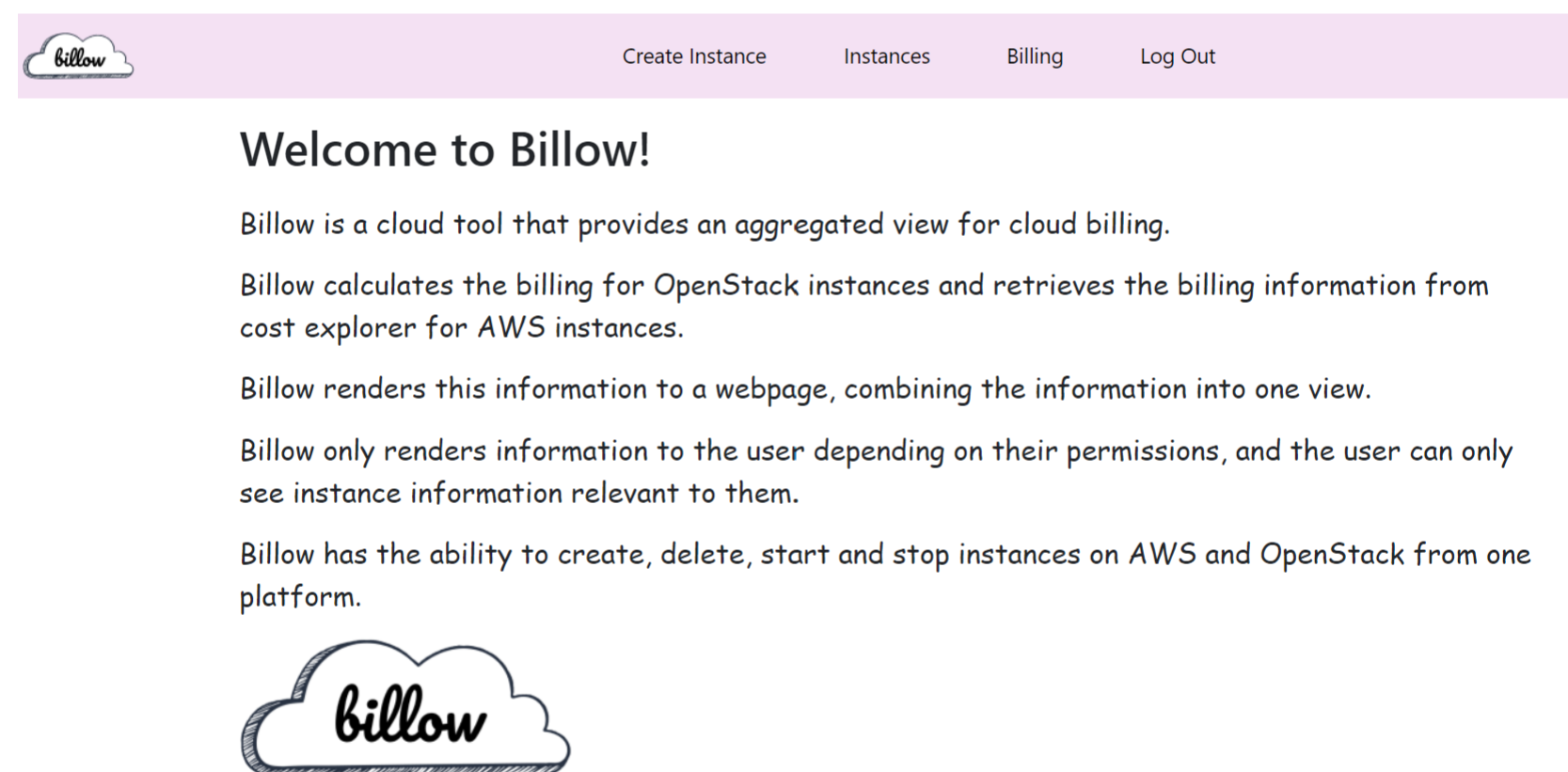
- Create a proof of concept that a tool can be created to aggregate the view for billing.
- Use two different cloud providers.
- Provide an interactive way of viewing an aggregated bill on a platform as currently there are no tools that do this.
- Only allow users to see relevant information when logging into the platform.
- Reduce the hours spent gathering this information manually.

