# Wyndo Environment Proposal

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Introduction

This document contains a Staging and Production environment proposal in the AWS Cloud for Wyndo project. First, the architecture proposed is described, second, the tasks list needed to build these environments is shown inside a table with the time needed to accomplish each one, finally, every AWS service cost required for this project is detailed.

Environments

Image below displays the architecture proposal for the Production environment inside the AWS Cloud.
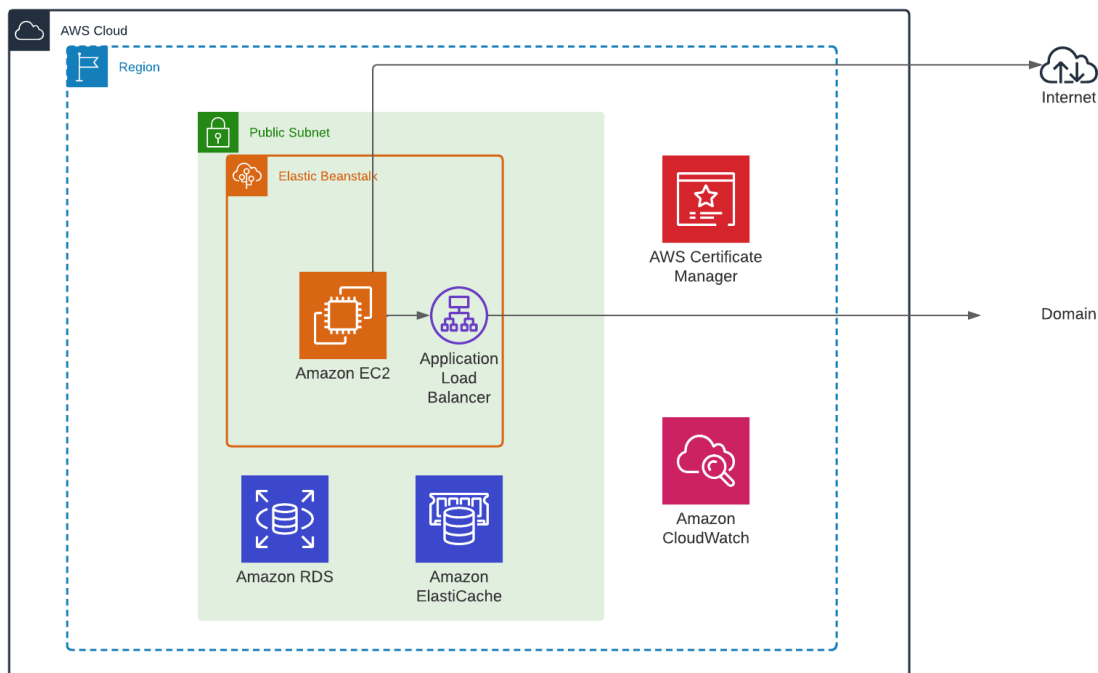
Elastic Beanstalk

Is a cloud deployment service provided by Amazon Web Services. It facilitates the deployment and scaling of web applications and services by automating the creation of individual infrastructure components, including EC2 instances, auto-scaling, ELBs, security groups, and other infrastructure components. Using the AWS Management Console and command-line interface, deployment with EB is quick and simple. Although EB automatically handles your

application's deployment, the developer retains complete control of the AWS resources that run the application and may access them at any time. This is important, and it is a top benefit of using this service.

Application Load Balancer

Complex modern applications have several server farms with multiple servers dedicated to a single application function. Application load balancers look at the request content, such as HTTP headers or SSL session IDs, to redirect traffic.

Amazon RDS PostgreSQL

PostgreSQL has become the preferred open source relational database for many enterprise developers and startups, powering leading business and mobile applications. Amazon RDS makes it easier to set up, operate, and scale PostgreSQL deployments on the cloud. With Amazon RDS, you can deploy scalable PostgreSQL deployments in minutes with cost-efficient and resizable hardware capacity. Amazon RDS manages complex and time-consuming administrative tasks such as PostgreSQL software installation and upgrades, storage management, replication for high availability and read throughput, and backups for disaster recovery.

Amazon ElastiCache

Amazon ElastiCache for Redis is a blazing fast in-memory data store that provides sub-millisecond latency to power internet-scale real-time applications. Built on open-source Redis and compatible with the Redis APIs, ElastiCache for Redis works with your Redis clients and uses the open Redis data format to store your data. Your self-managed Redis applications can work seamlessly with ElastiCache for Redis without any code changes.

Amazon Cloudwatch

Amazon CloudWatch collects and visualizes real-time logs, metrics, and event data in automated dashboards to streamline your infrastructure and application maintenance.

AWS Certificate Manager

The other AWS service required is AWS Certificate Manager to provide SSL (Secure Sockets Layer) certificates for ensuring security at transit.

Costs

The next table contains a cost estimation of the AWS service needed to implement the infrastructure described in the previous section, these costs are per environment:

Service	AWS Costs (USD)
EC2 t3a.medium	$35.44
Amazon ElastiCache	$32.12
RDS PostgreSQL	$36.42
ALB	$24.24
Amazon Cloudwatch	$.30
Total	**USD $128.52**

Estimation using
https://calculator.aws/#/estimate?id=4c6af8992f339ed8ff3afc963eb64dbffdfa574a

Tasks

The following tasks are the configurations and activities that the DevOps team will be performing during the Development lifecycle; ==This estimate will only be for the development environment==:

DevOps Tasks	Hours
Create VPC, subnets, route tables, security groups	24
Configure EB	24
Create an Amazon RDS database	4
Create ELB	6
Configure AWS Certificate Manager	4

==The execution times for QA and Production environments will be **31 hours**==.

NOTE 1: These estimates include the setup of the QA environment.
NOTE 2: These estimates are for the Production environment. Staging is suggested to be a replica and therefore cost as much.