# IaaS vs PaaS vs SaaS

Cloud computing provides different service models that define the level of control, flexibility, and management responsibility for users. The three main models are Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Understanding their differences helps organizations choose the right solution based on their needs.

## 1. Infrastructure as a Service (IaaS)

IaaS provides virtualized computing resources over the internet. It offers maximum flexibility and control over hardware resources but requires users to manage operating systems, applications, and data.

Examples: Amazon Web Services (AWS EC2), Microsoft Azure, Google Compute Engine

## 2. Platform as a Service (PaaS)

PaaS provides a platform allowing customers to develop, run, and manage applications without the complexity of maintaining infrastructure. It is ideal for developers who want to focus on coding and application deployment.

Examples: Google App Engine, Microsoft Azure App Service, Heroku

## 3. Software as a Service (SaaS)

SaaS delivers software applications over the internet on a subscription basis. The provider manages everything, including infrastructure, platforms, and the software itself. Users simply access applications through a browser or app.

Examples: Google Workspace, Microsoft 365, Dropbox, Salesforce

## 4. Comparison Table

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| Aspect | IaaS | PaaS | SaaS |
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|  |  |  |  |
|  |  |  |  |
| Control | High (User manages OS, apps, data) | Medium (Focus on app development) | Low (Only use the app) |
| Use Case | Custom IT infrastructure | App development & deployment | End-user applications |
| Examples | AWS EC2, Azure VM | Heroku, Google App Engine | Google Workspace, Salesforce |

## 5. Conclusion

IaaS, PaaS, and SaaS represent different levels of abstraction in cloud computing. Organizations should choose IaaS for flexibility, PaaS for efficient development, and SaaS for ready-to-use solutions. A combination of these models is often used to meet diverse business requirements.