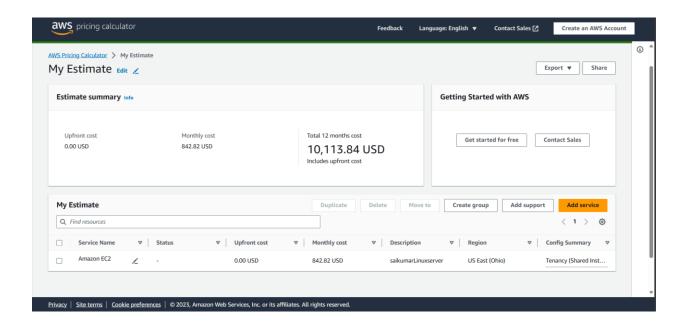
Project 1

Sai Kumar Murarishetti Lewis ID: 30079224

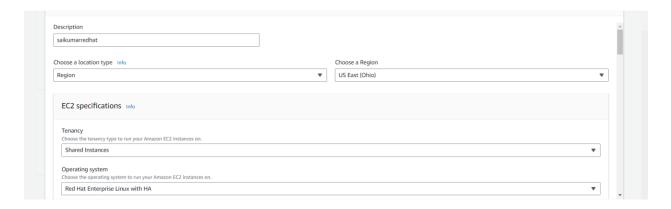
1. Linux server my estimation for 9 servers and EBS 40 GB

https://calculator.aws/#/estimate?id=f72e370c67fcbb43811fb97a33fb30f8de33605e

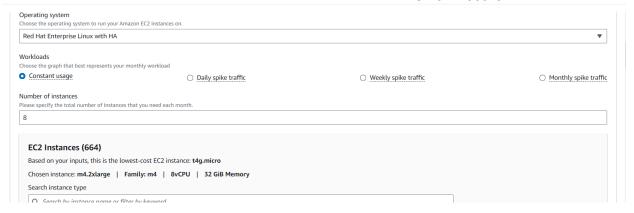


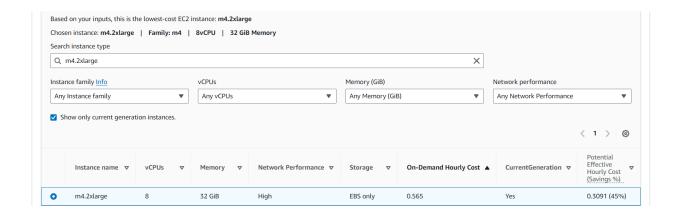
2. Red Hat server my estimation for 8 servers EBS 40 GB.

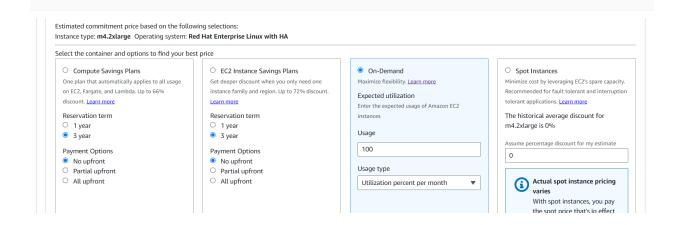
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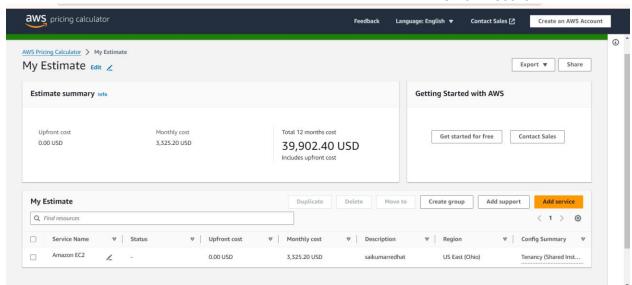
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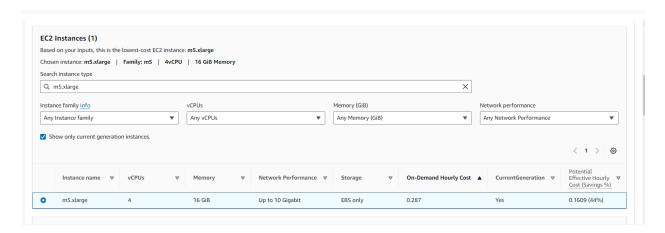


