Setting up a DevOps environment for developing a React-Django-PostgreSQL application - Bobcares

### PREPARED FOR:

Sangeetha Naik

### PREPARED BY:

Bobcares DevOps Team

14 Aug 2023

### Sangeetha Naik

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Dear Sangeetha,

Re: **DevOps Use cases - development environment**

Please find enclosed our detailed software proposal for your kind consideration.

At Bobcares, we know that creating client-oriented software takes a mixture of technical excellence and clear communication. Our firm hires only the very best to ensure you receive both. We know that every client is unique and we strive to deliver an individual, innovative and affordable proposal every time and to follow it through with an outstanding delivery that is both on time and within budget.

We have over 23 years of experience in software development and technical support for a plethora of clients. Please let us know if you would like to get in touch with our existing clients from whom you will receive nothing but positive endorsements. You can also review our website at bobcares.com to see our portfolio of previous work and learn more about our organisation.

We also pride ourselves on our after-sales client care including our guarantees, staff training and dedicated/shared support.

Finally, we realize that you are very busy and wanted to thank you in advance for your time spent reviewing our proposal.

Yours Truly,

Bobcares

ABOUT   
BOBCARES

Software development is a crucial aspect of the IT industry and plays a significant role in the smooth functioning of businesses. At Bobcares, we understand the importance of software development and have a team of experienced professionals who are well-versed in various programming languages and technologies.

Our software development team works on a wide range of projects, including custom software development, website development, mobile app development, and more. We use agile methodologies and follow a structured approach to ensure the timely delivery of high-quality software solutions.

In addition to software development, we also have expertise in DevOps. Our DevOps team works closely with our software developers to ensure that the software solutions we deliver are reliable, scalable, and easy to maintain. We use various tools and technologies to automate the software development process and ensure that our solutions are delivered quickly and efficiently.

Our software developers have expertise in various programming languages, such as:

* PHP
* Python
* Dart
* React
* Go (GoLang)
* Node.js

They also have experience in using various frameworks and libraries to build scalable and secure software solutions. The team has a proven track record in a plethora of CMS and frameworks, not limited to:

* Drupal CMS (8/9/10)
* Wordpress CMS
* Joomla CMS
* Magento e-Commerce
* OpenCart e-Commerce
* Laravel PHP Framework
* Codeigniter PHP Framework
* ReactJS
* AngularJS
* React Native
* Flutter
* Ionic Capacitor

We also worked on several enterprise projects built in Drupal for a major healthcare provider based in US, with projects such as:

* Customized Survey Forms
* Customized Portals for specific applications
* Custom designed websites and functionalities.
* Learning Management System for internal training

We believe in staying up-to-date with the latest technologies and trends in the software development industry. Our team regularly undergoes training and certification programs to enhance their skills and knowledge.

At Bobcares, we prioritize the satisfaction of our clients. We have a customer-centric approach and work closely with our clients to understand their requirements and deliver solutions that meet their specific needs. Our software development team ensures that the software solutions we deliver are user-friendly, easy to use, and meet the highest quality standards.

In addition to custom software development, we also offer maintenance and support services to ensure that our client’s software solutions remain stable and reliable. Our team is available 24/7 to provide timely support and resolution of any issues that may arise.

In summary, Bobcares is a reliable and trusted partner for all your software development needs. With a team of experienced professionals, expertise in DevOps, and a customer-centric approach, we strive to deliver high-quality software solutions that meet the specific needs of our clients.

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# 1. Project Overview

Bobcares is proposing to setup the development environment for the new application. The application will be using a React frontend, Django application and a postgress database. The goal is to build the application on a DevOps based approach and to use DevOps methodology in building and deploying the application.

Bobcares proposes to setup the development environment first to design the application. Once the application architecture has been finalized a new project will be proposed for setting up the stage and production environments. The stage and production environments will be designed with DevOps methodology in mind. This will enable faster and more reliable delivery of new features and updates to the application.

By adopting this approach, the Service Owners can expect to see significant improvements in the speed and efficiency of their development process, resulting in faster feature releases, improved code quality, and ultimately, a better product for their customers.

# 2. Service Description

Bobcares offers the following services as part of this project:

* **Create AWS account and logins**
  + Create the AWS account to host the project. Identify various users that will be working on the project and created individual access
* **Design the VPS for frontend, backend and database**
  + We will design the VPS that will host the React frontend, Django backend and PostgreSQL database for the application, taking into account devops requirements and security.
* **Setup GitHub account**
  + Setup a GitHub account for hosting the application code.
* **Terraform template**
  + Design Terraform template for launching the instances in the development environment
* **Setup pgAdmin4**
  + We will provide a pgAdmin web GUI for management of the postgres database.

These steps will help ensure that your application is thoroughly tested and that any issues are identified and addressed before deployment. By implementing these best practices, you can improve the quality and reliability of your application and deliver a better experience to your users.