## Method

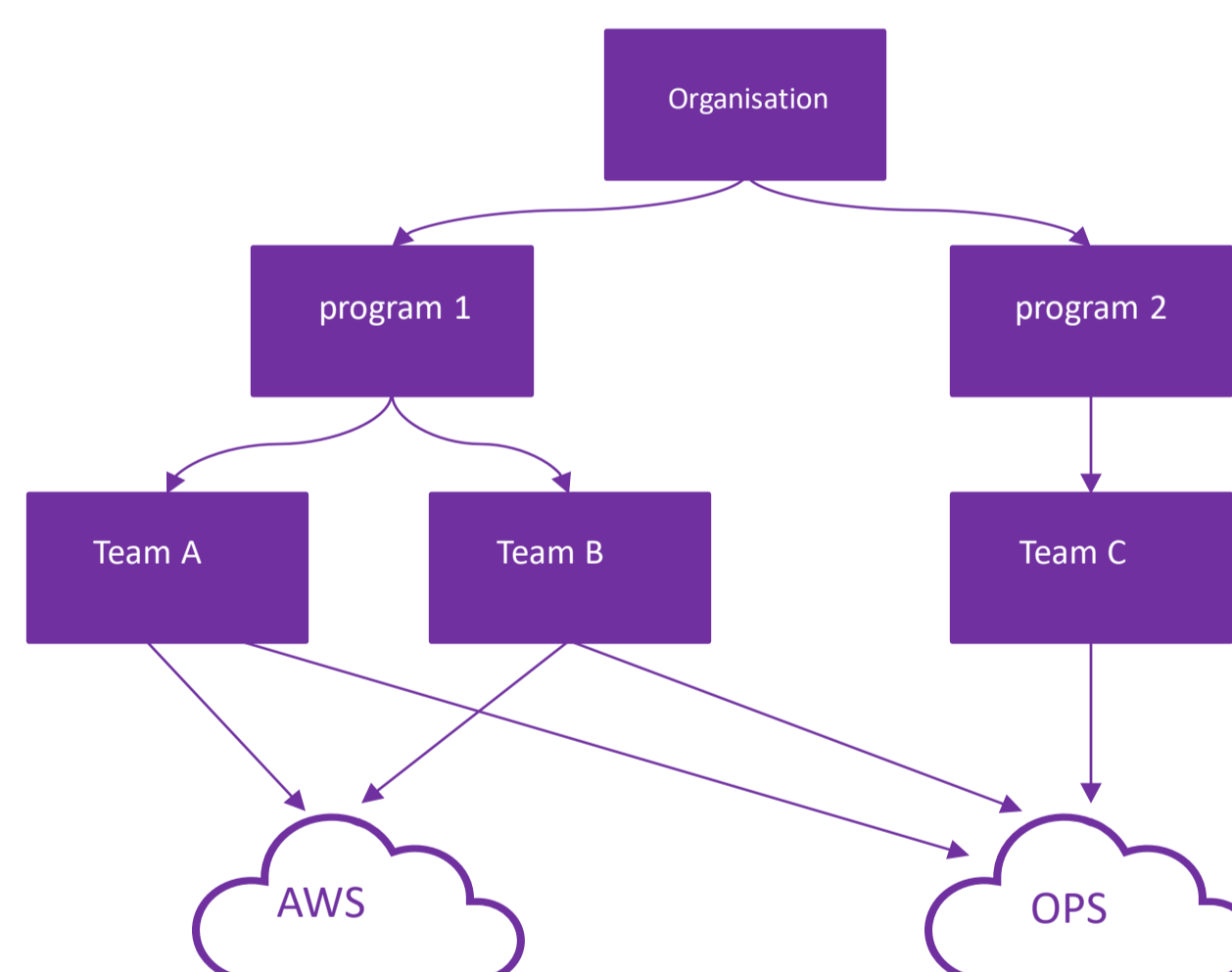


## Results

Here you can see the different functions of the tool:  
Home Page:



The tool only shows information relevant to the user who is logged in. The user profiles and instance association are set up as seen below



### Create a new Instance

Cloud Provider\*  
AWS

Instance Name \*  
[Input field]

Program \*  
Program 1

Team \*  
Team A

Contact\*  
example@gmail.com

User \*  
Brian

Instance Type\*  
t2.micro

Image AWS\*  
ami-0149b2da6ceec4bb0

Key Name\*  
instance1

Reset Submit

The tool has the ability to delete, start, stop and create

Instances: Delete Instance Start Stop

List of instances launched with associated to date costs displayed:

Instances List	Cloud Provider	Program	Team	Flavor	CPU (Total)	RAM (GB)	Storage (GB)	State	Created At	Total Cost to Date
Instance_1	AWS	Program 1	Team A	t2.medium	2	4.2	8	running	2023-02-27 09:47:10+00:00	8.68
Instance_2	AWS	Program 1	Team B	t2.micro	1	1	8	running	2023-02-21 11:22:12+00:00	2.11
Instance_3	OpenStack	Program 1	Team A	t2.small	1	2.1	10	ACTIVE	2023-03-02T12:55:29Z	5.52
Instance_4	OpenStack	Program 1	Team B	t2.micro	1	1	8	ACTIVE	2023-03-02T12:55:50Z	5.52
Instance_5	OpenStack	Program 2	Team C	t2.micro	1	1	8	ACTIVE	2023-03-02T13:00:55Z	5.52

The tool has the ability to produce a bill based on a user inputted time range:

### Create Bill

Start Date  
yyyy-mm-dd

End Date  
yyyy-mm-dd

Reset Submit

Created Bill	Program	Team	Start Date	End Date	Total Cost	Unit
Instance_2	Program 1	Team B	2023-02-19	2023-03-07	2.11	USD
Instance_1	Program 1	Team A	2023-02-19	2023-03-07	6.13	USD
Instance_3	Program 1	Team A	2023-02-19	2023-03-07	3.45	USD
Instance_4	Program 1	Team B	2023-02-19	2023-03-07	3.45	USD
Instance_5	Program 2	Team C	2023-02-19	2023-03-07	3.45	USD
<b>Subtotal</b>	<b>18.59</b>	<b>USD</b>				

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## Conclusion and personal reflection

This project developed a web application to provide an aggregated view for billing, for both AWS and Openstack cloud providers, achieving the aims identified above. To do this I learned how to work with Django and the different python clients. Overall, this was a very valuable learning experience.

## Acknowledgements

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