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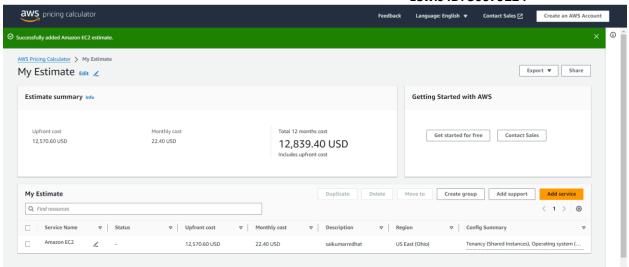


3. Red Hat server and my estimation for 7 server and EBS 40 GB.

https://calculator.aws/#/estimate?id=cbcc295cc6021a175865ab925d2c11b5a7882aa4

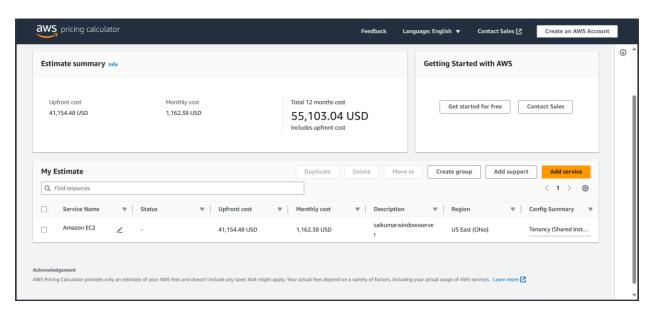


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4. Windows server and my estimation for 6 server and EBS 40 GB.

https://calculator.aws/#/estimate?id=cd3be98463c2aa606c631bb0065511929e3748bd



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Addition answer:

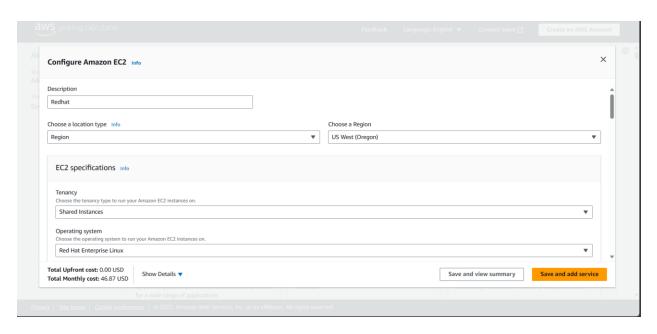
a. The pricing of 1-year and 3-year reserved instances differs, as does the operation of reserved instances.

Difference in Cost:

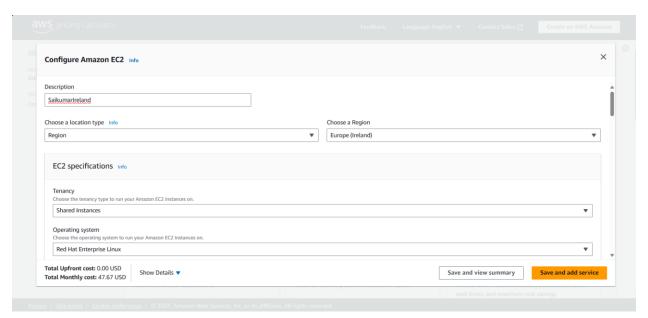
The price for a 3-year reserved instance is usually less than that of a 1-year reserved instance. This is due to the reason that a three-year commitment allows for a larger upfront payment, which over the longer period results in greater cost savings. How Reserved Instances Operate: Reserved Instances entail a fixed-term (1 or 3 year) commitment to a particular instance type in a given region. Users get a big discount over ondemand pricing in exchange for this commitment. Capacity assurance is provided by reserved instances, which guarantee that the designated instances will be available even during periods of high demand.

b. AWS calculator

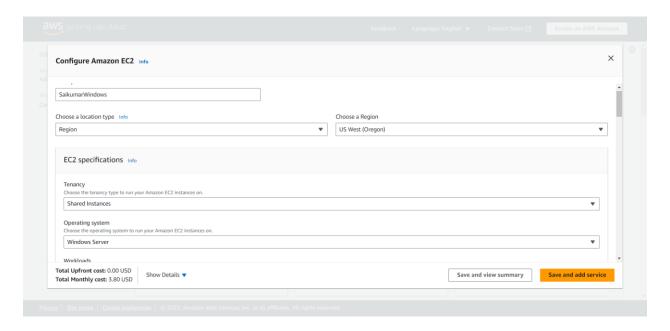
1. Red Hat Linux server (Oregon).