## 2.1 Terminology

We'll be using some specified terms throughout the project to explain different sections of the development. Some of them are listed below

1. **Service Owners**: The System Admin(s) of the application or the support team which is controlled and monitored by them.
2. **Stakeholders**: The different sets of teams that are involved in the application and platform’s working.
3. **DevOps**: A set of practices that combines software development and IT operations to shorten the systems development life cycle and provide continuous delivery with high software quality.
4. **CI/CD pipeline**: A Continuous Integration/Continuous Deployment pipeline, which automates the process of building, testing, and deploying software.
5. **AWS**: Amazon Web Services, a cloud computing platform that provides a wide range of infrastructure and application services.
6. **Expected results**: The expected outcome of a test, which is used to determine whether the test has passed or failed.
7. **Selenium WebDriver:** An API for controlling web browsers through programs and performing browser automation.
8. **Assertions**: Statements that verify whether the actual result of a test matches the expected result.
9. **Deployment conditions**: Conditions that must be met before an application can be deployed, such as all tests passing.

# 3. Scope Limits

1. Additional Development is not included in the scope.
2. This scope is limited to the Laravel application discussed at the start of this project..
3. This scope only considers a singular test case.
4. The scope does not include services or features not mentioned in the project overview and service description.
5. All requirements (both specified and implied) would be recorded and documented during the initial stages of the project. Once the document is approved by Poornam, no further feature addition or changes will be accepted as a part of this project.

# 4. Project Terms & Conditions

## Quality Assurance

Our quality processes are aimed at making the deliverable highly qualitative and meeting the client's expectations, in addition to accepted standards. The process starts with the requirement analysis phase and runs as an integral part of the development process.

### Quality Control Process

The Testing team validates the developed build extensively before it is delivered to the client. The deliverable is tested for

1. Functionality
2. Performance
3. Security
4. User Acceptance (commonly known as User Acceptance Testing/UAT)

## Technology Stack

We will use the following technology stack for the implementation of the project:

1. **AWS**: Amazon Web Services, a cloud computing platform that provides a wide range of infrastructure and application services.
2. **React:** React is a free and open-source front-end JavaScript library for building user interfaces based on components.
3. **Django:** Django is a free and open-source, Python-based web framework that follows the model–template–views architectural pattern.
4. **Postgres**: PostgreSQL, also known as Postgres, is a free and open-source relational database management system emphasizing extensibility and SQL compliance.
5. **Terraform**: Terraform is an infrastructure-as-code software tool created by HashiCorp.

# 5. Cost and Timeline

The total cost to build this platform will be **USD 645** and the total timeline to build this platform will be **1-2 weeks**

| **Description** | **Net Cost** | **Deliverable ETA** |
| --- | --- | --- |
| DevOps Setup | **$645** | 2 Weeks |

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# **Preconditions**

* 1. The client will provide necessary access to the GitHub repository
  2. The application should be cloud-native. Cloud-native applications are designed to run on cloud infrastructure and are typically built using Cloud Native languages and technologies that are well-suited for cloud environments.
  3. The quote given is as per Bobcare's understanding of the requirement. During the initial discussion, there could be minor variations in the scope or requirements, which will have an impact on the project estimates. Based on past experience in similar-sized projects the change in quote value will be within **+/- 15%** of the quoted amount.

# Project Delivery and Acceptance

The project is delivered as multiple deliverables as follows:

1. The Development environment consisting of the 3 instances, for frontend, backend and database.
2. The Terraform template to deploy the development environment.

Bobcares DevOps team shall inform the client post each phase of the project with requests for feedback or clarification. Any delays in client reviews of phases will further incur delays in subsequent phase releases, thereby extending the project delivery.

# Support and Maintenance

After the Live release there will be a 14-day free service period where the Client (Poornam) could open requests to the Vendor’s (Poornam) DevOps team for the correction of errors noticed during the 14-day period. After a 14-day period, the requests opened will be handled separately at an hourly rate of $35/hour.

# Late Delivery and Penalty

In case of delayed delivery except for Force Majeure Causes, the Service Provider shall pay the Buyer for every week of delay a penalty amounting to 1% of the total value of the project whose delivery has been delayed. Any fractional part of a week is to be considered a full week. The total amount of penalty shall not, however, exceed 5% of the total value of the project. If the delay is more than 15 weeks, the Buyer is entitled to terminate the contract. Vice versa, in case the Buyer delays the approval, feedback, or payment due to the Buyer's reasons, the Service provider will not be responsible for late delivery.

# Invoicing and Payment

Bobcares will invoice Poornam in accordance with the schedule given below.

* 50 % of the net cost of the model/option chosen at the time of contract signing.
* 25 % of the net cost of the model/option chosen on completion and acceptance of Demo/Beta Release.
* 25 % of the net cost of the model/option chosen on completion and acceptance from Poornam of the production release.

Bobcares accepts the following modes of Payment

* Bank ACH Transfer / Wire Transfer
  + Account Type: Business Checking account
  + Account name: Poornam Inc
  + Account number: 457008615370
  + Routing number: 122101706 (paper & electronic), 026009593 (wires)
  + Swift Code: BOFAUS3N

IN WITNESS WHEREOF, the Parties hereto have executed this agreement in duplicate on the dates set forth below.

**CLIENT SERVICE PROVIDER**

**Poornam Bobcares**

By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_