AWS Well-Architected Framework Serverless Applications

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1. Advantages in a Cloud Environment

- Consistent approach to architecture evaluation;
- Improved awareness (consciêntização) of architectural best practices;
- Data driven;
- Eliminate negances;
- Estimating capacity;
- Tests are carried out on a production scale;
- Allows the creation and evolution of architecture;
- Game Days.

2. Common uses of Well-Architected

- Native Cloud Architectures;
- Build a knowledge (conhecimento) base to mitigate technical failures and risks;
- Use as a standardization and governance mechanism before production;
- Compare maturity between teams, systems and products;
- Present to the market characteristics of due-dilligence.

3. Layers - Serverless Applications

- Compute Layer;
- Data Layer;
- Messaging and Streaming Layer;
- User management and Identity Layer;
- Edge Layer;
- Systems Monitoring and Deployment;

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4. Deployment Approaches

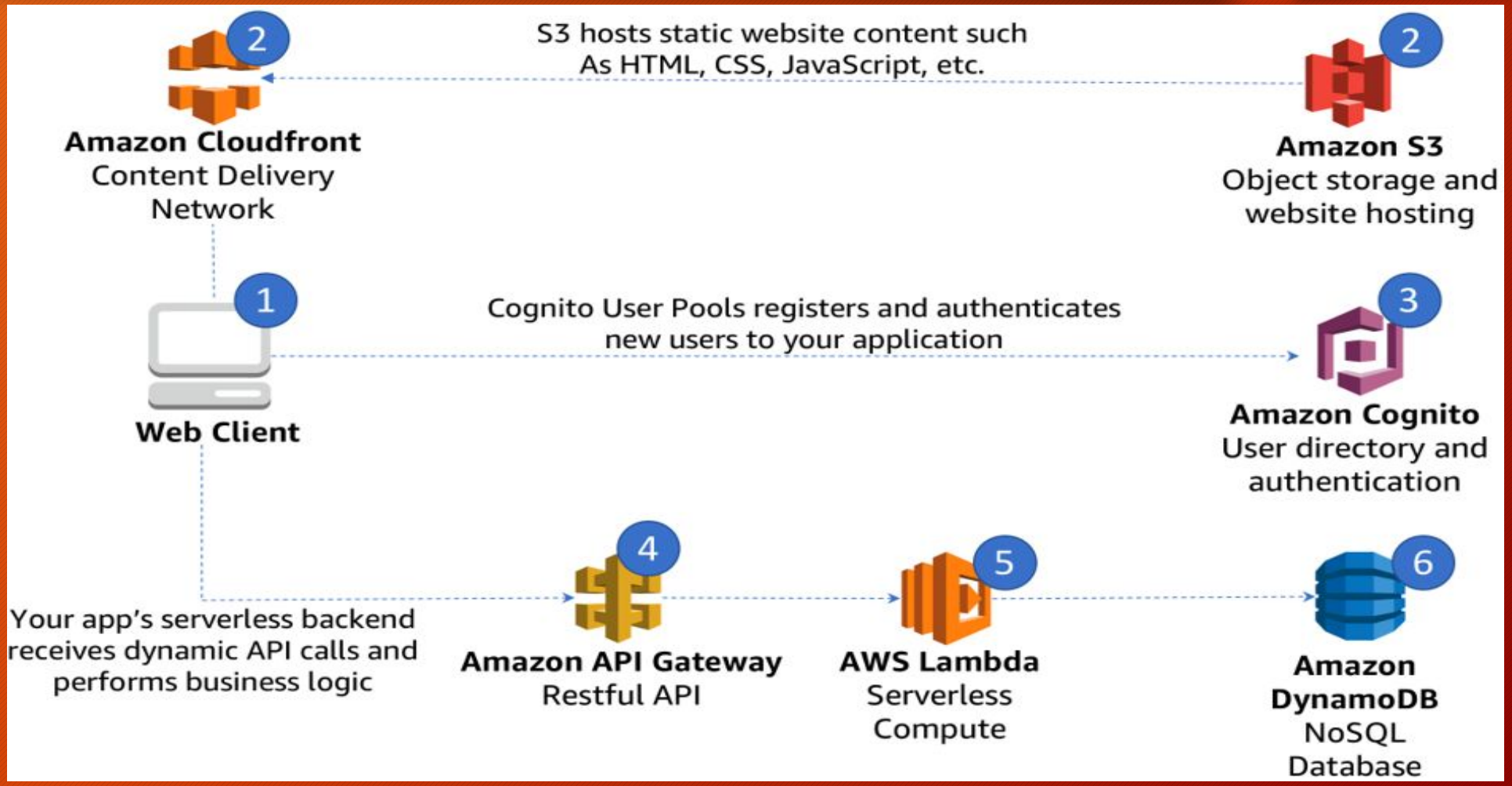
- All-at-once Deployments;
- Blue/Green Deployments;
- Canary Deployments;
- Lambda Version Control.

