



# AZURE HANDBOOK >>



Please note that the content outlined in this Azure Handbook is subject to change.

For the latest updates on Microsoft Azure, please visit: <https://azure.microsoft.com/en-in/>

# Table of Content

## 1. ABOUT MICROSOFT AZURE

- What is Azure?
  - What can you do with it?
  - How do we compare with our competitors?
  - Azure Deployment Options
  - Azure Datacenters
  - Microsoft Azure Roadmap
- 

## 2. GET STARTED WITH MICROSOFT AZURE

- Key Portals for Getting Started on Microsoft Azure
  - Get Started – A Walk-through
- 

## 3. INITIAL EDUCATION, TRAINING & ASSISTANCE

- Azure Events & On-Demand Resources
  - Tailored Microsoft Technical Resources
  - Microsoft Partner Advisory Hours
  - Articles by Azure MVPs
- 

## 4. MICROSOFT AZURE PRODUCTS

- Virtual Machines
- App Service
- SQL Database
- Storage
- Cloud Services
- Document DB
- Active Directory
- Backup
- HDInsight
- Batch
- StorSimple
- Visual Studio Team Services
- API Management
- Azure IoT Hub

# Table of Content

- Content Delivery Network
- ExpressRoute
- Site Recovery
- Azure DNS
- Machine Learning
- Service Fabric
- Virtual Network
- Multi-Factor Authentication
- Visual Studio Application Insights
- SQL Data Warehouse
- Media Services
- Stream Analytics
- Azure Active Directory Domain Services
- Event Hubs
- Data Factory
- Key Vault
- Service Bus
- Azure Active Directory B2C
- Scheduler
- Azure DevTest Labs
- Notification Hubs
- Automation
- Log Analytics
- Azure Security Center
- BizTalk Services
- Traffic Manager
- Azure Redis Cache
- Search
- Load Balancer
- VPN Gateway
- Application Gateway
- Data Catalog
- Virtual Machine Scale Sets

# Table of Content

- Microsoft Power BI Embedded
  - Mobile Engagement
  - Data Lake Store
  - Data Lake Analytics
  - Cognitive Services
  - Azure Container Service
  - SQL Server Stretch Database
  - HockeyApp
  - Functions
  - Logic Apps
  - Azure Monitor
  - Operations Management Suite | Protection & Recovery
  - Operations Management Suite | Automation & Control
- 

## 5. MICROSOFT AZURE SOLUTIONS

- Digital Marketing
- Mobile
- E-commerce
- Microservice Applications
- Business Intelligence
- Predictive Maintenance with IoT
- Big Data & Analytics
- Data Warehouse
- Backup & Archive
- Development & Test
- Disaster Recovery
- Remote Monitoring with IoT
- High Performance Computing
- SAP on Azure
- SharePoint on Azure
- Dynamics on Azure
- Digital Media

# Table of Content

---

## 6. MICROSOFT AZURE BEST PRACTICES

- Availability Checklist
  - Scalability Checklist
  - Resiliency Guidance
  - Network Security
  - Monitoring & Diagnostics Guidance
  - Data Partitioning Guidance
  - Caching Guidance
  - Autoscaling Guidance
  - Background Jobs Guidance
- 

## 7. MICROSOFT AZURE PRICING

---

## 8. MICROSOFT AZURE SUPPORT

- Support Options & Support Plans Overview
  - Developer Support Plan
  - Standard Support Plan
  - ProDirect Support Plan
  - Premier Support Plan
  - Support Plan | Feature Comparison
- 

## 9. MICROSOFT AZURE TRUST CENTRE

---

## 10. MICROSOFT AZURE SUPPORT FOR ISVs

- Marketing Support for Azure ISVs
  - ISV Support / Microsoft Partner Network + BizSpark for Azure ISVs
  - ISV Support / Programs for Customers
- 

## 11. MICROSOFT AZURE vs. AMAZON WEB SERVICES

---

## 12. MICROSOFT AZURE: INDIA CASE STUDIES

---

## 13. MICROSOFT AZURE: FREQUENTLY ASKED QUESTIONS



# About Microsoft Azure

About  
Azure

Microsoft Azure is a growing collection of integrated cloud services - analytics, computing, database, mobile, networking, storage and web - for moving faster, achieving more and saving money.

Get  
Started

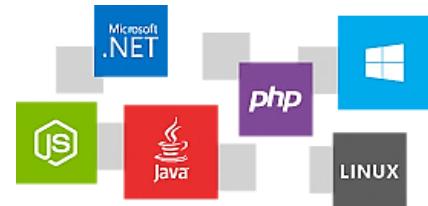
## What is Azure?

Microsoft Azure offers a set of integrated tools, pre-built templates and managed services that make it easier to build and manage enterprise, mobile, web and IoT apps faster, using skills you already have and technologies you already know.

Azure  
Products

## Open and flexible cloud service platform

Azure supports the broadest selection of OS, programming languages, frameworks, [tools](#), databases & devices. Run Linux containers with Docker integration; build apps with JavaScript, Python, .NET, PHP, Java & Node.js; build back-ends for any device. Azure service [supports](#) technologies that millions trust.



## Extend your existing IT

Azure integrates with existing IT environments through a large secure private connections network, hybrid database, storage solutions, and data residency & encryption features. [Azure Stack](#) helps you bring the Azure model of app development & deployment to your datacenter.

[READ MORE →](#)

## Protect your data

Microsoft has made an industry-leading commitment to the protection and privacy of your data. We were the first cloud provider recognized by the EU's data protection authorities for our commitment to rigorous EU privacy laws, and also first to adopt the new international cloud privacy standard, ISO 27018.



## Scale as you need, pay as you go

Azure's pay-as-you-go services can quickly scale up or down to match demand - you only pay for what you use. Per-minute billing and a [commitment](#) to match competitor prices for popular infrastructure services like compute, storage and bandwidth mean unbeatable price for performance.

FAQ

Contact

# ← What is Azure?

## Run your apps anywhere

Azure runs on a [worldwide network of Microsoft-managed datacenters](#) across 26 regions - more countries & regions than Amazon Web Services & Google Cloud combined. This fast-growing global footprint gives you lots of options for running apps & ensuring great customer performance. Azure is also the first multinational cloud provider in mainland China.



## Make smarter decisions

Azure's predictive analytics services, including Machine Learning, Cortana Analytics and Stream Analytics, are redefining business intelligence. Make smarter decisions, improve customer service and uncover new business possibilities from your structured, unstructured and streaming IoT data.

## Rely on a trusted cloud service

Unsure [how to choose a cloud service provider](#)? From small dev-test projects to global product launches, Azure is engineered to handle any workload. More than [66 percent of Fortune 500 companies](#) rely on Azure, which offers enterprise grade SLAs on services, 24/7 tech support, and round-the-clock service health monitoring.



## Power your business apps with Azure

From SAP and Oracle to IBM, Red Hat and Microsoft applications, Azure runs all of your business applications by providing global scale, consistency and seamless integration with on-premises environments. It is the public cloud for running your business apps.

[READ MORE →](#)

## Move to the cloud with confidence

Azure is built on technologies that millions trust: Windows Server, SQL Server, Active Directory, etc. This means a consistent, familiar & stable environment. Move VMs between on-premises & cloud as business needs dictate - no conversion needed. Protect business critical apps with managed cloud backups & Disaster Recovery as service.

✓ Sign up for the webinar: Five reasons to run Microsoft apps on Azure →

## ← What can you do with it?

### Develop modern applications

Build and deploy a wide variety of modern apps for Android, iOS and Windows that take full advantage of the cloud - including web, mobile, media and LoB solutions. Automatically scale up and down to meet any need.

### Build Infrastructure

Provision Windows and Linux Virtual Machines and applications in minutes. Use the same virtual machines and management tools in Azure that you use on-premises.

### Gain Insights from data

Azure provides managed SQL and NoSQL data services, and built-in support for gaining insights from your data. Leverage the full power of SQL Server in the cloud and use HDInsight to build Hadoop clusters to analyze data.



### Manage Identity and Access

Manage user accounts, synchronize with existing on-premises directories, and get single sign on across Azure, Office 365 and hundreds of popular software-as-a-service applications including Salesforce, DocuSign, Google Apps, Box, Dropbox, and more.

### Build Hybrid Applications

Azure's enterprise-proven hybrid cloud solutions give you the best of both your datacenter and the public cloud, expanding your IT options without added complexity. With Azure, data storage, backup and recovery become more efficient and economical. It is also easier to build applications that span both on-premises and the cloud.



- ✓ Find out how Microsoft Azure is the most complete hybrid platform →

## ← How do we compare with our competitors?

Azure is the only major cloud platform ranked by Gartner as an industry leader for both infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS). This powerful combination of managed and unmanaged services lets you build, deploy, and manage applications any way you like for unmatched productivity.

- ✓ See why customers are picking Azure over Amazon →

### Follow an industry leader to the cloud



Any technologist can be productive with Azure. Integrated [tools](#), pre-built templates & managed services make it easier to build & manage enterprise, mobile, web & IoT apps faster. Microsoft is the only vendor positioned as a Leader across Gartner's Magic Quadrants for Cloud IaaS, Application PaaS & Cloud Storage Services for second consecutive year.

- ✓ Explore the Gartner Magic Quadrants across which Microsoft Azure has been recognized as a leader →

### Forrester names Microsoft as a Leader in Agile Business Intelligence

Microsoft received high client feedback scores for its agile, business user self-service and advanced data visualization functionality. Clients also gave Microsoft BI a high score for its product vision.

- ✓ Download the full Forrester report, and get more information on this announcement →



### Azure Tops Comparison of 5 Large Cloud IaaS Providers

This report from [Cloud Spectator](#) examines the performance and pricing of 5 of the world's largest IaaS providers over a 5 -day period, and provides a process to clearly determine the price-performance value of a cloud provider, addressing the issue of standardization in the marketplace.

- ✓ Read the full whitepaper by Cloud Spectator →

### Minimize your risk

Microsoft leads the industry in its commitment to the protection & privacy of data & services. It starts with the Security Development Lifecycle – our mandatory, industry-leading assurance process that builds security into Azure. It was the first cloud provider to receive joint approval from EU's data protection authorities, the Article 29 Working Party, for our strong contractual commitments to comply with rigorous EU privacy laws. Microsoft was the first major cloud provider to adopt the new international standard for cloud privacy, ISO 27018.

# ← Azure Deployment Options

All Azure resources support one or both of the following deployment models:

- ✓ Resource Manager: This is the newest deployment model for Azure resources. Most newer resources already support this deployment model and eventually all resources will.
- ✓ Classic: This model is supported by most existing Azure resources today. New resources added to Azure will not support this model.

Microsoft provides you with a choice of deployments - PaaS (more managed), IaaS (less managed) & Hybrid.

	On Premises		Infrastructure (as a Service)		Platform (as a Service)
YOU Scale, make resilient and manage	Applications	YOU Scale, make resilient, & manage	Applications	YOU Manage	Applications
	Data		Data		Data
	Runtime		Runtime		Runtime
	Middleware		Middleware		Middleware
	O/S		O/S		O/S
	Virtualization		Virtualization		Virtualization
	Servers		Servers		Servers
	Storage		Storage		Storage
	Networking		Networking		Networking



## Azure App Service Deployment

Azure App Service maintains the app framework for you (ASP.NET, PHP, Node.js, etc). Some frameworks are enabled by default, while others - like Java & Python - may need simple checkmark configurations to enable them. You can also customize the app framework. App Service supports the following deployment options:

- ✓ FTP or FTPS →
- ✓ Kudu (Git/Mercurial or OneDrive/Dropbox) →
- ✓ Web Deploy →
- ✓ For more information, see Configure your app in Azure App Service →

## ← Azure Datacenters: Powering the Microsoft Cloud

Global Foundation Services (GFS) – delivers the core infrastructure for Microsoft's online businesses, and manages, monitors and administers Bing, Hotmail, MSN, Office 365, Xbox Live and Azure, serving 1bn customers, 20m businesses, in 76 markets.

✓ <http://www.globalfoundationservices.com/>

For Microsoft Azure there are 19 Datacentres across 3 continents (growing significantly in 2014 – see table below), which all comply with key industry standards, such as ISO/IEC 27001:2005, for security and reliability.

- ✓ Take a tour of the Datacentres →
- ✓ Find the Azure Datacenter nearest you →
- ✓ Microsoft Datacenter IP Ranges →
- ✓ Find Microsoft Datacenters by Region →
- ✓ Microsoft India Datacenter Announcement →
- ✓ Services available by Datacenter →



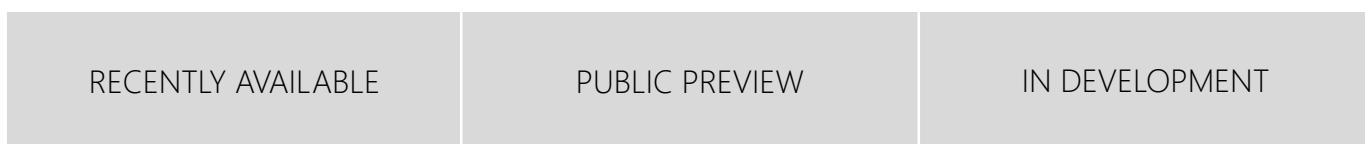
Europe	<ul style="list-style-type: none"><li>• North Europe: Ireland</li></ul>	<ul style="list-style-type: none"><li>• West Europe: Netherlands</li></ul>
Asia	<ul style="list-style-type: none"><li>• East Asia: Hong Kong</li></ul>	<ul style="list-style-type: none"><li>• Southeast Asia: Singapore</li></ul>
India	<ul style="list-style-type: none"><li>• Central India: Pune</li><li>• South India: Chennai</li></ul>	<ul style="list-style-type: none"><li>• West India: Mumbai</li></ul>
United States	<ul style="list-style-type: none"><li>• East US: Virginia</li><li>• East US 2: Virginia</li><li>• Central US: Iowa</li><li>• North Central US: Illinois</li><li>• South Central US: Texas</li><li>• West Central US: West Central US</li></ul>	<ul style="list-style-type: none"><li>• West US: California</li><li>• West US 2: West US 2</li><li>• US Gov: Iowa</li><li>• US Gov: Virginia</li><li>• Canada Central: Toronto</li><li>• Canada East: Quebec City</li></ul>
Japan	<ul style="list-style-type: none"><li>• Japan East: Tokyo</li></ul>	<ul style="list-style-type: none"><li>• Japan West: Osaka</li></ul>
China	<ul style="list-style-type: none"><li>• China East: Shanghai</li></ul>	<ul style="list-style-type: none"><li>• China North: Beijing</li></ul>
Oceania	<ul style="list-style-type: none"><li>• Australia East: New South Wales</li></ul>	<ul style="list-style-type: none"><li>• Australia Southeast: Victoria</li></ul>
South America	<ul style="list-style-type: none"><li>• Brazil South: Sao Paolo</li></ul>	

# ← Microsoft Azure Roadmap: Keep up to date

## Cloud Platform Roadmap

The Cloud Platform roadmap provides a snapshot of what Microsoft is working on in the Cloud Platform business. Use the roadmap to find out what we've recently made generally available, released into public preview, are still developing and testing, or are no longer developing. Learn more about the types of updates you can expect to find on the Cloud Platform roadmap [here](#).