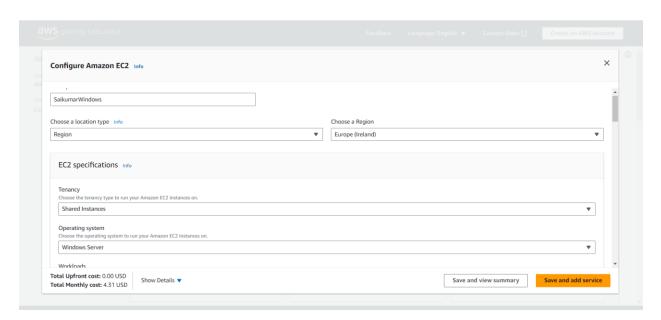
Red Hat Ireland location.



2. Windows Oregon.



Windows server (Ireland Location)



- 3. The plan for different location varies for 1 dollar in REDHAT where the US west (Oregon) is 46.87 and Ireland is 47.87 and in Windows the price increase in Ireland by 0.51 where the price in Oregon (3.80) and Ireland (4.31).
- 4. Yes, it increases depends on the region, has we on observed in above question where we change the location from Oregon to Ireland the price increase by 1 dollar with same number of server and configuration.
- 5. The windows EC2 is **More Expensive** than Red Hat as we observed in **Project#1** table item 3 and 4 windows server and REDHAT. There is straight price difference. Reserved instances, spot instances, on-demand pricing, and other factors might affect the cost of using AWS, which modifies its pricing often.

c. Partial Upfront:

Involves reducing monthly fees by paying some of the instance cost upfront. people who wish to find a balance between one-time purchases and regular monthly bills can consider this option.

Full Upfront:

Requires an upfront deposit of the whole instance cost there are no ongoing monthly fees. This option has a higher upfront cost but offers the greatest total cost reduction over the time.

d. Spot Instances and Their Applicability to Applications That Run 24/7/365:

Spot Examples:

Spot instances offer more affordable spare EC2 capacity than on-demand instances. This idle capacity is bid upon by users, and instances are closed if the spot price is higher than the bid. Applications that can withstand interruptions and are fault-tolerant should use Spot Instances. 24x7x365 Use Cases.

Spot instances we can save money, but they might not be appropriate for applications that need to run without interruption all the time. If AWS needs the capacity back, Spot Instances can be terminated quickly. Reservable or on-demand instances are advised for applications that need to be available constantly.

Project 2

a. Cloud Service Model Selection:

For a small startup with a focus on Java and Python development, the most suitable cloud service model would be **Platform as a Service (PaaS).**

Explanation:

- laaS (Infrastructure as a Service): Involves managing infrastructure components like
 virtual machines, storage, and networking. It might be more than what a small startup
 needs, especially when the primary focus is on development rather than infrastructure
 management.
- PaaS (Platform as a Service): Provides a platform that includes runtime environments, development frameworks, and other tools. Developers can focus on coding without dealing with underlying infrastructure complexities.
- SaaS (Software as a Service): Offers complete software applications over the internet, but it might not be suitable for a startup that wants more control over the development process.

b. AWS Elastic Beanstalk vs. Google App Engine:

• AWS Elastic Beanstalk:

• **Description:** AWS Elastic Beanstalk is a fully managed service that simplifies the deployment and management of applications.

Features:

- Supports multiple programming languages, including Java and Python.
- Automatically handles capacity provisioning, load balancing, and application health monitoring.
- Developers just need to upload their code; the platform takes care of the underlying infrastructure.
- Can be used with other AWS services to enhance functionality.

Google App Engine:

• **Description:** Google App Engine is a serverless PaaS offering that allows developers to build and deploy applications without managing the infrastructure.

• Features:

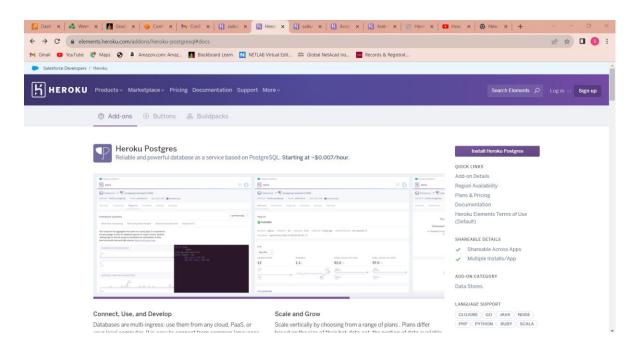
- Supports multiple programming languages, including Java and Python.
- Automatically scales applications based on demand.
- Provides a fully managed environment, allowing developers to focus solely on building applications.
- Supports real-time collaboration and version control.

c. Heroku:

Description:

- Heroku is a cloud platform that simplifies the deployment, management, and scaling of applications.
- Supports various programming languages, including Java and Python.
- Abstracts away infrastructure concerns, allowing developers to deploy applications with minimal configuration.
- Offers add-ons, databases, and a marketplace for additional services.
- Particularly popular for its ease of use and quick deployment capabilities.

