**The AWS Well-Architected Framework**

The [**AWS Well-Architected Framework**](https://d1.awsstatic.com/whitepapers/architecture/AWS_Well-Architected_Framework.pdf) helps you understand how to design and operate reliable, secure, efficient, and cost-effective systems in the AWS Cloud. It provides a way for you to consistently measure your architecture against best practices and design principles and identify areas for improvement.

The Well-Architected Framework is based on five pillars:

* Operational excellence
* Security
* Reliability
* Performance efficiency
* Cost optimization

**Operational excellence**

Ability to run and monitor systems to deliver business value and to continually improve supporting processes and procedures.

* performing operations as code
* annotating documentation
* anticipating failure
* frequently making small, reversible changes.

**Security**

Ability to protect information, systems, and assets while delivering business value through risk assessments and mitigation strategies.

* Automate security best practices when possible.
* Apply security at all layers.
* Protect data in transit and at rest.

**Reliability**

**Reliability** is the ability of a system to do the following:

* Recover from infrastructure or service disruptions
* Dynamically acquire computing resources to meet demand
* Mitigate disruptions such as misconfigurations or transient network issues

Reliability includes testing recovery procedures, scaling horizontally to increase aggregate system availability, and automatically recovering from failure.

**Performance efficiency**

**Performance efficiency** is the ability to use computing resources efficiently to meet system requirements and to maintain that efficiency as demand changes and technologies evolve.

* using serverless architectures whenever possible.
* designing systems to be able to go global in minutes.

**Cost optimization**

**Cost optimization** is the ability to run systems to deliver business value at the lowest price point.

**Benefits of the AWS Cloud**

Advantages of cloud computing:

Operating in the AWS Cloud offers many benefits over computing in on-premises or hybrid environments.

* Trade upfront expense for variable expense.
* Benefit from massive economies of scale.
* Stop guessing capacity.
* Increase speed and agility.
* Stop spending money running and maintaining data centres.
* Go global in minutes.