- ✓ Keep yourself updated about the Microsoft Azure Roadmap →



- ✓ Read the Microsoft Azure Blog →
- ✓ Read Scott Guthrie's Blog →
- ✓ Read the Cloud & Enterprise Blog →
- ✓ Stay in touch with All Azure Service Updates →
- ✓ Provide direct feedback for new features at Microsoft Azure Feedback →
- ✓ Request to be a part of the Microsoft Azure Advisory Council →



## Azure Newsletter

Stay informed on the latest Azure features, events, and community activities. Browse through past newsletters or subscribe and get the latest Azure news delivered to your Inbox.

- ✓ Subscribe to the Newsletter →
- ✓ View the latest Newsletter →

## Free Account

Sign up now and get \$200 in Azure credits

- ✓ Start Today →

## Visual Studio

Subscribers get up to \$1,800 per year of Azure services

- ✓ Activate Now →

## Startups

Join the BizSpark program and get free Azure services

- ✓ Learn More →



# Get Started with Microsoft Azure

About Azure

Sign up and get ₹12,100 in Azure credits. Start by deploying your first Azure solution in under 5 minutes. By signing up, you get full access to explore any service you want.

TRY FOR FREE →

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

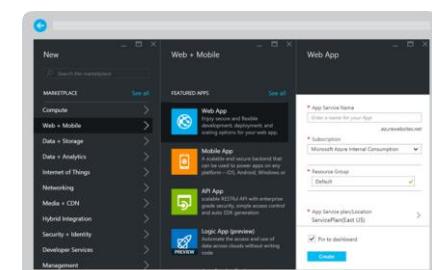
## Key Portals for Getting Started on Microsoft Azure

Learn how the Microsoft Azure portal provides a consistent and intuitive experience designed to make it easy for you to build, deploy and manage your cloud resources.



Account Creation Portal	Create your free Azure account, get started with ₹12,100 in credit, and keep going with free options.	✓ <a href="https://portal.azure.com/">https://portal.azure.com/</a>
Azure Portal	Configure and control – deploy & host – your Azure services.	✓ <a href="https://portal.azure.com/">https://portal.azure.com/</a>
Usage & Billing Portal	Track your Azure usage and view your bills.	✓ <a href="https://account.windowsazure.com/Subscriptions?l=en&amp;correlationId=632260bd-3e01-4049-ae79-4842dde0702f">https://account.windowsazure.com/Subscriptions?l=en&amp;correlationId=632260bd-3e01-4049-ae79-4842dde0702f</a>
Documentation Center	Documentation to support Build solutions with any language or development platform, or Target any browser, client or Device, or Run on Windows or Linux.	✓ <a href="https://azure.microsoft.com/en-in/documentation/">https://azure.microsoft.com/en-in/documentation/</a>
EA Portal (Enterprise Customers only)	View and create your enterprise level accounts, subscriptions, pricing, monetary commitment and overage balances	✓ <a href="https://ea.azure.com/">https://ea.azure.com/</a>
Member Offers Portal	Monthly Azure credits for Visual Studio subscribers and additional organisation-wide credits for members of Microsoft Partner Network and BizSpark programs.	✓ <a href="https://azure.microsoft.com/en-in/pricing/member-offers/">https://azure.microsoft.com/en-in/pricing/member-offers/</a>

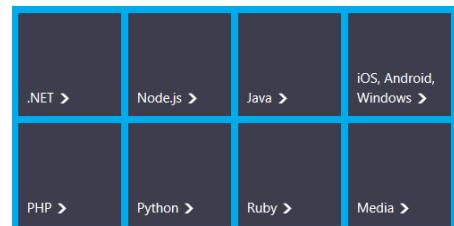
# ← Get Started – A Walk-through

1. Go to the Microsoft Azure Free Trial page, and click on [Start Free](#)
  - ✓ <https://azure.microsoft.com/en-us/free/>.
2. Sign in with your Microsoft Account (Outlook.com, MSN, Hotmail, Live.com)
  - ✓ If you don't have a Microsoft Account, you can sign up for a New Account [HERE](#).
3. This will provide you access to [Microsoft Azure Portal](#)
  - ✓ You can use this portal to configure and use Azure services, along with tracking your Azure usage.
  - ✓ If this is the first time you have accessed the Azure Portal, you will need to complete some basic information, credit card information and verify your account, You can add additional subscriptions [HERE](#).
4. Click on "Portal" to enter the [Microsoft Azure Portal](#)
  - ✓ Use the [Microsoft Azure Portal](#) to configure and control your Azure services and applications.
  - ✓ At the top of the page it will show your Azure FREE Credit status. Click on your Account Name at the top right side to "View Your Bill".
  - ✓ Click on any of the Azure services on the left hand side to create, configure and deploy services.
- When creating new VMs ([Guidance](#)) you have the below options:
  - ✓ Create your own image;
  - ✓ Browse [VM Depot](#); and
  - ✓ Select one from the VM Gallery.
- Create a storage account first to store the VM Image, and register your own VM image.
- Each Cloud service will be given a service URL or DNS Name, like: "xxxxxxxx.cloudapp.net".

## ← Get Started – A Walk-through

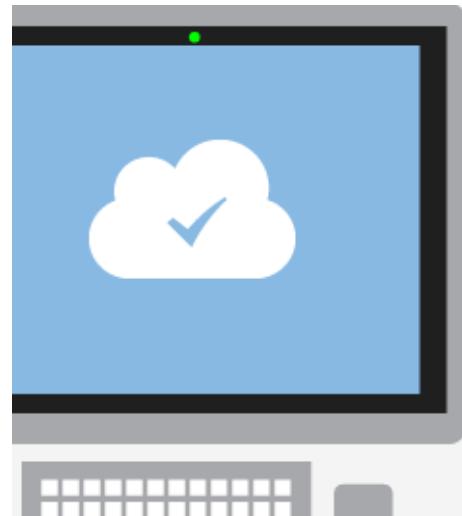
### 5. Managing Accounts, Subscriptions and Admin Roles

- ✓ Learn all about Microsoft Azure: <https://azure.microsoft.com/en-us/documentation/>.
- ✓ MICROSOFT AZURE ACCOUNT determines Azure usage reporting and identifies Account Admins.
- ✓ SUBSCRIPTIONS help you organise access to cloud resources (reporting, bills, payments, etc.). Each subscription can have different billing & payment setup.
- ✓ ACCOUNT ADMINISTRATOR (1 per Account) is the person who creates the account & have access to all subscriptions. He/she is authorized to access Account Center (create, cancel & change billing, change Service Administrator, etc.).
- ✓ SERVICE ADMINISTRATOR (1 per subscription) can perform all functions within a subscription, including: Add/Remove Co-Admins. By default, Service Admin & Account Owner are the same. He/she is authorized to access Azure Management Portal for all subscriptions in the account.
- ✓ CO-ADMINISTRATOR (200 per subscription) can perform all functions within a subscription, except changing of Service Administrator and Add/Remove of other Co-Administrators.
- ✓ [Good Practices](#) for managing Microsoft Azure subscriptions.



### 6. Understanding your Azure Usage, Billing and Notifications

- ✓ Review your Invoice (for PAYG):
  - ✓ Login in to <https://account.windowsazure.com> using your Live ID.
  - ✓ Click on the "Account" & the "Subscriptions" tabs.
  - ✓ Select the subscription for which you want to download the invoice.
  - ✓ Click on "Billing History".
  - ✓ Here you will find all your Azure Account Usage Invoices based on the billing cycle.



## ← Get Started – A Walk-through

- ✓ Change from "Credit Card" to "Pay by Invoice" (for PAYG):

- ✓ <http://azure.microsoft.com/en-in/pricing/invoicing/>

- ✓ Understanding your Bill (for PAYG):

- ✓ Guidance to help you View your bill, understand your balance, understand charges and download usage.
  - ✓ <http://azure.microsoft.com/en-in/support/understand-your-bill/>
  - ✓ <http://azure.microsoft.com/en-in/pricing/faq/virtual-machines-how-do-instance-sizes-get-billed/>

- ✓ Setting up Billing Notifications (for PAYG):



- ✓ Login to the following website using account administrator's credentials.
  - ✓ <https://account.windowsazure.com>
  - ✓ Click the "Profile" tab, and click "Edit Details" tab.
  - ✓ Enter the new email ID under the "Email" field.
  - ✓ Click "Next" to save the changes.

- ✓ Where do I find my Usage Data on the Azure PAYG Service:

- ✓ Go to <https://account.windowsazure.com/subscriptions/>.
  - ✓ Sign in with your Microsoft Account (Live ID).
  - ✓ Under the "Subscriptions" menu screen, select "download usage detail" on right side menu.
  - ✓ Click on "Download Usage" for the period you would like to review.

### Example Pricing:

 App Service	STARTING FROM <b>FREE</b> EVERY MONTH	>
 Virtual Machines	STARTING FROM <b>₹781.14</b> PER MONTH	>
 SQL Database	STARTING FROM <b>₹299.84</b> PER MONTH	>



# Initial Education, Training & Assistance

About Azure

Develop simple as well as highly distributed and scalable solutions from day one on Microsoft Azure. Get up and running with your choice of educational resources, trainings and customized assistance.

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

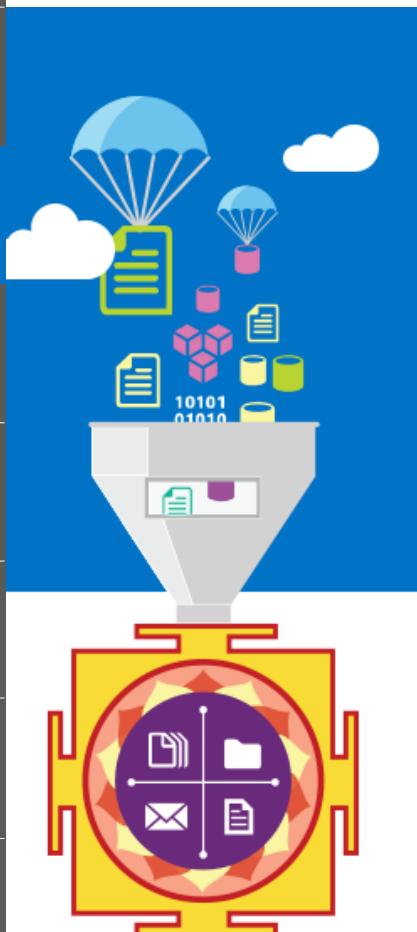
Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact



## Azure Events

### Explore 'Azure Vidyapeeth' archived webinars

Stay updated with latest cloud trends, announcements and developments on Microsoft Azure.

[View Webinars →](#)

- ✓ [Azure India Events →](#)
- ✓ [Global Azure Bootcamp →](#)
- ✓ [Microsoft India Events →](#)
- ✓ [Microsoft Developer Network \(MSDN\) Events →](#)
- ✓ [Developer Technical Communities →](#)

## On-Demand Azure Resources

- ✓ [Microsoft Azure Training Kit →](#)
- ✓ [Microsoft Virtual Academy →](#)
- ✓ [Microsoft Azure IaaS Deep Dive Jump Start →](#)
- ✓ [Microsoft Azure on Channel 9 →](#)
- ✓ [Microsoft Azure Friday →](#)
- ✓ [Microsoft Azure "YouTube" Channel →](#)
- ✓ [Microsoft Azure Exam →](#)

## General Microsoft Tech Resources

- ✓ [TechNet Virtual Labs →](#)
- ✓ [Microsoft Developer Portal →](#)
- ✓ [Partner Technical Services →](#)
- ✓ [Microsoft Azure Cost Estimator Tool →](#)
- ✓ [Azure Storage Explorer →](#)
- ✓ [Microsoft Azure Storage Explorer →](#)
- ✓ [Open Source Success Stories on Azure →](#)

## ← Tailored Microsoft Technical Resources

- ✓ MICROSOFT TECHNOLOGY CENTER: Access latest technologies and Microsoft specialists on an 1:1 basis →
- ✓ ARCHITECTURE DESIGN SESSIONS: Get customized architectural guidance, consultation on preferred practices, and risk analysis to CTOs, Architects and senior members of your development teams directly from Microsoft →



- ✓ PROOF OF CONCEPT: Work closely with Architects from Microsoft's Technology Centers to transfer knowledge, get architectural guidance and preferred practices, while mapping out the solution architecture including risk analysis, to prove out customized solutions →
- ✓ MICROSOFT SERVICES PREMIER SUPPORT FOR AZURE: For companies who want to build business critical, cost effective and robust applications, contact Microsoft Services Premier Support for Microsoft Azure →
- ✓ CLOUD DESIGN PATTERNS FOR ARCHITECTS: This guide articulates the benefits of applying patterns by showing how each piece can fit into the big picture of cloud application architectures →

## Microsoft Partner Advisory Hours

Gold and Silver Partners in Microsoft Partner Network are allocated a fixed amount of hours to use as Partner Advisory Hours. This allocation can be used for "How To" consultative type questions associated with the deployment of Microsoft Azure. Note that these cannot be used in trouble-shooting specific implementations.



