OpenShift Developer Distance Learning Program (EMEA) – Homework Assignment

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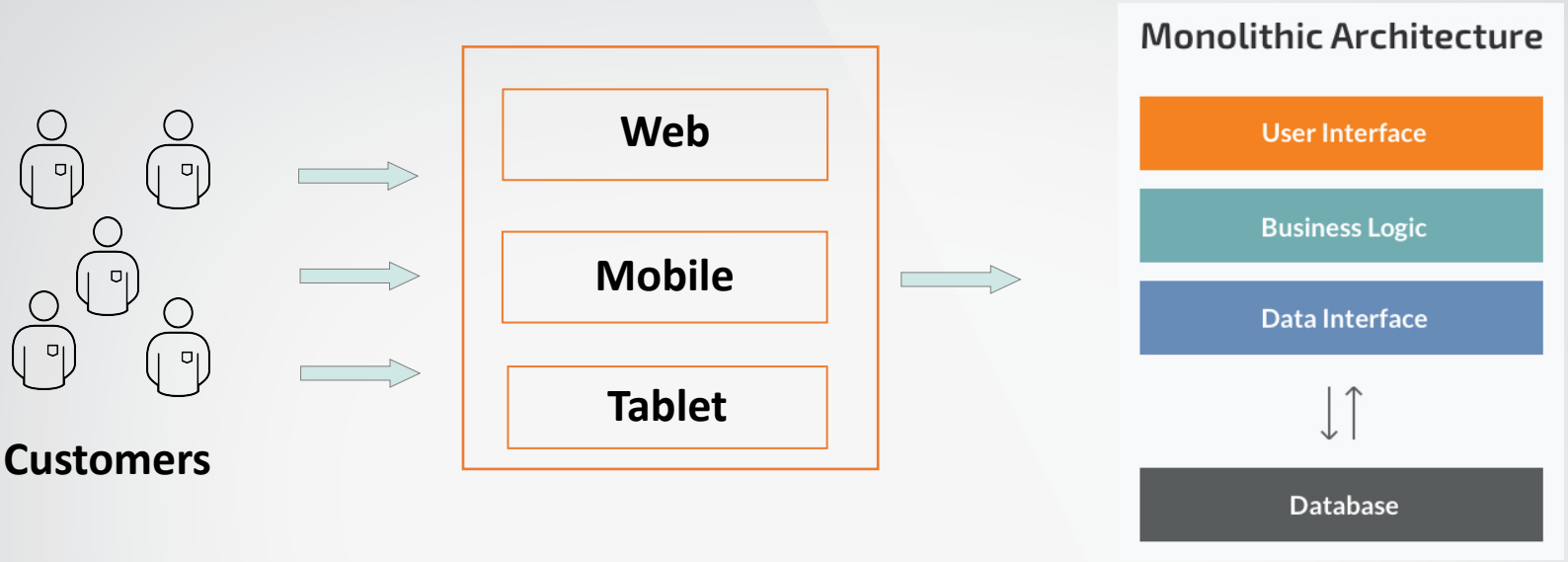
Use Case

Personal Loans

PERSONAL LOANS



- A lot of customers access through multiple platforms to apply for a personal loan.
- Customers expect to have secure access to their financial information.
- When a personal loan process is starting this need to know of previous operation, and the current operation can be affected by what happened previously. A personal loan request include a customer analysis, credit risk, loan contract, financial accounting and reporting, and debt collection process.
- The request to personal loan must be fault tolerance and high availability.
- Banks need to adapt or they will become obsolete. Banks should be quickly and securely adapting to new customer demands.

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Solution

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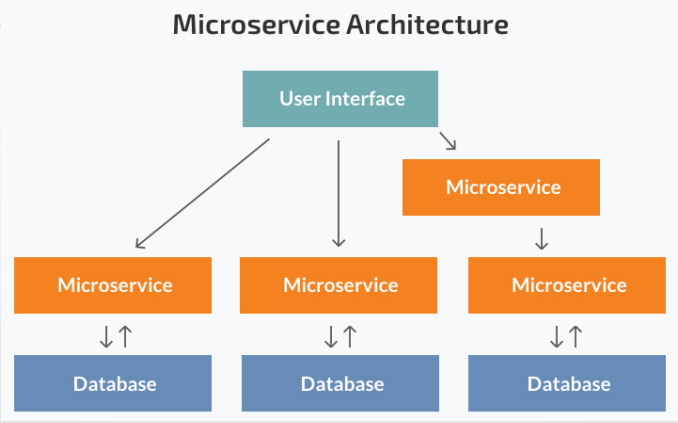
SOLUTION

First, monolithic architecture should be convert to Microservice Architecture. Each microservice of each module should be containerised and scalable, so as demand grows from customers, can add instances of a service.

To maintain the service available to possible problems is necessary develop applications quickly and easily and putting the advantages of the cloud to use in the bank. We need define a replicasets to ensure a specified number of pods are running at any given time. Services provide internal load-balancing, scalability and service discovery across pods.