1. Heroku Postgres.



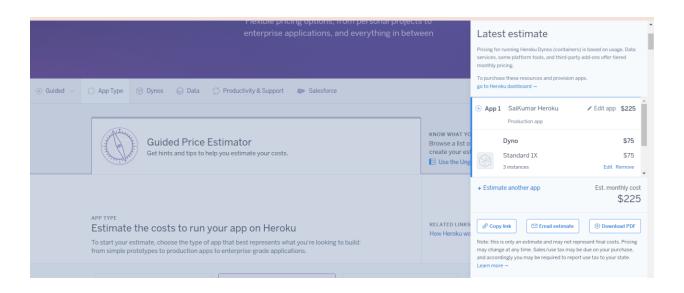
Sai Kumar Murarishetti Lewis ID: 30079224

2. Region availability



d. Plans and Pricing for standard 3 number of Dynos 3 with Heroku Postgres 3 instances Standard type.

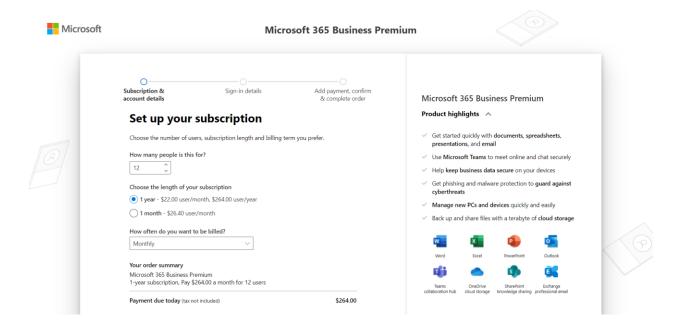
https://www.heroku.com/pricing/estimates/57ee73cfa8aa5974f3cc359e4b266323fffc96b260 225f5b953d3614b646c140



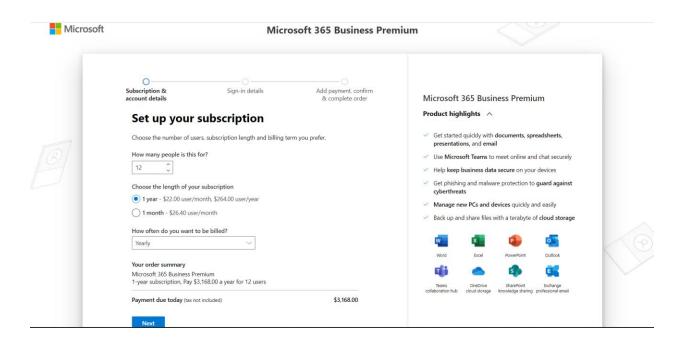
Project 3

a)

1. Microsoft.



2. Microsoft for Yearly.



b) LibreOffice vs. Google Docs and Sheets:

LibreOffice:

- LibreOffice is an open-source office suite that includes applications for word processing, creating and editing spreadsheets, slideshows, diagrams, and drawings.
- It is a free and open-source alternative to commercial office suites.
- Offers compatibility with Microsoft Office formats and supports a wide range of file types.
- Suitable for users who prefer offline office applications without the need for an internet connection.

Google Docs and Sheets:

- Google Docs and Sheets are part of Google Workspace (formerly G Suite) and provide cloud-based solutions for word processing and spreadsheet creation.
- Documents and spreadsheets are stored in the cloud, allowing collaborative editing in real-time.
- Accessibility from any device with internet access.
- Integration with other Google Workspace apps for seamless collaboration.

Comparison:

- **LibreOffice** is suitable for users who prefer offline office applications and have no need for real-time collaboration. It's a robust, free alternative to Microsoft Office.
- Google Docs and Sheets are cloud-based solutions, emphasizing collaboration and accessibility.
 They are ideal for teams that need real-time collaboration and the flexibility of working from any device.