MORE DETAILS → | Email: [askpts@microsoft.com](mailto:askpts@microsoft.com)

## Articles by Azure MVPs from India

- ✓ DevTest Labs in Microsoft Azure | Author: Vikram Pendse | [READ →](#)
- ✓ Understanding Microsoft Cognitive Services | Author: Suketu Dineshbhai Nayak | [READ →](#)
- ✓ Installing Microsoft Azure BizTalk Services SDK | Author: Mahesh Kumar Tiwari | [READ →](#)
- ✓ 10 Most Common Mistakes while Managing Azure Cloud | Author: Vikram Pendse | [READ →](#)
- ✓ Understanding HDInsight in Microsoft Azure | Author: Suketu Dineshbhai Nayak | [READ →](#)
- ✓ Doing more than Provisioning with Azure VM using PowerShell | Author: Vikram Pendse | [READ →](#)



# Microsoft Azure Products

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

## Virtual Machines



[azure.microsoft.com/en-in/services/virtual-machines](http://azure.microsoft.com/en-in/services/virtual-machines)

## App Service



[azure.microsoft.com/en-in/services/app-service](http://azure.microsoft.com/en-in/services/app-service)

## SQL Database



[azure.microsoft.com/en-in/services/sql-database](http://azure.microsoft.com/en-in/services/sql-database)

## Storage



[azure.microsoft.com/en-in/services/storage](http://azure.microsoft.com/en-in/services/storage)

## Cloud Services



[azure.microsoft.com/en-in/services/cloud-services](http://azure.microsoft.com/en-in/services/cloud-services)

## DocumentDB



[azure.microsoft.com/en-in/services/documentdb](http://azure.microsoft.com/en-in/services/documentdb)

## Active Directory



[azure.microsoft.com/en-in/services/active-directory](http://azure.microsoft.com/en-in/services/active-directory)

## Backup



[azure.microsoft.com/en-in/services/backup](http://azure.microsoft.com/en-in/services/backup)

## HDInsight



[azure.microsoft.com/en-in/services/hdinsight](http://azure.microsoft.com/en-in/services/hdinsight)

## Batch



[azure.microsoft.com/en-in/services/batch](http://azure.microsoft.com/en-in/services/batch)

## StorSimple



[azure.microsoft.com/en-in/services/storsimple](http://azure.microsoft.com/en-in/services/storsimple)

## Visual Studio Team Services



[azure.microsoft.com/en-in/services/visual-studio-team-services](http://azure.microsoft.com/en-in/services/visual-studio-team-services)

## API Management



[azure.microsoft.com/en-in/services/api-management](http://azure.microsoft.com/en-in/services/api-management)

## Azure IoT Hub



[azure.microsoft.com/en-in/services/iot-hub](http://azure.microsoft.com/en-in/services/iot-hub)

## CDN



[azure.microsoft.com/en-in/services/cdn/](http://azure.microsoft.com/en-in/services/cdn/)

# Microsoft Azure Products

## ExpressRoute



[azure.microsoft.com/en-in/services/expressroute](http://azure.microsoft.com/en-in/services/expressroute)

## Site Recovery



[azure.microsoft.com/en-in/services/site-recovery](http://azure.microsoft.com/en-in/services/site-recovery)

## DNS



[azure.microsoft.com/en-in/services/dns](http://azure.microsoft.com/en-in/services/dns)

## Machine Learning



[azure.microsoft.com/en-in/services/machine-learning](http://azure.microsoft.com/en-in/services/machine-learning)

## Service Fabric



[azure.microsoft.com/en-in/services/service-fabric](http://azure.microsoft.com/en-in/services/service-fabric)

## Virtual Network



[azure.microsoft.com/en-in/services/virtual-network](http://azure.microsoft.com/en-in/services/virtual-network)

## Multi-Factor Authentication



[azure.microsoft.com/en-in/services/multi-factor-authentication](http://azure.microsoft.com/en-in/services/multi-factor-authentication)

## Visual Studio Application Insights



[azure.microsoft.com/en-in/services/application-insights](http://azure.microsoft.com/en-in/services/application-insights)

## SQL Data Warehouse



[azure.microsoft.com/en-in/services/sql-data-warehouse](http://azure.microsoft.com/en-in/services/sql-data-warehouse)

## Media Services



[azure.microsoft.com/en-in/services/media-services](http://azure.microsoft.com/en-in/services/media-services)

## Stream Analytics



[azure.microsoft.com/en-in/services/stream-analytics](http://azure.microsoft.com/en-in/services/stream-analytics)

## AD Domain Services



[azure.microsoft.com/en-in/services/active-directory-ds](http://azure.microsoft.com/en-in/services/active-directory-ds)

## Event Hubs



[azure.microsoft.com/en-in/services/event-hubs](http://azure.microsoft.com/en-in/services/event-hubs)

## Data Factory



[azure.microsoft.com/en-in/services/data-factory](http://azure.microsoft.com/en-in/services/data-factory)

## Key Vault



[azure.microsoft.com/en-in/services/key-vault](http://azure.microsoft.com/en-in/services/key-vault)

# Microsoft Azure Products

Service Bus



[azure.microsoft.com/en-in/services/service-bus](http://azure.microsoft.com/en-in/services/service-bus)

Active Directory B2C



[azure.microsoft.com/en-in/services/active-directory-b2c](http://azure.microsoft.com/en-in/services/active-directory-b2c)

Scheduler



[azure.microsoft.com/en-in/services/scheduler](http://azure.microsoft.com/en-in/services/scheduler)

Azure DevTest Labs



[azure.microsoft.com/en-in/services/devtest-lab](http://azure.microsoft.com/en-in/services/devtest-lab)

Notification Hubs



[azure.microsoft.com/en-in/services/notification-hubs](http://azure.microsoft.com/en-in/services/notification-hubs)

Automation



[azure.microsoft.com/en-in/services/automation](http://azure.microsoft.com/en-in/services/automation)

Log Analytics



[azure.microsoft.com/en-in/services/log-analytics](http://azure.microsoft.com/en-in/services/log-analytics)

Azure Security Center



[azure.microsoft.com/en-in/services/security-center](http://azure.microsoft.com/en-in/services/security-center)

BizTalk Services



[azure.microsoft.com/en-in/services/biztalk-services](http://azure.microsoft.com/en-in/services/biztalk-services)

Traffic Manager



[azure.microsoft.com/en-in/services/traffic-manager](http://azure.microsoft.com/en-in/services/traffic-manager)

Azure Redis Cache



[azure.microsoft.com/en-in/services/cache](http://azure.microsoft.com/en-in/services/cache)

Search



[azure.microsoft.com/en-in/services/search](http://azure.microsoft.com/en-in/services/search)

Load Balancer



[azure.microsoft.com/en-in/services/load-balancer](http://azure.microsoft.com/en-in/services/load-balancer)

VPN Gateway



[azure.microsoft.com/en-in/services/vpn-gateway](http://azure.microsoft.com/en-in/services/vpn-gateway)

Application Gateway



[azure.microsoft.com/en-in/services/application-gateway](http://azure.microsoft.com/en-in/services/application-gateway)

# Microsoft Azure Products

## Data Catalog



[azure.microsoft.com/en-in/services/data-catalog/](http://azure.microsoft.com/en-in/services/data-catalog/)

## VM Scale Sets



[azure.microsoft.com/en-in/services/virtual-machine-scale-sets/](http://azure.microsoft.com/en-in/services/virtual-machine-scale-sets/)

## Power BI Embedded



[azure.microsoft.com/en-in/services/power-bi-embedded/](http://azure.microsoft.com/en-in/services/power-bi-embedded/)

## Mobile Engagement



[azure.microsoft.com/en-in/services/mobile-engagement/](http://azure.microsoft.com/en-in/services/mobile-engagement/)

## Data Lake Store



[azure.microsoft.com/en-in/services/data-lake-store/](http://azure.microsoft.com/en-in/services/data-lake-store/)

## Data Lake Analytics



[azure.microsoft.com/en-in/services/data-lake-analytics/](http://azure.microsoft.com/en-in/services/data-lake-analytics/)

## Cognitive Services



[azure.microsoft.com/en-in/services/cognitive-services/](http://azure.microsoft.com/en-in/services/cognitive-services/)

## Container Service



[azure.microsoft.com/en-in/services/container-service/](http://azure.microsoft.com/en-in/services/container-service/)

## SQL Stretch Database



[azure.microsoft.com/en-in/services/sql-server-stretch-database/](http://azure.microsoft.com/en-in/services/sql-server-stretch-database/)

## HockeyApp



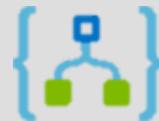
[azure.microsoft.com/en-in/services/hockeyapp/](http://azure.microsoft.com/en-in/services/hockeyapp/)

## Functions



[azure.microsoft.com/en-in/services/functions/](http://azure.microsoft.com/en-in/services/functions/)

## Logic Apps



[azure.microsoft.com/en-in/services/logic-apps/](http://azure.microsoft.com/en-in/services/logic-apps/)

## Azure Monitor



[azure.microsoft.com/en-in/services/monitor/](http://azure.microsoft.com/en-in/services/monitor/)

## Protection & Recovery



[azure.microsoft.com/en-in/services/protection-recovery/](http://azure.microsoft.com/en-in/services/protection-recovery/)

## Automation & Control



[azure.microsoft.com/en-in/services/automation-control/](http://azure.microsoft.com/en-in/services/automation-control/)

## ← Product / Virtual Machines

Create Linux and Windows Virtual Machines in minutes. Choose from images provided by Microsoft or from images provided by partners and the technology community ecosystem.

[DISCOVER VIRTUAL MACHINES →](#)

### Choose your language, workload, operating system

With support for Linux, Windows Server, SQL Server, Oracle, IBM and SAP, Azure Virtual Machines gives you the flexibility of virtualisation for a wide range of computing solutions - development and testing, running apps, and extending your datacenter. It is the freedom of open-source software configured the way you need it.



#### Get more choice

It is all about choice for your virtual machines. Choose Linux or Windows. Choose to be on-premises, in the cloud, or both. Choose your own virtual machine image or download a certified pre-configured image in our marketplace. With Virtual Machines, you are in control.



#### Scale to what you need

Combine the performance of a world-class supercomputer with the scalability of the cloud. Scale from one to thousands of virtual machine instances. Plus, with the growing number of regional Azure datacenters, easily scale globally so you are closer to where your customers are.



#### Pay only for what you use

Keep your budget in check with low-cost, per-minute billing. You only pay for the compute time that you use.

✓ [VIEW PRICING DETAILS →](#)



#### Enhance security & compliance

Get your sensitive data encrypted, protect VMs from viruses & malware, secure network traffic, and meet regulatory & compliance requirements.

✓ [LEARN MORE ABOUT SECURITY →](#)

### Explore the power of the hybrid cloud

Create VMs for on-premises servers, or scale up to the cloud to help balance resources & increase application availability. Virtual Machines can integrate Azure cloud capacity into datacenters for global load balancing when you need it, or access true on-demand HPC capabilities in the cloud.



- ✓ Experience open source, with options: Learn about Linux & open source on Azure →
- ✓ Learn how to run Microsoft enterprise applications on Azure →
- ✓ Run Microsoft enterprise applications with world class support →
- ✓ Learn all about virtual machine sizes that are powerful enough for any business →

# ← Product / App Service

Microsoft Azure App Service is a cloud platform to build powerful web and mobile applications that connect to data anywhere, in the cloud or on-premises.

BUILD INTELLIGENT WEB & MOBILE APPS →

## Build web apps that scale

Code in your favourite language and IDE – .NET, NodeJS, PHP, Python or Java – to build web apps and APIs faster than ever. Be more agile with continuous integration using Visual Studio Team Services or GitHub and with live-site debugging. Easily scale applications on-demand with high availability.

TRY APP SERVICE →

## Engaging mobile apps

Build engaging mobile apps for iOS, Android and Windows. Easily add corporate sign-on and securely connect to on-premises resources. Create robust apps that remain useful when there are network issues, so users can create and modify data even when they are offline. Broadcast personalised push notifications to millions in minutes.

LEARN MORE →

## Simple integration

Automate business processes fast with a visual design experience for business processes & workflows. Integrate with your SaaS & enterprise applications with out-of-the-box connectivity to dozens of cloud-based services & enterprise applications. Enterprise ready with BizTalk capabilities for automating EAI/B2B & business process.

LEARN MORE →



## Customers trust App Service



The number one benefit to the sales teams is ease of use. With apps powered by Azure Mobile Services, they can immediately see where we have equipment installed without having to call a home office.

- Jason Fox, 3M, Mobile Application Architect



We want breaking news alerts to reach our millions of users as fast as possible. That is why we use Microsoft Azure.

- Andrew Locke, NBC News, Vice President Mobile and Devices

# ← Product / SQL Database

With built-in intelligence that learns app patterns and adapts to maximise performance, reliability and data protection, SQL Database is a cloud database built for developers.

[LEARN MORE →](#)

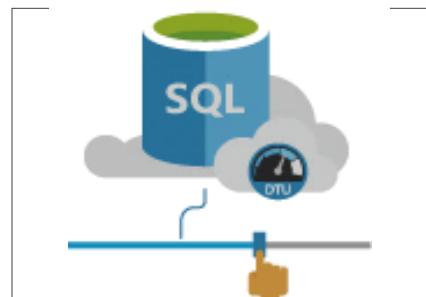
## Learn and adapt dynamically with your app

As your app runs, SQL Database continuously learns the unique app patterns, adaptively tunes performance and automatically improves reliability & data protection.

[READ HOW IT LEARNS & ADAPTS →](#)

## Scale performance on the fly, without app downtime

When demand for your app grows from a handful of devices and customers to millions, SQL Database is a database as a service that can [scale along with you, on the fly](#), with virtually no app downtime.



## Build multitenant applications with customer isolation and efficiency

If you are an SaaS app developer writing a multitenant app servicing many customers, you often make tradeoffs in customer performance, management, and security. With SQL Database as your SaaS platform, you no longer have to make that compromise. SQL Database helps you [manage and monitor multitenant apps](#) and gain isolation benefits of one-customer-per-database.

## Work within your preferred development environment

SQL Database allows you to focus on what you do best: building great apps. Develop your app and connect to SQL Database with the [tools and platforms you prefer](#) and deliver with the speed and efficiency your business demands.



## Help protect and secure app data

SQL Database [helps you build security-enhanced apps](#) in the cloud by providing built-in protection and security features. With physical and operational security, Azure SQL Database helps you meet the most stringent regulatory compliances.

## ← Product / Storage

Store and help protect your data with Azure Storage. Get durable, highly available data storage across the globe and pay only for what you use.

