

What is IBM Bluemix?

IBM's Open Cloud Architecture implementation based on the Cloud Foundry project

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IBM® Bluemix™ is the newest cloud offering from IBM. Bluemix is a Platform as a Service (PaaS) offering based on the Cloud Foundry open source project that promises to deliver enterprise-level features and services that are easy to integrate into cloud applications. This article provides a high-level overview of Bluemix and Cloud Foundry and the differences between the two. It also lists some of the Bluemix services available in the Bluemix Catalog. To view the introductory video please access the online version of the article.

Bluemix™ is the latest cloud offering from IBM®. It enables organizations and developers to quickly and easily create, deploy, and manage applications on the cloud. Bluemix is an implementation of IBM's Open Cloud Architecture based on Cloud Foundry, an open source Platform as a Service (PaaS). Bluemix delivers enterprise-level services that can easily integrate with your cloud applications without you needing to know how to install or configure them. This article gives a high-level description of Cloud Foundry and Bluemix and outlines the features and services that were part of the open beta of Bluemix, which make it a compelling PaaS in the market today.

WATCH: [Explore IBM Bluemix](http://www.ibm.com/developerworks/cloud/library/cl-bluemix-dbarnes/) <http://www.ibm.com/developerworks/cloud/library/cl-bluemix-dbarnes/>

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What is Cloud Foundry?

Cloud Foundry is an open source platform as a service (PaaS) that lets you quickly create and deploy applications on the cloud. Because of its open source roots, Cloud Foundry is not vendor specific and does not lock you into proprietary software or cloud infrastructure. Cloud Foundry abstracts the underlying infrastructure needed to run a cloud, letting you focus on the business of building cloud applications. The beauty of Cloud Foundry is that it provides choice. Developers and organizations can choose:

- **Development Frameworks:** Cloud Foundry supports Java™ code, Spring, Ruby, Node.js, and custom frameworks.
- **Application Services:** Cloud Foundry offers support for MySQL, MongoDB, PostgreSQL, Redis, RabbitMQ, and custom services.
- **Clouds:** Developers and organizations can choose to run Cloud Foundry in Public, Private, VMWare and OpenStack-based clouds.

Cloud Foundry's ability to provide choice comes through buildpacks, a convenient way to package frameworks and runtimes. Buildpacks can be community based, custom built, or built from scratch. In other words, if you cannot find a framework or service buildpack that suits your needs, you could modify an existing buildpack or create your own. By using buildpacks, companies are able to provide enterprise-level services like the Bluemix cloud offering.

What is Bluemix?

Bluemix is an implementation of IBM's Open Cloud Architecture, based on Cloud Foundry, that enables you to rapidly create, deploy, and manage your cloud applications. Because Bluemix is based on Cloud Foundry, you can tap into a growing ecosystem of runtime frameworks and services. In addition to providing additional frameworks and services, Bluemix provides a dashboard for you to create, view, and manage your applications and services as well as monitor your application's resource usage. The Bluemix dashboard also provides the ability to manage organizations, spaces, and user access.

Bluemix provides access to a wide variety of services that can be incorporated into an application. Some of these services are delivered through Cloud Foundry. Others are delivered from IBM and third party vendors. New and enhanced services are added to the catalog often. To see the current list of runtimes and services, and their status go to the [Bluemix catalog](#).

Some of the commonly used runtimes are:

- Node.js
- PHP
- Python
- Ruby

Some of the Bluemix services available from the expanding catalog include:

Service name	Description
BigInsights for Hadoop	Powered by InfoSphere BigInsights, which is based on open source Hadoop, this service provides the open source capabilities of HBase, Hive, MapReduce, Pig and others, including your own open source packages.
Business Rules	Enables developers to spend less time recoding and testing when the business policy changes. This service minimizes your code changes by keeping business logic separate from application logic.
Cloudant NoSQL DB	Provides access to a fully managed NoSQL JSON data layer that's always on. This service is compatible with CouchDB, and accessible through a simple to use HTTP interface for mobile and web application models.

Data Cache	Improve the performance and user experience of web applications by retrieving information from fast, managed, in-memory caches, instead of relying entirely on slower disk-based databases.
DevOps Auto-Scaling	Enables you to automatically increase or decrease the compute capacity of your application. The number of application instances are adjusted dynamically based on the Auto-Scaling policy you define.
DevOps Delivery Pipeline	Automate builds and deployments, test execution, configure build scripts, and automate execution of unit tests. Automatically build and deploy your application to IBM's cloud platform, Bluemix.
Embeddable Reporting	Use a simple cloud editor then embed reports and dashboards in your web or mobile app using a wide variety of languages such as Node.js or Java using a RESTful API.
Geospatial Analytics	Leverage real-time geospatial analytics to track when devices enter or leave defined regions.
Internet of Things	Lets your apps communicate with and consume data collected by your connected devices, sensors, and gateways.
Mobile Push Notifications	Push information to all application users or to a specific set of users and devices. You can even let users subscribe to specific tags or topics for notification.
MongoDB	A popular NoSQL database
MQ Light	Develop responsive, scalable applications with a fully-managed messaging provider in the cloud. Quickly integrate with application frameworks through easy-to-use APIs.
Redis	A popular distributed dictionary server used by many distributed applications
Secure Gateway	Brings Hybrid Integration capability to your Bluemix environment. It provides secure connectivity from Bluemix to other applications and data sources running on-premise or in other clouds. A remote client is provided to enable secure connectivity.
Sendgrid	Sendgrid's cloud-based email infrastructure relieves businesses of the cost and complexity of maintaining email systems.
Session Cache	Improve application resiliency by storing session state information across many HTTP requests. Enable persistent HTTP sessions for your application and seamless session recovery in event of an application failure.
Single Sign-On	Implement user authentication for your web and mobile apps quickly, using simple policy-based configurations.
SQL Database	Add an on-demand relational database to your application. Powered by DB2, it provides a managed database service to handle web and transactional workloads.
WatsonAlchemy API	Leverage natural language processing and computer vision in your apps to deeply understand the world's conversations, documents and photos.
Watson Language Translation	Converts text input in one language into a destination language for the end user. Translation is available among English, Brazilian Portuguese, Spanish, French, and Arabic.
Watson Personality Insights	Derives insights from transactional and social media data to identify psychological traits which determine purchase decisions, intent and behavioral traits; utilized to improve conversion rates.

200 Bluemix Days

Want to learn more about Bluemix? IBM is launching its [200 Bluemix Days hands-on workshop](#) to help you get started with Bluemix.

For developers, Bluemix further optimizes the time you spend creating cloud application. You no longer have to be concerned about installing software or having to deal with virtual machine images or hardware. With a few clicks or keystrokes, you can provision instances of your applications with the necessary services to support them. This streamlining translates countless hours of setting up, configuring, and troubleshooting into time spent rapidly innovating and reacting to never-ending requirement changes.

For organizations, Bluemix provides a cloud platform that requires very little in-house technical know-how as well as cost savings. Bluemix provides the rapid development environment organizations need to react to users' demands for new features. The Bluemix platform and the cloud provide the elasticity and capacity flexibility organizations require when their applications explode in popularity.

For users, Bluemix represents the key that enables organizations to quickly deliver the features they demand.

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