Installing, upgrading and operating mechanism should be improvement. Continuous integration and deployment testing are very important in this case. Create a OpenShift Pipeline can benefit when developers deploy microservice in developer, pre-production or production environment. Avoid multiple problems with deployments, so risky in banking environment. We need define deployments and deployment configurations to define how to roll out new versions of pods. A daemonset ensures that all or some nodes run a copy of a pod



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Architecture Diagram

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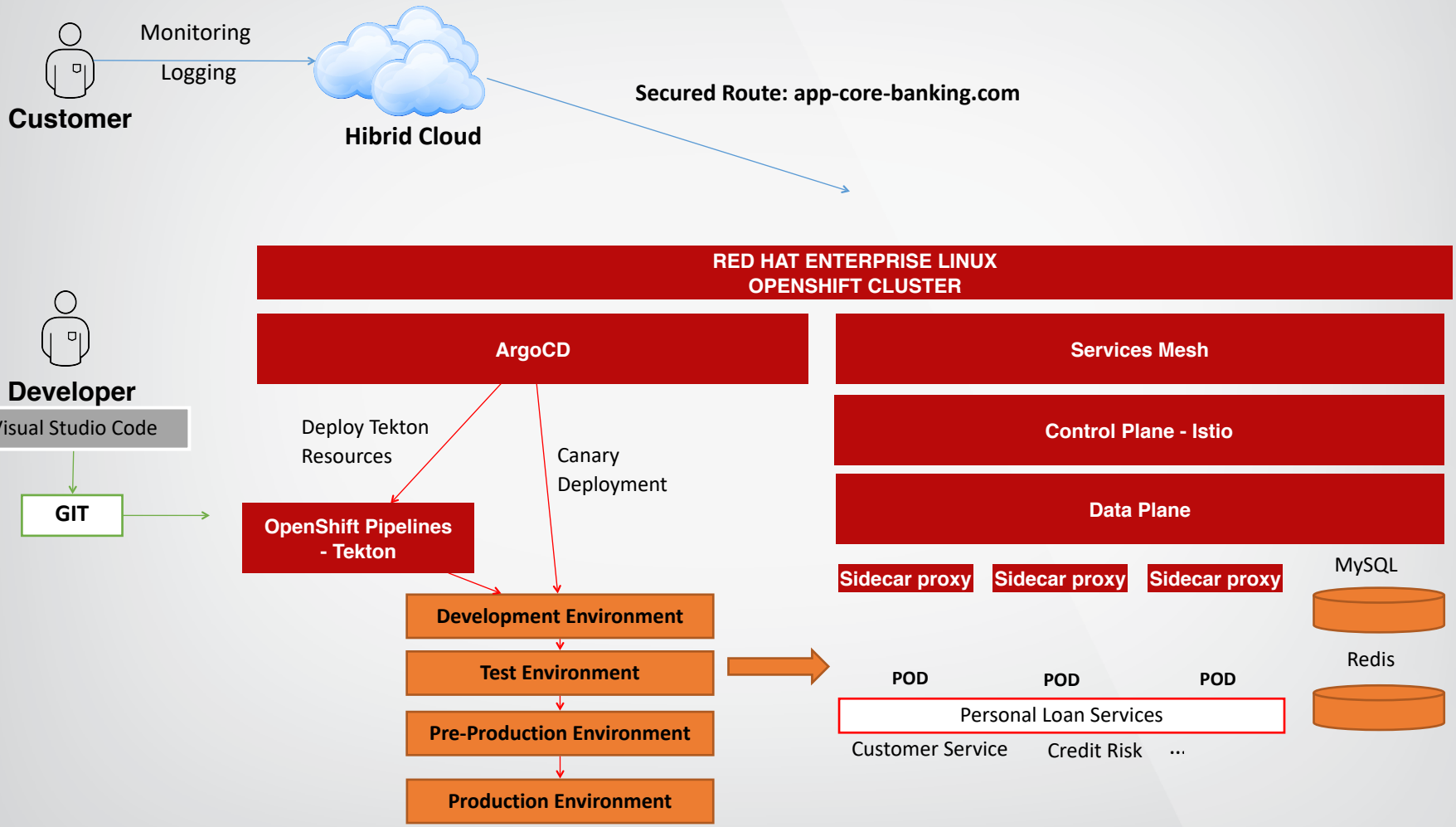

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Benefits of solution

Benefits of Solution

Building secure applications that ensure data privacy and security when deployed to a cloud environment is crucial for businesses that treatment customer data. With the move toward microservice architectures and containerization, technology such as service mesh may be useful in the context of a data privacy service. Traffic rules inside the service mesh are set up such that all traffic is intercepted by proxy, which enforces security between services.

Red Hat OpenShift Service Mesh gives us an easy way to create a network of deployed services that provide load balancing and fault recovery. Applications are more resilient to downtime. The network can redirect requests so that they do not reach the failed services. Also the bank process is fully observed, monitored, traced. The security is other main point. It offers secure service-to-service communication in a cluster with strong identity-based authentication and authorization.

This solution allows managing services implemented with different frameworks and / or programming languages.

This solution provides the best experience for developers who want to build containerized apps on the platform, in order to make quick deployment and rapid application development to possible errors. Developers focus on coding for business, not infrastructure requirements. Canary deployment is a method to deploy a new version of an application only to a small subset of servers. If an error would be introduced in a new release, it will affect only a small part of users. Also, this type of deployment is most of the time composed of multiple steps, that means it is possible to validate a new version without impacting all users.

In the future, it facilitates the possibility of increasing communication channels to the Banking API by, example wearable or voice technology, increasing the demand of request. And if customers consume more loan personal service, new nodes are added to the cluster automatically and the platform is automatically updated.

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THANKS!!!