MASSIVELY SCALABLE CLOUD STORAGE FOR YOUR APPS →

- ✓ Store cool data at lower cost in new blob storage accounts →
- ✓ Microsoft Azure is recognised as a leader in Gartner MQ for Public Cloud Storage →
- ✓ Securely store data on Azure using Storage Service Encryption →

### Objects, files, tables, queues and disks

Azure Storage offers a set of storage services for all your business needs. Choose from [Blob storage](#) (object storage) for unstructured data, [File storage](#) for SMB-based cloud file shares, [Table storage](#) for NoSQL data, [Queue storage](#) to reliably store messages and [Premium Storage](#) for high-performance, low-latency block storage for I/O-intensive workloads running in Azure Virtual Machines.

### Highly scalable

Storage keeps pace with your growing data needs, delivering petabytes of storage for large scenarios. Whether you are building modern apps or high-scale big data apps, Storage can handle it.

LEARN MORE →



### Access data globally

Storage is available in more regions than other public cloud offering, letting you store your data where it makes the most business sense. Scale up or across data centers as needed, and be closer to your customers for faster access and better performance.

LEARN MORE →

- ✓ Durable & highly available – see how Storage automatically replicates data & maintains multiple copies →
- ✓ Storage offers a variety of security capabilities to help protect your data – choose your security level →
- ✓ Pay only for what you use to help meet your budget and business needs – learn how to lower your costs →
- ✓ Run enterprise apps with Premium Storage to have the ability to lift-and-shift your demanding apps →
- ✓ Use Storage to help simplify cloud application development and rapidly transition applications →

# ← Product / Cloud Services

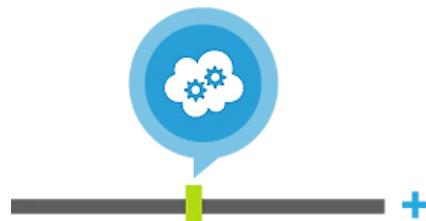
Readily deploy highly-available and infinitely-scalable applications and APIs with Microsoft Azure Cloud Services.

[LEARN MORE →](#) | [CREATE FREE ACCOUNT →](#)

- ✓ Focus on apps, not hardware
- ✓ Deploy thousands of instances in minutes
- ✓ Support for Java, Node.js, PHP, Python, .NET, Ruby
- ✓ Integrated health, monitoring and load balancing
- ✓ Autoscale to meet demand and save money
- ✓ Automatic operating system and app patching

## Create highly-available, infinitely-scalable apps & APIs

Develop, package and deploy powerful applications and services to the cloud with Azure Cloud Services and the click of a button. Scale from 1 to 1000 in minutes. Once your application is deployed, that's it: from provisioning, to load-balancing, to health monitoring, Azure handles the rest. Your app is backed by an industry-leading 99.95% monthly SLA.

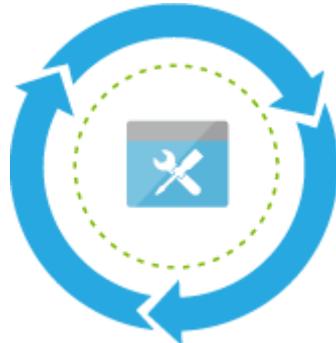


## Integrated development with Visual Studio + Azure SDK

Get your hands on a world-class development experience using the Azure SDK, integrated seamlessly with Visual Studio. Deploy apps using languages you like, including .NET, Java, Node.js, PHP, Python or Ruby. Test your app before deploying it to the cloud by using Azure Emulator, which brings the platform's key functionality right to your development computer.

## Focus on building great apps, not babysitting hardware

Never worry about patching, faulty hardware or network issues again. Cloud Services is designed to deploy your app and keep it continuously available during crashes and failures, redirecting traffic from troubled instances to ones running smoothly. Automatic OS updates mean your application is always secure, without maintenance windows or downtime.



## Test your applications before deploying them

Cloud Services provides a staging environment for testing a new release without impacting the existing one, reducing the chances of unwelcome customer downtime. When you are ready to deploy the new release to production, just swap the staging environment into production.

# ← Product / DocumentDB

NoSQL service for highly available, globally distributed apps - take full advantage of SQL and JavaScript over document & key-value data without the hassles of on-premises or VM-based cloud database options. [MORE →](#)

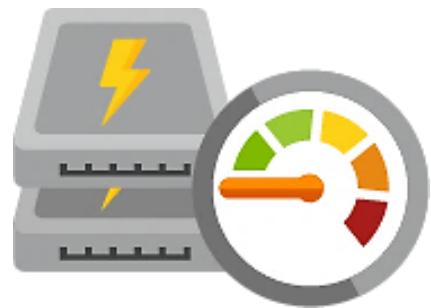
## New to DocumentDB?

See if our low latency, NoSQL document database service is right for your applications, including web high-scale gaming, social and Internet of Things (IoT) app scenarios.

[WATCH →](#) | [READ →](#)

## Guaranteed low latency

DocumentDB guarantees less than 10 ms latencies on reads and less than 15 ms latencies on writes for at least 99% of requests. DocumentDB leverages a write-optimised, latch-free database engine designed for high-performance solid-state drives to run in the cloud at global scale. Read and write requests are always served from your local region while data can be distributed to other regions across the globe.



## Achieve limitless scale



[Scale](#) throughput and storage independently and elastically—not just within one region, but across many geographically distributed regions. Add capacity to serve millions of requests per second at a fraction of the cost of other popular NoSQL databases.

## Replicate data globally

Build apps at planet scale without complex, multiple data center configurations. Designed as [globally distributed database system](#), DocumentDB automatically replicates all your data to any number of regions. Your apps can serve data from a region closest to users for fast, uninterrupted access.



## More choices for consistency



Instead of offering choices between strong and eventual consistencies, DocumentDB offers four well-defined consistency levels - [strong, bounded staleness, session and eventual](#) - for an intuitive programming model with low latency and 99.99% availability in the face of local and regional failures.

## ← Product / Active Directory

A comprehensive identity and access management cloud solution that provides a robust set of capabilities to manage users and groups. It helps secure access to on-premises and cloud applications.

[LEARN MORE →](#)

- ✓ Single sign-on to any cloud & on-premises app
- ✓ Integrated with Salesforce.com, Office 365, et al
- ✓ Enforce multi-factor authentication with SaaS
- ✓ Works with multiple platforms and devices
- ✓ Integrate with on-premises Active Directory
- ✓ Enterprise scale and SLA

### Simplify user access to any cloud app

Enable single sign-on to simplify user access to thousands of cloud apps from Windows, Mac, Android & iOS devices. Launch apps from personalized web-based [access panel](#) or mobile app using company credentials. With [Application Proxy](#) module you can go beyond SaaS apps and publish on-premises web apps to provide secure remote access & single sign-on.

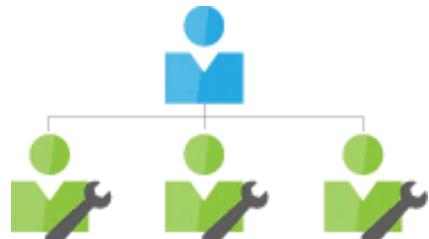


### Protect sensitive data and applications

Azure Multi-Factor Authentication prevents unauthorised access to on-premises & cloud apps by providing an additional level of authentication. Protect your business and mitigate potential threats with security monitoring and alerts, and machine learning-based reports that identify inconsistent access patterns.

### Enable self-service for your employees

Delegate important tasks to your employees, such as resetting passwords and creating & managing groups. Provide self-service password change & reset, and self-service group management with [Active Directory Premium](#).



### Integrate with Active Directory

Extend Active Directory and any other on-premises directories to Azure Active Directory to enable single sign-on for all cloud-based apps. User attributes can be automatically synchronized to cloud directories from all kinds of on-premises directories.

### Get enterprise scale and SLA

Active Directory Premium provides enterprise class scale & reliability. It's a high availability service hosted in globally distributed datacenters. It handles billions of authentications each day from more than 200 million active users and provides a 99.9 percent SLA.

# ← Product / Azure Backup

Azure Backup is a simple, reliable and cost-effective cloud-integrated backup-as-a-service solution that extends tried-and-trusted tools on-premises with rich and powerful tools in the cloud.

[LEARN MORE →](#)

- ✓ Protects data on-premises & in the cloud
- ✓ 99.9% availability guaranteed
- ✓ Reliable offsite backup target
- ✓ Efficient incremental backups
- ✓ Secure – data is encrypted in transit and at rest
- ✓ Geo-replicated backup store

## Protect your critical assets wherever they are

Your data and applications are everywhere - on servers, clients and in the cloud. Backup can protect your critical applications, including SharePoint, Exchange and SQL Server; files and folders; Windows servers and clients; and Azure infrastructure-as-a-service (IaaS) virtual machines.



## Compelling cloud-based backup alternative to tape

Due to business or compliance requirements, organisations are required to protect data for years, and over time this data grows exponentially. Backup provides a compelling alternative to the traditional tapes, with significant cost savings, shorter recovery times & up to 99 years of retention.

## Secure and reliable backup as a service

Your backup data is secure over the wire and at rest. The backup data is stored in geo-replicated storage which maintains 6 copies of your data across two Azure datacenters. With 99.9% service availability, Backup provides operational peace of mind.



## Efficient and flexible online backup services

Backup is efficient over the network and on your disk. Once the initial seeding is complete, only incremental changes are sent at a defined frequency. Built-in features, such as compression, encryption, longer retention and bandwidth throttling, help boost IT efficiency.

# ← Product / HDInsight

A managed Apache Hadoop, Spark, R, HBase, and Storm cloud service made easy. It handles any amount of data, scaling from terabytes to petabytes on demand.

[LEARN MORE →](#)

- ✓ A Data Lake service
- ✓ Scale to petabytes on demand
- ✓ Crunch all data – structured, semi & unstructured
- ✓ Develop in Java, .NET, and more
- ✓ Skip buying and maintaining hardware
- ✓ Spin up Apache Hadoop, Spark R clusters in cloud
- ✓ Use Excel or any BI tool to visualise Hadoop data
- ✓ Connect on premises Hadoop clusters with cloud



## Crunch all data – structured, semi-structured, unstructured

Because it is 100% Apache Hadoop, HDInsight can process unstructured or semi-structured data from web clickstreams, social media, server logs, devices and sensors and more. This lets you analyse new sets of data and uncover new business possibilities which drive your organisation forward.



## Develop in your favourite language



HDInsight has powerful programming extensions for languages including [C#](#), [Java](#), & [.NET](#). Use your programming language of choice on Hadoop to create, configure, submit and monitor Hadoop jobs.

[EXPLORE MORE →](#)

- ✓ Skip hardware purchase and maintenance
- ✓ Use Excel or your favourite BI tools to visualise Hadoop data
- ✓ Connect on-premises Hadoop clusters with cloud
- ✓ Customize clusters to run other Hadoop projects
- ✓ Use NoSQL transactional capabilities
- ✓ Provide real-time stream processing
- ✓ Use Spark for interactive analysis
- ✓ Use R for predictive modelling & machine learning
- ✓ Deploy to Windows and Linux

Azure Batch offers you the computing power required for processing complex business, engineering, science and other similar processing intensive scenarios. All this power, without capital investment. [LEARN MORE →](#)

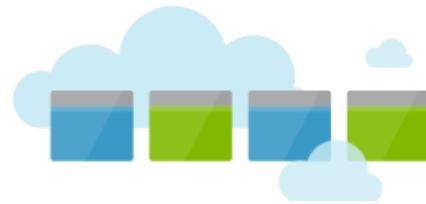
- ✓ Scale to tens of thousands of virtual machines
- ✓ Cloud-enable batch and HPC applications
- ✓ Stage data and execute compute pipelines
- ✓ Choose Linux or Windows to run jobs
- ✓ Autoscale on work in the queue
- ✓ Pay for what you use with no capital investment

## Choose your operating system and tools

Choose the operating system and development tools you need to run your large-scale jobs on Batch. Batch provides a consistent job scheduling and management experience whether you select Windows Server or Linux compute nodes, but lets you take advantage of the unique features of each environment. With Windows, use your existing Windows-based code, including .NET, to run large-scale compute jobs in Azure. With Linux, choose from popular distributions including CentOS, Ubuntu, and SUSE Linux Enterprise Server to run your compute jobs, or use Docker containers to lift and shift your applications. Batch provides SDKs and supports a range of development tools including Python and Java.

## Cloud-enable your cluster applications

Batch runs the apps that you use on workstations & clusters. It is easy to cloud-enable your executables & scripts to scale out. It provides a queue to receive the work you want to run & executes your apps. Batch makes it easy to share data between steps and manage the execution as a whole.



## Imagine running at 100x scale

You use a workstation, maybe a small cluster, or you wait in a queue to run your jobs. What if you had access to 100,000 cores when you needed them and only had to pay for what you used? With Batch you can. Avoid the bottlenecks and waiting that limit your imagination. What could you do on Azure that you cannot do today?



## Let Batch take care of scale for you

When you are ready to run a job, Batch starts a pool of compute VMs for you, installing apps & staging data, running jobs, identifying failures, requeuing work & scaling down the pool as work completes. You have control over scale to meet deadlines & manage costs.

# ← Product / StorSimple

Azure StorSimple is an enterprise hybrid cloud storage solution, that lowers your storage costs by up to 60% by:  
✓ Consolidating storage infra      ✓ Automating data management      ✓ Accelerating disaster recovery

## Consolidate storage infrastructure

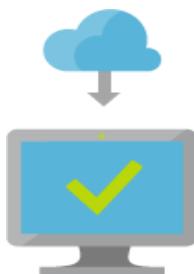
Providing a complete hybrid cloud storage solution for enterprises, StorSimple meets the need of both performance- and capacity-centric applications. It is the best of both worlds with physical arrays for deployments in datacenters and virtual arrays for smaller enterprise environments. Its on-demand infrastructure means no need to set up or maintain costly on-premises equipment for new or special projects. And by using local storage for performance, you have the flexibility to retain all volume data locally.

## Automate data management

Effectively manage data growth by automatically archiving inactive primary data from on-premises to cloud, to create effortless capacity expansion. Remove need for separate backup infra with cloud snapshots that provide off-site data protection & eliminate the need for remote replication of data.