5. General Design Principles based on serverless applications

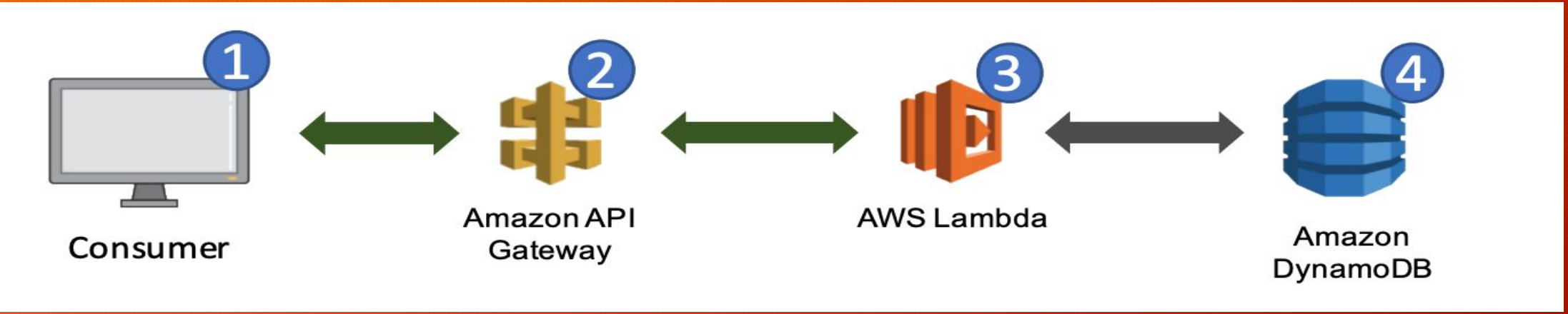
- Speedy, simple, singular;
- Think concurrent requests, not total requests;
- Share nothing;
- Assume no hardware affinity;
- Orchestrate your application with state machines, not functions;
- Use events to trigger transactions;
- Design for failures and duplicates

6. Scenario - Web Application

- Consumers;
- Amazon S3;
- Amazon Cognito;
- AWS Lambda;
- Amazon API Gateway;
- Amazon DynamoDB



7. Scenario - RESTful Microservices



- Consumers
- Amazon API Gateway
- AWS Lambda
- Amazon DynamoDB

8. The Pillars of the Well-Architected Framework

- Operational Excellence Pillar;
- Security Pillar;
- Performance Efficiency Pillar;
- Reliability Pillar;
- Cost Optimization Pillar.

9. Operational Excellence Pillar

- Prepare;
- Operate;
  - Metrics and Alerts;
  - Centralized and structured logging;
  - Distributed Tracing;
  - Prototyping;
  - Testing;
  - Deploying.
- Evolute.

10. Security Pillar

- Identity and access management;
- Detective controls;
- Infrastructure protection;
- Data protection;
- Incident response.

11. Reliability Pillar

- Foundations;
- Change management;
- Failure management;

12. Performance Efficiency Pillar

- Selection;
- Review;
- Monitoring;
- Tradeoffs.

13. Cost Optimization Pillar

- Cost-effective resources;
- Matching supply and demand;
- Expenditure awareness;
- Optimizing over time;