## Accelerate disaster recovery, improve compliance

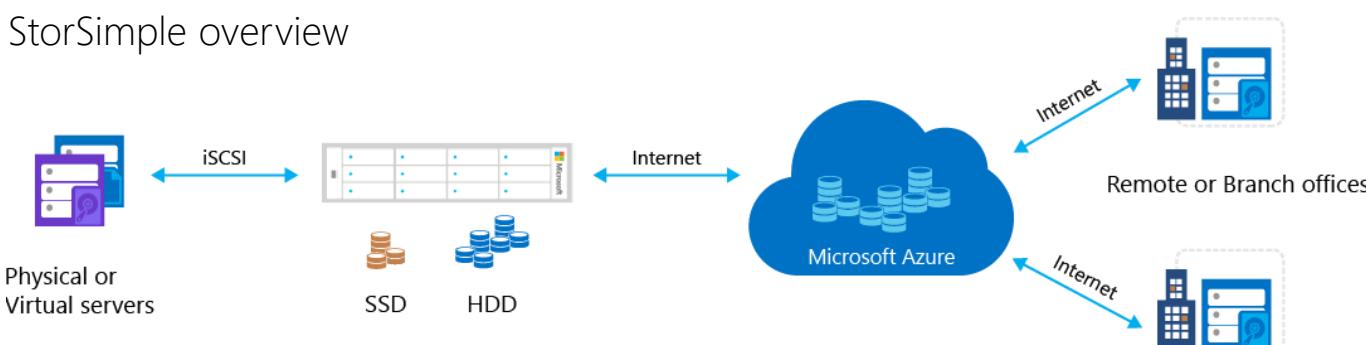


StorSimple provides immediate data availability during partial or full disaster recovery. Apps come up faster to accelerate overall recovery - saving millions of dollars in recovered productivity costs. It also allows customers to fine-tune and fix gaps by testing data recovery, and ensures compliance with corporate data retention and disaster recovery policies.

## Enhance IT agility, drive your business

Speed up business intelligence & decisions with innovative, rapid data movement from remote/branch offices & datacenters to the cloud. StorSimple increases operational efficiency, prevents the need to spend IT budgets on unnecessary storage purchases & significantly reduces IT overhead - reducing storage costs by as much as 60%.

## StorSimple overview



# ← Product / Visual Studio Team Services

Services to let teams share code, track work and ship software - for any language, all in a single package. Visual Studio Team Services is the perfect complement to your IDE.

[LEARN MORE →](#)

- ✓ Unlimited free private code repositories
- ✓ Track bugs, work items, feedback and more
- ✓ Agile planning tools
- ✓ Continuous integration builds
- ✓ Develop in any language
- ✓ Use Visual Studio, Eclipse, or your own tools
- ✓ Enterprise-grade services scale to any team size
- ✓ Free for up to five users

## Get started collaborating quickly

Visual Studio Team Services is the fastest and easiest way yet to plan, build and ship software across a variety of platforms. Get up and running in minutes on our cloud infrastructure without having to install or configure a single server.



### Unlimited private projects using Git or TFVC



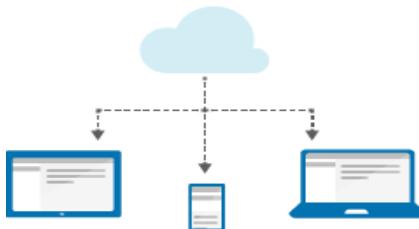
Create private team projects with anywhere access. Use Team Foundation Version Control for traditional centralised version control, or use Git if you prefer a distributed approach. You can mix-and-match on different team projects, making it easy to host entire organizations on a single account.

## Track everything in one place

Capture new features, bugs and other work items into backlogs which are great for teams practicing Scrum, Kanban, or their own agile process. Use customisable task boards to track team progress, or use agile portfolio management for larger groups to track work across all their teams.



### Cloud-powered continuous integration & deployment



Catch quality issues early by using auto compiled build definitions & test apps in the cloud. Track build health over time with graphs & customisable dashboards. When tests pass, auto deploy websites directly to Azure.

Gain insight into your applications: Know about your users & issues they may encounter with rich availability, performance & usage information from your apps - running on devices, servers, Azure, 3<sup>rd</sup>-party cloud, et al.

Publish, manage, secure and analyse your APIs in minutes.

LEARN MORE → | START FREE →

## Create an API gateway and developer portal in minutes

Microsoft Azure API Management is a turnkey solution for publishing APIs to external and internal consumers. Quickly create consistent and modern API gateways for existing backend services hosted anywhere, secure and protect them from abuse and overuse and gain insights into usage and health. Plus, automate and scale developer onboarding to help get your API programme up and running in no time.



### Work with any host, API or scale

We offer an API management platform which works the way you do. Securely connect to back end services built & running on any technology stack. API Management is available worldwide & ready to scale up and down on demand and without service interruption, handling any traffic growth or spike.



### Attract more developers

A self-service developer portal offers access to an auto-generated API catalogue, documentation & code samples. Developers can sign in using existing consumer or work identities, manage access keys, view API usage reports & make API calls without writing a line of code via an interactive console.



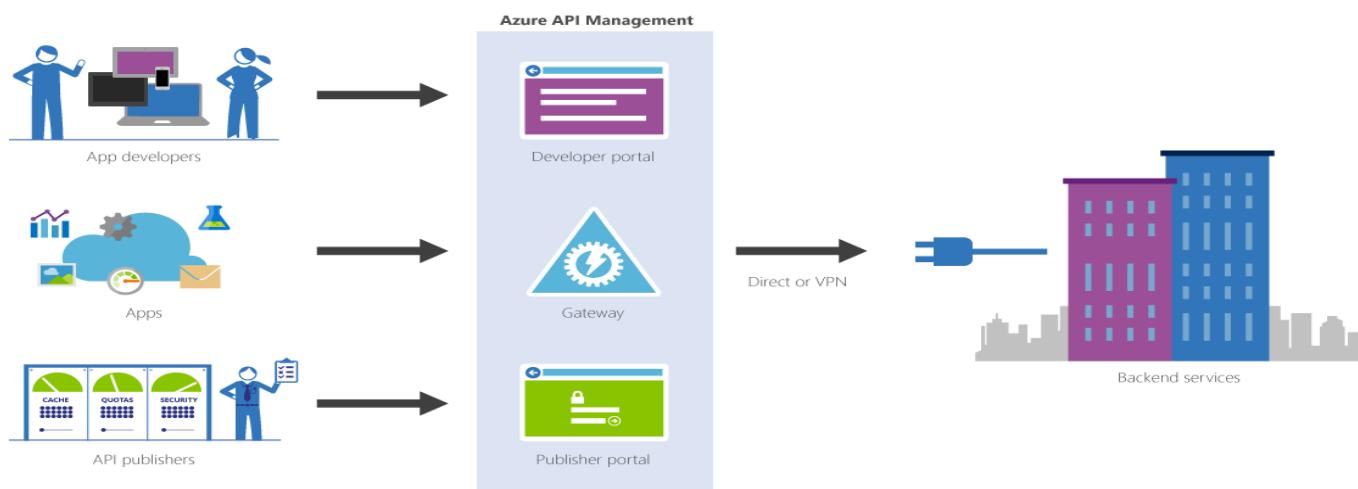
### Secure and optimize your APIs

Secure your APIs using a key, token and IP filtering. Enforce flexible and fine-grained quotas and rate limits, modify the shape and behaviour of your APIs using policies and improve latency and scale your APIs with response caching.



### Gain insights into your APIs

Get a better understanding of how your APIs are being used and performing. View near real-time analytics reports and identify trends that might impact your business. Plus, log request and response data for further online and offline analysis.



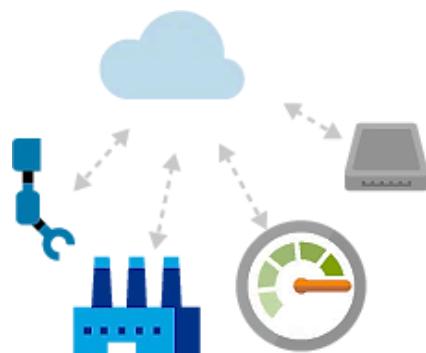
Connect, monitor and manage millions of IoT assets. Whether this is your first experience with the Internet of Things or you are a seasoned pro, we have the tools and technologies to get you going.

[LEARN MORE →](#)

- ✓ Get started quickly
- ✓ Connect and manage billions of assets
- ✓ Support a broad set of OS and protocols
- ✓ Establish reliable, bi-directional communication
- ✓ Enhance the security of your IoT solutions
- ✓ Ingest real-time data and upload files to the cloud

## Establish bi-directional communication with IoT devices

Rely on Microsoft Azure IoT Hub to easily and securely connect your IoT assets. Use device-to-cloud telemetry data to understand the state of your devices & assets, and be ready to take action when a device needs your attention. In cloud-to-device messages, reliably send commands and notifications to your connected devices - and track message delivery with acknowledgement receipts.



## Work with familiar platforms and protocols

Add new devices - and connect existing ones - using open-source device SDKs for multiple platforms, including Linux, Windows and real-time OS. Use standard and custom protocols, including HTTP, Advanced Message Queuing Protocol (AMQP) and MQ Telemetry Transport (MQTT).

## Authenticate for security-enhanced IoT solutions

Set up individual identities and credentials for each of your connected devices—and help retain the confidentiality of both cloud-to-device and device-to-cloud messages. To maintain the integrity of your system, selectively revoke access rights for specific devices as needed.



## Standards based IoT device management at scale

Administrators can remotely maintain, interact with, update and manage IoT devices at scale from the cloud using accepted open source standards. Save time and cost by removing the burden of developing and maintaining a custom device management solution or spending precious resources traveling to maintain global assets.

# ← Product / Content Delivery Network

Microsoft Azure CDN offers users with secure, reliable content delivery with broad global reach & rich feature set.

[LEARN MORE ABOUT CDN →](#) | [GET STARTED →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#)

- ✓ Accelerated performance & improved availability
- ✓ Global coverage with massive scalability
- ✓ Simplified experience enabling multiple providers
- ✓ A rich set of API and developer tools
- ✓ Pay for your use, single billing and support
- ✓ Packages available from basic to advanced

## Global delivery & acceleration of content to any device

If your websites or mobile apps involve streaming media, gaming software, firmware updates or IoT endpoints, Content Delivery Network helps you reduce load times, save bandwidth and increase responsiveness.



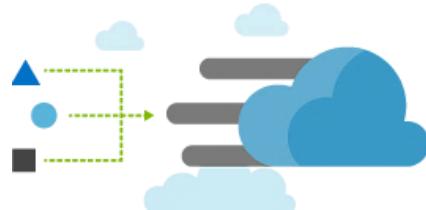
## APIs for building global applications fast



APIs & developer tools to provide you performance, reliability & security you need to build global apps. Programmatic access gives you flexibility to optimise features to provide highest levels of availability & performance.

## Multiple providers for your content delivery needs

Azure Content Delivery Network offers choices from Akamai and Verizon. Customers can select the right CDN based on their needs, regions in which they operate, as well as load balance across CDNs.



## Accelerated content and apps performance

Cloud Delivery Network sends audio, video, apps, images and other files quickly & reliably to customers by moving content closer to your users.

## Robust security

Stay up & running by identifying, absorbing & blocking security threats to absorb distributed DDoS attacks. Azure CDN offers FedRAMP Joint Authorization Board highest certification.

## Advanced real-time analytics

Dive deeper into how your users engage with your content. Gain deep insight into how your assets are being cached and delivered and monitor your traffic in real-time with very rich, granular analytics.

# ← Product / ExpressRoute

ExpressRoute enables you to experience a faster, reliable and private connection to Azure.

[EXPLORE EXPRESS ROUTE →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [REQUEST INFO →](#)

## Make your connections fast, reliable and private

Azure ExpressRoute lets you create private connections between Azure datacenters & on-premises infrastructure, or in a colocation environment. ExpressRoute connections don't go over the public Internet. They are more reliable, faster, less latent & more secure than typical Internet connections. Using ExpressRoute connections to transfer data between on-premises systems & Azure can yield significant cost benefits.



Establish connections to Azure at ExpressRoute locations, or directly connect to Azure from existing WAN network provided by a network service provider.



## Use for storage, backup and recovery

ExpressRoute gives you a fast and reliable connection to Azure, making it suitable for scenarios like periodic data migration, replication for business continuity, disaster recovery and other high-availability strategies. It can be a cost-effective option for transferring large amounts of data, such as datasets for high-performance computing applications or moving large virtual machines between your Dev-Test environment in Azure and your on-premises production environment.

## Extend your datacenter

ExpressRoute lets you securely add compute & storage capacity to your existing datacenter. With high throughput & fast latencies, Azure will feel like a natural extension to your datacenter, so you enjoy the scale & economics of public cloud without compromising on network performance.



## Build hybrid applications

With predictable, reliable, high-throughput connections from ExpressRoute, build apps that span on-premises infra & Azure without compromising on privacy or performance. Run corporate intranet apps in Azure that authenticate users with on-premises AD service & serve corporate users without traffic routing through Internet.

# ← Product / Site Recovery

Orchestrate your disaster recovery plan with Microsoft Azure Site Recovery.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [TRY IT NOW →](#)

✓ Auto protection & replication of virtual machines

✓ No impact recovery plan testing

✓ Remote health monitoring

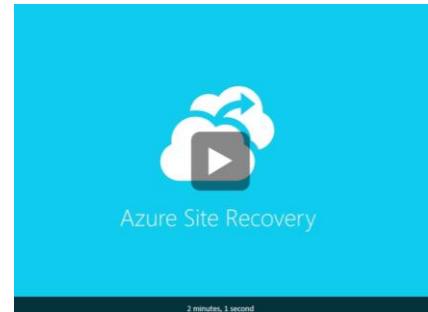
✓ Orchestrated recovery when needed

✓ Customizable recovery plans

✓ Replication to – and recovery in – Azure

## Simple, automated protection and disaster recovery

Your environment can be protected by automating the replication of VMs based on policies that you set & control. Site Recovery can protect Hyper-V, VMware & physical servers, and you can use Azure or secondary data center as recovery site. Site Recovery coordinates & manages ongoing replication of data by integrating with existing technologies.



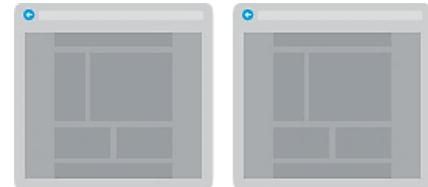
## Orchestrated disaster recovery as a service (DRaaS)



Automate orderly recovery of services in case of site outages at primary datacenters with Site Recovery. Bring over apps in an orchestrated way to help restore services quickly, even for complex multi-tier workloads. Easily create disaster recovery plans in the Microsoft Azure classic portal. Disaster recovery plans can be as simple or as advanced as business requirements demand. Customise networks by mapping virtual networks between the primary & recovery sites, and test disaster recovery plans whenever you want without disrupting the services at your primary location.

## Replication and disaster recovery to Azure

Replicating workloads to Azure enables new capabilities. Apps can be migrated to Azure with a few clicks or burst to Azure temporarily when encountering demand surge. Run reports & analytics on production workloads in Azure without impacting users.



## Continuous health monitoring with Site Recovery

Site Recovery monitors the state of your protected instances continuously and remotely from Azure. When replicating between two sites you control, your virtual machines' data and replication remains on your networks. All communication with Azure is encrypted.

# ← Product / Azure DNS

Host your domain in Azure for outstanding performance and availability.

[LEARN ABOUT AZURE DNS →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [TRY IT NOW →](#)

- ✓ DNS hosted along side your applications
- ✓ Ultra high availability
- ✓ Fast DNS queries
- ✓ Rapid updates to DNS records
- ✓ Supports all common DNS record types

## Host your DNS alongside your apps

With Azure DNS, host DNS domains in Azure. Manage DNS records using the same credentials & billing & support contract as your other Azure services. Seamlessly integrate Azure-based services with corresponding DNS updates, streamlining end-to-end deployment process.



### Accelerate your apps with ultra-fast DNS queries

It uses a global network of name servers to provide fast responses to DNS queries. Because we use Anycast networking, DNS queries automatically route to the closest name servers for the best possible performance.

## Rely on Microsoft's global network of DNS servers

The Microsoft global network of name servers has the scale and redundancy to ensure ultra-high availability for your domains. With Azure DNS, you can be sure that your DNS will always be available.



### Get DNS updates – without the wait

When you add a new DNS record, the Azure DNS name servers are updated in just a few seconds – so you do not have to wait long before that DNS record can be used.

## Related Products and Services



Traffic Manager



Application Gateway



Load Balancer

# ← Product / Machine Learning

A fully managed cloud service which enables you to easily build, deploy and share predictive analytics solutions.

[LEARN MORE →](#) | [CORTANA INTELLIGENCE SUITE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [GET STARTED →](#)

## Deploy in minutes

Azure Machine Learning means business. You can deploy your model into production as a web service in minutes – a web service which can be called from any device, anywhere and which can use any data source. Learn more about the new Web Services →



### New to machine learning?

If you are just getting started, read David Chappell's [Introduction for Technical Professionals](#). Another great resource is Roger Barga's book, *Predictive Analytics with Microsoft Azure Machine Learning*. [Read an interview with the author.](#)



### New to the product?

If you have data science skills, but are just getting started with Azure Machine Learning, check out our [tutorials](#) or get started with sample experiments from the [Gallery](#). Have questions? Just ask our engineers in our [forum](#).



### Current R or Python user?

Azure Machine Learning Studio includes hundreds of built-in packages and support for custom code.

Learn more about how to get started on Machine Learning with R and Python by reading our [blog](#).



### Data scientist or developer?

Use best-in-class algorithms and a simple drag-and-drop interface – and go from idea to deployment in a matter of clicks. [Try it free](#). If you are a developer who wants the data science built in, check out our [APIs](#) and Azure Marketplace.



### Gallery

The Gallery is a learning platform built by our engineers and users like you to share best practices with the data science community.

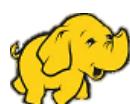
[Contribute today →](#)



### Marketplace

Marketplace is an opportunity for you to sell your work or simply share it with the world.

[Learn how to publish →](#)  
[Visit the Marketplace →](#)



HDInsight

### Related Services



SQL Data Warehouse



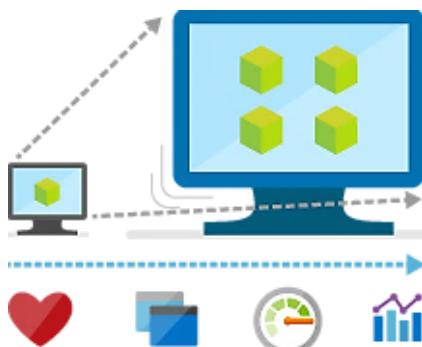
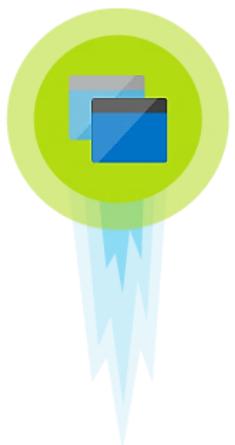
Data Factory

# ← Product / Service Fabric

Build and operate always-on, scalable, distributed applications with Azure Service Fabric.

[LEARN ABOUT SERVICE FABRIC →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [GET STARTED →](#)

- ✓ Simplify micro-service based application development and lifecycle management
- ✓ Deliver low latency performance and efficiency at massive scale
- ✓ **Fast time to market:** Focus on building features that add business value to apps, without having to deal with reliability, scalability or latency in underlying infrastructure.
- ✓ **Choose your architecture:** Build stateless or stateful micro-services to power the most complex, low-latency, data-intensive scenarios and scale them into the cloud.
- ✓ **Microservice agility:** Architecting fine-grained micro-service apps allows continuous integration & development practices & accelerates delivery of new functions.
- ✓ **Visual Studio integration:** Includes Visual Studio tooling & command line support, so you can quickly build, test, debug, deploy & update your Service Fabric apps.



## Deliver low-latency performance & efficiency at scale

Deliver fast in-place upgrades with zero downtime, auto-scaling, integrated health monitoring & service healing. Orchestration & automation for micro services gives new levels of app awareness & insight to automate live-upgrades with rollback & automatic scale-up & scale-down capabilities. Plus, solve hard distributed system problems, so that developers do not have to re-architect apps as usage grows.

## Platform used by Azure & other Microsoft services

Service Fabric is the foundational technology on which we run Azure core infrastructure, powering many of Microsoft's mission-critical services. It understands the available infrastructure resources & needs of apps, enabling an automatically updating, self-healing behaviour that is essential to delivering highly available & durable services at hyperscale.



## Run in Azure, on-premises, or in other clouds

Enjoy the flexibility to deploy the same code on public, hosted or private clouds using consistent platform services & same app model across Azure, on-premises, datacenters.

# ← Product / Virtual Network

Microsoft Azure Virtual Network is your virtual network in the cloud.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [TRY IT NOW →](#)

- ✓ Build a hybrid infrastructure that you control
- ✓ Bring your own IP addresses & DNS servers
- ✓ Secure connections with IPSec VPN or ExpressRoute
- ✓ Gain granular control over traffic between subnets
- ✓ Create sophisticated network topologies
- ✓ Get isolated & secure environment for your apps

## Enhance security and isolation

Azure Virtual Network provides an isolated & secure environment to run VMs & apps. Use your private IP addresses & define subnets, access control policies & more. With Virtual Networks, treat Azure just like you treat your own datacenter.

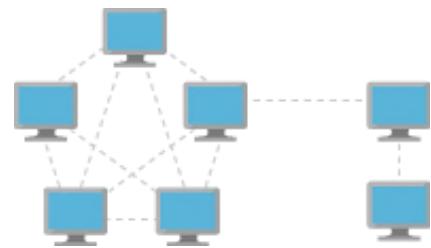


## Rely on our global reach

Traffic between Azure resources - in single region or in multiple regions - stays in Azure network. Intra-Azure traffic doesn't flow over Internet. Inter-region VNet-to-VNet traffic also flows entirely across the Azure network.

## Build sophisticated network topologies

Choose to run a variety of network virtual appliances within a Virtual Network - WAN optimisers, load balancers, app firewalls - & define traffic flows, allowing you to design the network with a greater degree of control.



## Extend your datacenter into the cloud

Easily extend on-premises IT environment into cloud with Virtual Network, the way remote branch office is set up & connected. There are multiple options to securely connect to Virtual Network, like: IPSec VPN, private connection using ExpressRoute.

## IaaS and PaaS, better together

Build services with Virtual Network that rely on Azure VMs & Azure Cloud Services. Use Azure web roles for front-end & VMs for backend databases. Combining PaaS & IaaS within virtual network offers flexibility & scalability.



# ← Product / Multi-Factor Authentication

Azure Multi-Factor Authentication offers added security for your data & apps – without added hassles for users.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

|

[FREE ACCOUNT →](#)

✓ Safeguard access by mobile apps, calls & SMS

✓ Protect Office 365, Salesforce, DropBox, et al

✓ Deploy on premises or in the cloud

✓ Use with VPN, Microsoft IIS, RADIUS, LDAP

✓ Reduce risk; meet compliance requirements

✓ Get real-time fraud monitoring & alerts

## Get more security with fewer hoops

Azure Multi-Factor Authentication helps safeguard data & app access, while meeting user demand for a simple sign-in process. It delivers strong authentication with a range of easy verification options.



## Mitigate threats with real-time monitoring + alerts

It helps protect businesses with security monitoring & machine-learning-based reports that identify inconsistent sign-in patterns. Real-time alerts notify IT departments of suspicious credentials to mitigate potential threats.

## Deploy it on premises or in the cloud

Use Multi-Factor Authentication Server on premises to help secure VPNs, Microsoft ADFS, IIS web apps, Remote Desktop & other remote access apps using RADIUS & LDAP authentication.



## Use with Office 365, Salesforce and more

[Multi-Factor Authentication for Office 365](#) helps secure access to Office 365 apps. It is available with [Azure Active Directory Premium](#) & [thousands of SaaS apps](#), including Salesforce, Dropbox & other popular services.

## Add protection for Azure administrator accounts

Multi-Factor Authentication adds a layer of security to Azure administrator account at no additional cost. When turned on, confirm your identity to spin up a virtual machine, manage storage or use other Azure services.



# ← Product / Visual Studio Application Insights

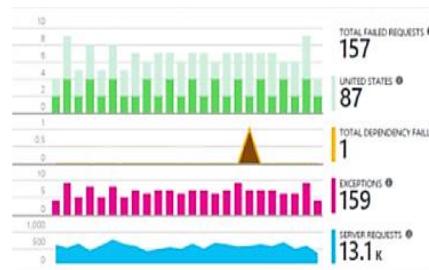
Detect, triage and diagnose issues in your web apps & services with Microsoft Visual Studio Application Insights.

MORE → | PRICING → | DOCUMENTATION → | INTERACTIVE DATA ANALYTICS DEMO →

- ✓ Detect issues through email & webhook alerts
- ✓ Diagnose exceptions & web app performance issues
- ✓ Perform root cause analysis with queries & search
- ✓ Integrate with DevOps processes using VSTS
- ✓ Monitor web apps hosted on cloud & on premises
- ✓ Start with VS or monitor apps without redeploying

## Exceptions and performance diagnostics

Get better understanding of how web apps perform. Use real-time metrics to analyse request load, performance counters & response times across dependencies. Diagnose exceptions & failed requests to correlate them with events & traces, and get multi-dimensional analyses. [LEARN MORE →](#)



## Interactive data analytics

Discover the root cause of any app performance behaviour almost instantaneously through ad-hoc queries. Paired with full-text search, these interactive queries make it quick and easy to find the information you need.

[LEARN ABOUT DATA ANALYTICS →](#) | [INTERACTIVE DATA ANALYTICS DEMO →](#)

### Top Windows Event Log issues

WAD201_APP		
Application Crash (Event ID: 1000)	9.16 K	29.8 %
.NET Runtime Error (Event ID: 1026)	9.15 K	29.8 %
Role Failure (Event ID: 2001)	6.76 K	22.0 %
Startup Task Failure (Event ID: 1000)	2.4 K	7.8 %

## Azure Diagnostics

Detect & diagnose role lifecycle issues that may affect your apps or cloud services. Track performance issues for apps running on VMs efficiently by using the same screen as your app performance data. [LEARN MORE →](#)

## Proactive Detection

Application Insights uses machine learning capabilities to continually analyse your application. This allows it to learn your app's normal behaviour so service degradations or disruptions are automatically detected and reported – helping you respond to issues at the speed your customers demand. [LEARN MORE →](#)

## DevOps & Application Lifecycle Management

Diagnose problems from within your dev environment and incorporate monitoring in existing DevOps & ALM processes. [LEARN MORE →](#)



# ← Product / SQL Data Warehouse

True cloud elasticity for freedom with control - enjoy advanced analytics & freedom to scale within your budget.

[LEARN MORE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [COMMUNITY →](#) | [START FREE →](#)

## Fast provisioning and scaling

Provision a data warehouse in just 3 to 5 minutes and scale your compute in seconds to keep up with demand. Unlike other cloud services that can require hours to scale up, SQL Data Warehouse truly delivers on the promise of cloud elasticity, making it ideal for batch-based data warehouse workloads.

## Budget freedom and flexibility

Because SQL Data Warehouse has a decoupled storage & compute model, it allows you to easily scale compute in seconds without over-provisioning or over-paying. It also offers the unique option to pause compute, giving you even more freedom to better manage your cloud costs. Bring all your data with no tradeoffs on which data to ingest – run compute only on the datasets that matter.

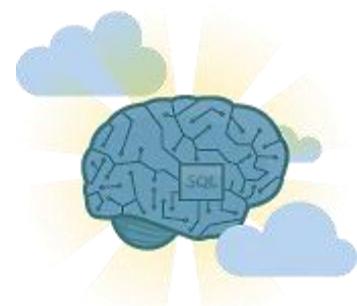


## Innovative security for strong protection

SQL Data Warehouse includes built-in auditing & threat detection, which use machine learning to understand workload patterns & serve as alarm system to alert you of potential breach. It also works seamlessly with Azure Active Directory. This support enables single sign-on to further protect data by ensuring right users have access to the right data.

## Big data insights with integrated queries

Built into SQL Data Warehouse, Microsoft PolyBase technology enables distributed analytics and allows you to run a single T-SQL query using familiar tools over multiple data sources, including Azure Storage blobs. PolyBase also offers blazing-fast data ingestion from within the same query tooling experience.



## Real-time analytics with built-in BI

Transform your business with real-time analytics for all of your data with existing tools, including: Power BI, Microsoft Excel. Plus, tools from popular BI partners like Looker Data Sciences, Tableau Software & Qlik Technologies work with SQL Data Warehouse. Seamless compatibility with SSIS, Stream Analytics, Machine Learning, Data Factory & Azure Storage ensures insight across all of your data.

Azure Media Services are your cloud services for premium video workflows.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

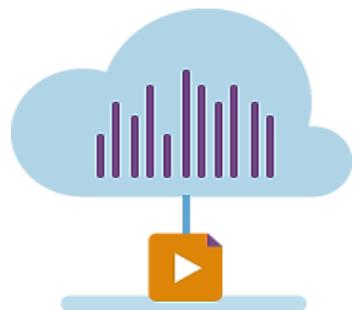
| [DOCUMENTATION →](#)

| [START FREE →](#)

- ✓ Studio-grade encoding at cloud scale
- ✓ One player for all your playback needs
- ✓ Greater discoverability & accessibility of media
- ✓ Content protection & encryption
- ✓ On-demand & live video streaming with CDN
- ✓ Broad ecosystem of value-added partners

## Stream broadcast and OTT video

Build online audience & extend reach by distributing content to users on phones, tablets & all digital devices. Take advantage of events/niche markets by bringing new channels to market quickly & [Encoding OTT video to multiple formats](#).



## Stream sports and live events



Having handled large events like: FIFA World Cup & 2014 Sochi Winter Olympics, Media Services is a proven & reliable live event streaming service that manages costs & reduces complexity of streaming live events across a range of devices – from smart phones to Internet-connected TVs. See how to [work with channels that are enabled to perform live encoding](#).

## Deliver corporate content

Reach employees & customers anywhere & on any device in a secure, scalable manner. Make corporate communications, training & knowledge sharing more accessible by combining Media Services with easy-to-use solutions, like: Skype Meeting Broadcast, Office 365 Video, or customisable solutions from our partners. Plus, easily [manage all of your content using Azure Classic Portal](#).



## Deliver government content

Media Services & Azure Government delivers security-enhanced video streaming to mobile devices. Enhance accessibility to critical documents by [indexing media files with Azure Media Indexer](#). It helps ensure security & compliance for agencies through network-isolated Azure instance & end-to-end encryption.

Azure Stream Analytics offers the best-in-class real-time stream processing in the cloud.

LEARN MORE →

| PRICING DETAILS →

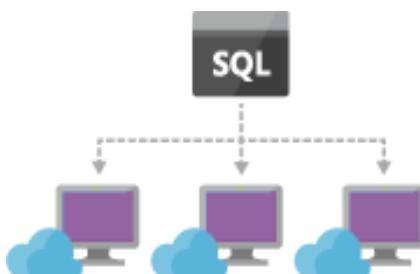
| DOCUMENTATION →

| START FREE →

- ✓ Perform real-time analytics for your IoT solutions
- ✓ Stream millions of events per second
- ✓ Get mission-critical reliability & performance
- ✓ Create real-time dashboards & alerts over data
- ✓ Correlate across multiple streams of data
- ✓ Use SQL-based language for rapid development

## Gain real-time insights

Stream Analytics lets you rapidly develop & deploy low-cost solutions to gain real-time insights from devices, sensors, infrastructure & apps. Use it for IoT scenarios, such as real-time remote management & monitoring or gaining insights from devices like mobile phones & connected cars, et al.

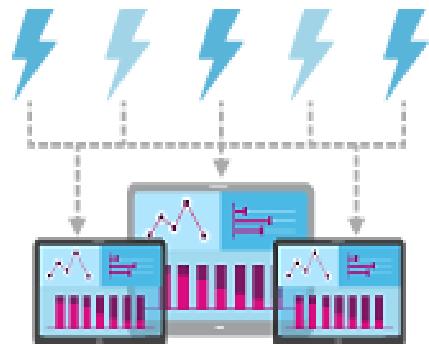


## Enable rapid development

Reduce friction & complexity, & use fewer lines of code when developing analytic functions for scale-out distributed systems. Describe the desired transformation with SQL-based syntax & Stream Analytics automatically distributes it for scale, performance & resiliency.

## Perform real-time analytics

Stream Analytics is integrated out-of-the-box with [Azure Event Hubs](#) to ingest millions of events per second. It processes ingested events in real-time, comparing multiple streams or comparing streams with historical values & models. It detects anomalies, transforms incoming data, triggers alerts when a specific errors or conditions appear in the stream & displays this real-time data in your dashboard.



## Achieve mission-critical reliability and scale

Scale to any volume of data while still achieving high throughput, low-latency & guaranteed resiliency. Get all these without incurring any up-front costs & without time-consuming installation or setup. Azure does it all for you. Get up & running in minutes. Stream Analytics processes data at a high throughput with predictable results & no data loss.

# ← Product / Azure Active Directory Domain Services

Azure Active Directory Domain Services is your domain controller as a service.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [TRY NOW →](#)

- ✓ Lift-&-shift apps to Azure more easily than ever
- ✓ Use LDAP, AD domain join, NTLM authentication
- ✓ Rely on a managed, highly-available service

- ✓ Get started in minutes, pay as you go
- ✓ Develop & test with no identity worries
- ✓ Manage Azure VMs effectively using Group Policy

## Use managed domain services on Azure

Azure Active Directory Domain Services lets you join Azure VMs to a domain without deploying domain controllers. Users sign in to these VMs using corporate AD credentials & access resources seamlessly. To more securely administer domain-joined VMs, use Group Policy – an easy, familiar way to apply & enforce security baselines on all your Azure VMs.



## Migrate on-premises apps to Azure with no identity worries



AD Domain Services features like domain join, LDAP, Kerberos & NTLM authentication are widely used in enterprises. Migrate legacy directory-aware apps running on premises to Azure without worrying about identity requirements. On VMs in Azure, easily deploy apps such as Microsoft SharePoint, custom LOB apps & apps which rely on Microsoft SQL Server.

## Deploy in minutes, pay as you go

Using the Azure portal, enable Azure AD Domain Services for your Azure AD tenant. You pay an hourly charge based on the size of your directory.

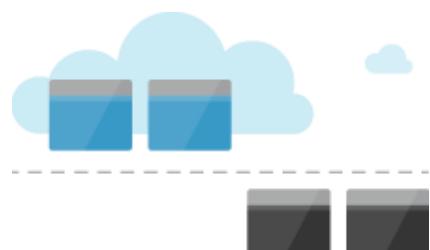


## Get enterprise scale and SLA

Active Directory Domain Services delivers enterprise-grade scale & reliability. It is a highly available service hosted in globally distributed datacentres.

## Handle directory-aware apps along with SaaS apps

Azure Active Directory – identity & access management cloud solution for employees, partners & consumers now supports your traditional directory-aware apps alongside your modern cloud apps.



Cloud-scale telemetry ingestion from websites, apps & devices.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

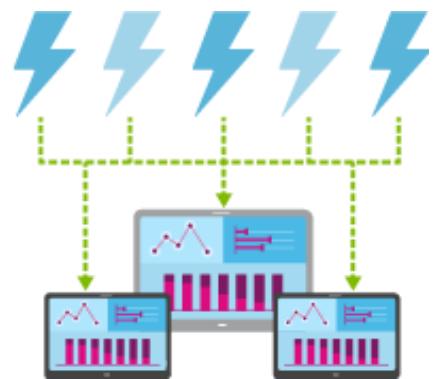
| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Log millions of events per second in near real time
- ✓ Connect device with flexible authorisation & throttling
- ✓ Use time-based event buffering
- ✓ Get a managed service with elastic scale
- ✓ Reach multiple platforms with native client libraries
- ✓ Pluggable adapters for other cloud services

## Stream millions of events per second

Azure Event Hubs is a highly scalable publish-subscribe service that can ingest millions of events per second & stream them into multiple apps. This lets you process and analyse the massive amounts of data produced by your connected devices & apps. Once Event Hubs has collected the data, transform & store it by using any real-time analytics provider or with batching/storage adapters.



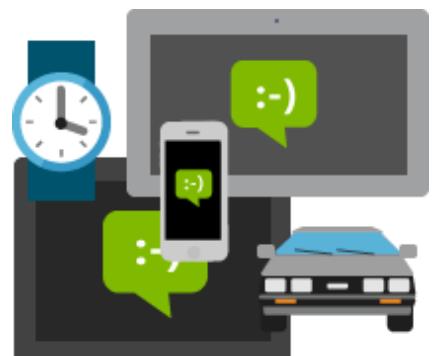
## Process events with variable load profiles



Big data defines today's connected world. Big data originates from many sources with variable load profiles, like: connected cars & thermostats that produce telemetry data every few minutes, app performance counters that generate events every second & mobile apps that capture telemetry for every user's individual action. Event Hubs is a managed service that ingests events with elastic scale to accommodate these variable load profiles & the spikes caused by intermittent connectivity.

## Connect millions of devices across platforms

Due to the rapid proliferation of connected devices & the variety of platforms & protocols involved, ingesting data from devices is challenging. Event Hubs meets the challenge of connecting disparate data sources while handling the scale of the aggregate stream. It lets you easily provision capacity to process events from millions of devices while preserving event order on a per-device basis. Support for Advanced Message Queuing Protocol (AMQP) & HTTP allow many platforms to work with Event Hubs. Native client libraries also exist for popular platforms.



# ← Product / Data Factory

Compose and orchestrate data services at scale with Azure Data Factory.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Visualize data lineage
- ✓ Connect to on-premises & cloud data sources
- ✓ Monitor data pipeline health

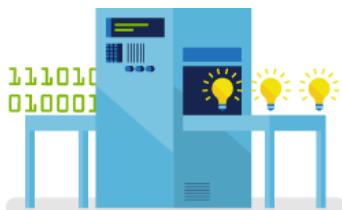
- ✓ Create, schedule, orchestrate and manage data pipelines
- ✓ Automate cloud resource management



## Ingest & prepare

Azure Data Factory is a globally deployed data movement service in the cloud.

Use it to ingest data from multiple on-premises & cloud sources, connect to on-premises sources with data management gateway & get data where you need it.



## Transform & analyse

Schedule, orchestrate & manage data transformation & analysis process. Choose from a range of processing services & compose them to managed data pipelines.

## Publish & consume

Using data pipelines, transform raw data into finished or shaped data that is ready for consumption by BI tools or apps. Data Factory gets you valuable data to where it needs to go for simple consumption by on-premises or cloud apps.



## Monitor & manage

Visualise, monitor & manage data pipeline network to identify issues & take action. Let Data Factory save you time and money by automating your data pipelines with on-demand cloud resource management.

Safeguard cryptographic keys and other secrets used by cloud apps and services by leveraging Azure Key Vault.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [TRY NOW →](#)

✓ Increase security & control over keys & passwords

✓ Create & import encryption keys in minutes

✓ Reduce latency with cloud scale global redundancy

✓ Applications have no direct access to keys

✓ Use FIPS 140-2 Level 2 validated HSMs

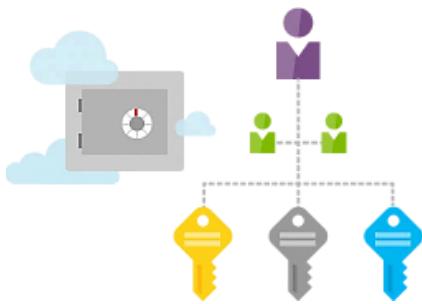
✓ Simplify & automate tasks for SSL/TLS certificates

## Enhance data protection & compliance

Secure key management is essential to protecting data in the cloud. With Azure Key Vault, encrypt keys & small secrets like passwords using keys stored in hardware security modules (HSMs). For added assurance, import or generate keys in HSMs. Microsoft will process your keys in FIPS 140-2 Level 2 validated HSMs. Microsoft does not see or extract your keys. Monitor & audit key use with Azure logging – pipe logs into Azure HDInsight or your SIEM for additional analysis & threat detection.



## All of the control, none of the work



With Key Vault, there is no need to provision, configure, patch & maintain HSMs & key management software. Provision new vaults & keys in minutes & centrally manage keys, secrets & policies. Maintain control over keys – simply grant permission for your own & third-party apps to use them as needed. Apps never have direct access to keys. Developers easily manage keys used for Dev/Test & migrate seamlessly to production keys managed by security operations. Simplify & automate tasks related to SSL/TLS certificates – Key Vault enables you to enrol & automatically renew certificates from supported Public Certificate Authorities.

## Boost performance & achieve global scale

Improve performance & reduce the latency of cloud apps by storing cryptographic keys in the cloud instead of on-premises. Key Vault rapidly scales to meet the cryptographic needs of your cloud apps & match peak demand without the cost associated with deploying dedicated HSMs. You can achieve global redundancy by provisioning vaults in Azure global datacentres – keep a copy in your own HSMs for added durability.



# ← Product / Service Bus

Azure Service Bus helps you keep your applications & devices connected across private & public clouds.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

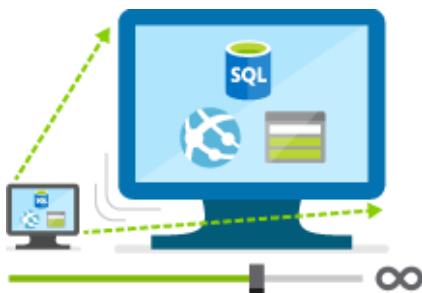
|

[FREE ACCOUNT →](#)

- ✓ Build reliable & elastic cloud apps with messaging
- ✓ Protect your applications from temporary peaks
- ✓ Distribute messages to multiple backend systems
- ✓ Reach devices with sub-second response time
- ✓ Decouple your applications from each other
- ✓ Build solutions that work with existing networks

## Runs anywhere, connects nearly anything

Service Bus is a generic, cloud-based messaging system to connect apps, services & devices – wherever they are. Connect apps running on Azure, or on-premises systems, or both. Use Service Bus to connect household appliances, sensors & other devices to a central app or to each other.



## Build robust cloud solutions that scale

Asynchronous messaging patterns are the architectural cornerstone of reliable & scalable apps. Integrating cloud resources like Azure SQL Database, Storage & Web Apps for App Service, with Service Bus messaging ensures smooth operation under heavy & variable load with the durability to survive intermittent failures.

## Manage message delivery in the cloud

Queues offer simple first-in, first-out guaranteed message delivery & support a range of standard protocols (REST, AMQP, WS) & APIs. Topics deliver messages to multiple subscriptions & fan out message delivery at scale to downstream systems.



## Connect on-premises applications to the cloud

The Service Bus relay service solves the challenges of communicating between on-premises apps & the outside world by allowing on-premises web services to project public endpoints. Systems can access these web services, which continue to run on-premises from anywhere on the planet.

# ← Product / Azure Active Directory B2C

Azure Active Directory B2C is your one-stop solution to consumer identity & access management in the cloud.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

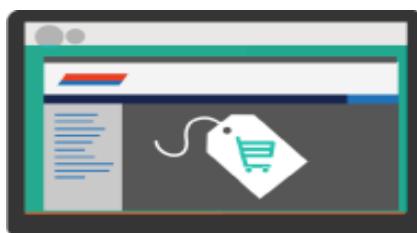
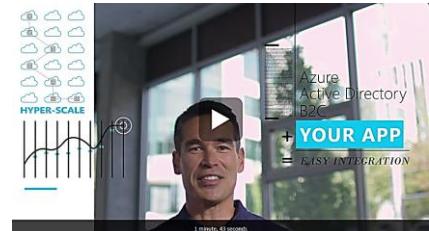
| [GET STARTED →](#)

- ✓ Improve connection with your consumers
- ✓ Pay only for what you use
- ✓ Scale to hundreds of millions of consumers

- ✓ Help protect your consumers' identities
- ✓ Let consumers use their social media accounts
- ✓ Customisable workflows for consumer interaction

## Consumer identity & access management

Stay connected with consumers with the most reliable & cost effective cloud identity service. Built on Azure Active Directory, Azure Active Directory B2C is a highly available, global, identity management service for consumer-facing apps that scales to millions of identities. It can be easily integrated across mobile and web platforms.



## Deliver friction-free consumer experiences

Make it easy for consumers to get to your app. Enable self-service sign up, profile management & single sign-on to all apps. Customers can choose between using their existing social accounts or creating new accounts.

## Pay as you grow

Starting with a free tier & then pay as you go as you get more customers & traffic to your applications. Azure Active Directory B2C pricing model combines per authentication & per user charges. Finally, a pricing model that makes sense.

[LEARN MORE →](#)



## Rely on us when your customers rely on you

Secure access & availability go hand-in-hand. Your customers can rest assured that their profiles are protected through various security controls & app/policy-based multi-factor authentication. As Active Directory B2C is a reliable, globally-distributed service with 99.9% SLA, they will be able to access your app/service from virtually everywhere.

## Use a rich standards-based platform and extensible policies

Integrate consumer identity management into apps. Use extensible policy frameworks for granular control over experiences. Standard protocols like OpenID Connect makes identity management possible on platforms.

# ← Product / Scheduler

Run your jobs on simple or complex recurring schedules using Azure Scheduler.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

|

[FREE ACCOUNT →](#)

- ✓ Call services inside or outside of Azure
- ✓ Run jobs on any schedule – now, later or recurring
- ✓ Trust it for reliability, even during unexpected failures
- ✓ Use Storage queues for long-running/offline jobs
- ✓ Invoke web service endpoints over HTTP/HTTPS
- ✓ Invoke Azure Service Bus queues & topics

## Create jobs that run on your schedule

Azure Scheduler lets you create jobs in the cloud that reliably invoke services inside & outside of Azure – such as calling HTTP/S endpoints or posting messages to Azure Storage queues, Azure Service Bus queues, or Azure Service Bus topics. You can choose to run jobs right away, on a recurring schedule, or at some point in the future.



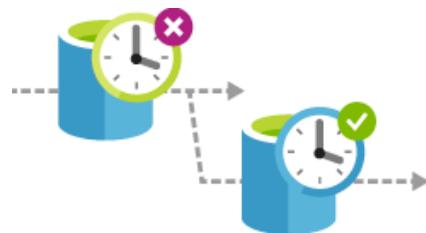
## Ideal for recurring actions, maintenance, developers



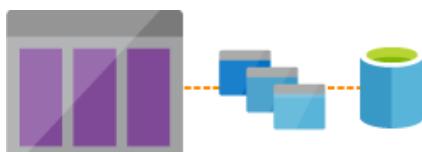
Scheduler is great for recurring actions – for example, periodically gathering data from Twitter into a feed. It is also ideal for cleaning up logs, kicking off routine backups & other app maintenance tasks. Developers can also integrate Scheduler into their apps.

## Designed for high availability, reliability

Scheduler operates even in the face of network, computer & datacenter failures, so your scheduled jobs continue to execute on time. It automatically switches to an alternative datacenter in the same region if needed. Users can also configure alternate endpoints, in case their main endpoint becomes unavailable.



## Create asynchronous jobs using queues



Scheduler can also post messages to [Storage queues](#) or Service Bus queues or topics for asynchronous processing of recurring requests. This is useful for complex or long-running requests – such as a series of SQL queries against a large database – & when you want to invoke a service which is offline.

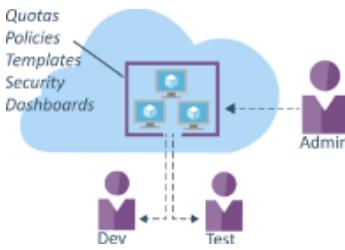
Azure DevTest Labs offer developers with fast, easy and lean dev-test environments.

MORE → | PRICING → | DOCUMENTATION → | VIDEOS → | BLOG → | START FREE →

- ✓ Quickly provision development & test environments
- ✓ Minimise waste with quotas & policies
- ✓ Set automated shutdowns to minimise costs
- ✓ Create VM in a few clicks with reusable templates
- ✓ Use virtual machines from pre-created images
- ✓ Build Windows & Linux environments

## New to DevTest Labs?

Watch this introduction video or read [What is DevTest Labs](#) to see how DevTest Labs helps developers & testers quickly create environments in Azure while minimising waste & controlling cost.



## Self-service without the worry

DevTest Labs makes it easier to control costs. Set caps on your lab, such as number of VMs per user & per lab & create policies to automatically shut down VMs based on a schedule or other criteria.

[LEARN ABOUT LAB POLICIES →](#)

## Quickly get to "ready to test"

Create environments with reusable templates having everything you need for developing & testing apps. Create an environment, with the last good build of your app, in a few clicks.

[REUSABLE TEMPLATE CONCEPTS →](#)



## Create once, use everywhere

Capture & share environment templates & artefacts within your team or organisation – all in source control – to create dev & test environments.

✓ Explore public artifact repository & the ARM QuickStart templates →

## Integrates with your existing toolchain

Use premade plug-ins or our API to provision dev & test environments directly from your preferred continuous integration (CI) tool, integrated development environment (IDE) or automated release pipeline. You can also use our comprehensive command line tool.

Install Azure DevTest Labs tasks to your VSTS pipeline →

# ← Product / Notification Hubs

Send push notifications to any platform from any backend using Azure Notification Hubs.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

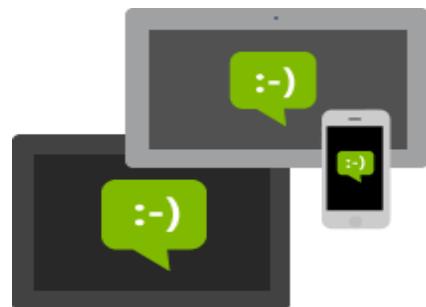
| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Reach major platforms: iOS, Android, Windows, etc.
- ✓ Use any backend – in the cloud or on-premises
- ✓ Broadcast to millions of devices with single API call
- ✓ Tailor push notifications by language & location
- ✓ Dynamically define & notify user segments
- ✓ Scale instantly to millions of mobile devices

## Fast broadcast to millions of devices

Azure Notification Hubs is a massively scalable mobile push notification engine for sending millions of notifications to iOS, Android, Windows or Kindle devices, working with APNS, GCM, WNS, MPNS & more. Tailor notifications to specific users, or entire audiences, with a few lines of code.

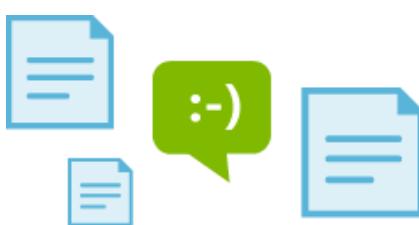
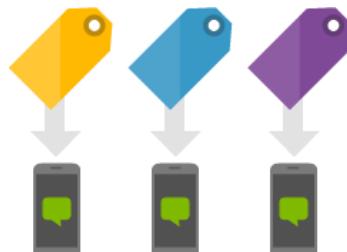


## Works with any back end

Notification Hubs is flexible enough to plug into any backend – .NET, PHP, Java, Node.js – whether it's located on-premises or in cloud. This makes it easier to instantly update your mobile apps & engage your customers.

## Target any audience with dynamic tags

Broadcast push notifications to everyone at once or to specific user devices using the tagging feature. It lets you segment users based on activity, interest, location or preference, so you deliver the right content to the right person at right time.



## Localisation made easier with templates

If your app covers multiple markets, the templates feature of Notification Hubs provides a handy way to send localised push notifications, so you are speaking to customers in their languages.

## Designed for massive scale

Quickly scale to millions of devices & billions of notifications without re-architecting or sharding. Notification Hubs automatically handles the infrastructure needed to scale messages to every active device.



Simplify cloud management with process automation.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

|

[FREE ACCOUNT →](#)

✓ Save time & money with automation

✓ Use with Azure & third-party cloud services

✓ Eliminate time-consuming, repetitive tasks

✓ Integrate with any service using PowerShell script

✓ Improve reliability & efficiency

✓ Get a highly available automation engine

## Save time while lowering overhead costs

Automate the frequent, time-consuming & error-prone cloud management tasks.

Azure Automation helps you spend more time on work that adds business value. By reducing errors & boosting efficiency, it also helps lower your operational costs.



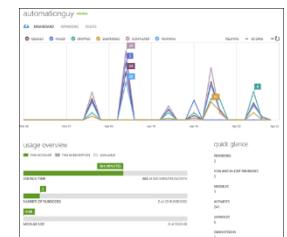
## Use our PowerShell workflows or create your own



In Automation, Windows PowerShell scripts & workflows - runbooks - help you work smarter by handling creation, deployment, monitoring & maintenance of Azure resources & 3<sup>rd</sup>-party apps. The Automation Runbook Gallery puts samples, utilities & scenario runbooks right at your fingertips, for you to get up & running quickly with your automation tasks.

## Integrate with the services you depend on

Automation runbooks work with Web Apps in Azure App Service, Azure VMs, Azure Storage, Azure SQL Database & other popular Azure services. Use them with services that offer public Internet APIs. They offer easy-to-read dashboard charts & log records.



## Deliver more reliable services, faster

By efficiently handling processes across tools, systems & department silos, Automation lets you deliver services faster & consistently. It is very reliable & allows creation of checkpoints to resume workflows post errors/issues.

## Get easier configuration management in the cloud

Author & manage PowerShell DSC, import DSC resources & generate DSC node configurations in cloud. With Azure Automation DSC, reliably monitor & update machine configuration across physical & virtual machines.

# ← Product / Log Analytics

Simplify cloud management with process automation.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

## What is Log Analytics?

Log Analytics is a service in Operations Management Suite that helps you collect & analyse data generated by resources in your cloud & on-premises environments. It gives you real-time insights using integrated search & custom dashboards to analyse millions of records across your workloads & servers regardless of their location.

## Collect, combine, correlate & visualise all of your data

Separate signal from noise with simple, powerful log-management tools. Collect & search across data sources from multiple systems, centralised in a single data store to easily identify the root cause of operational issues. Create your own personal lens to focus on what matters most.



## Manage your Azure resources at an Enterprise level

Get deep visibility into your Azure resources across multiple subscriptions your enterprise might use. Gain the ability to transform your Azure activity data & managed resource data into an insight with flexible search queries.

## Ensure that your servers are up to date

Identify missing system updates & view malware status across all Windows Server instances – running in your datacentre or the public cloud. You can know which servers have the latest updates & which ones need updating.



## Track server configuration changes

When troubleshooting operational incidents, you want to know what has changed on your servers. We help you identify operational issues caused by Windows service & software changes occurring in your environment.

## Review configurations for your workloads

Detect potential configuration issues from identified best practices for workloads such as Microsoft SQL Server, SharePoint, Exchange & Hyper-V. Proactively avoid problems with ongoing assessment of your configuration.

# ← Product / Azure Security Center

Prevent, detect & respond to threats with increased visibility & control over the security of your Azure resources.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Understand security state of all your Azure resources
- ✓ Control cloud security with policy-driven monitoring
- ✓ Make it easy for DevOps to deploy security solutions

- ✓ Find threats with behavioural analysis based on our vast global intelligence & expertise
- ✓ Respond to incidents rapidly with insights into attacks & suggestions for remediation

## Understand your cloud security state

With Azure Security Centre, you get a central view of the security state of all your Azure resources. At a glance, verify that the appropriate security controls are in place & configured correctly. Quickly identify any resources which require attention.



## Take control of cloud security

Define policies for your Azure subscriptions according to your company's cloud security needs, tailored to the type of apps or sensitivity of the data in each subscription. Use policy-driven recommendations to guide resource owners through the process of implementing required controls – taking the guesswork out of cloud security.

## Easily deploy integrated cloud security solutions

Rapidly enable a range of security solutions from Microsoft & its partners, including industry-leading firewalls & antimalware. Use streamlined provisioning to easily deploy security solutions – even networking changes are configured for you. Security events from partner solutions are automatically collected for analysis & alerting.



## Detect threats & respond fast



Staying ahead of current & emerging cloud threats requires an integrated, analytics-driven approach. Combining Microsoft global threat intelligence & expertise with security-related insights across Azure deployments, Azure Security Center helps you detect actual threats early. Security alerts offer insights into attacks & suggest ways to remediate issues & recover quickly.

# ← Product / BizTalk Services

Prevent, detect & respond to threats with increased visibility & control over the security of your Azure resources.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Get started quickly with Hybrid Connections

- ✓ Proven in production – EDI, B2B, Partner, EAI, IoT

- ✓ Extend on-premises systems to the cloud for hybrid integration

- ✓ Integration partners add industry & integration expertise

## App Service, API Apps & Logic Apps

Extend integration solutions to the cloud by using Microsoft's new App Service capabilities.

[LEARN MORE →](#)



## Enterprise application integration



BizTalk Services provides out-of-the box, cloud to on-premises & LOB app integration for SAP, Oracle EBS, SQL Server & PeopleSoft. It lets you connect with any HTTP, FTP, SFTP or REST data source. You can route messages by using various Azure artifacts like Service Bus queues, Topics, SQL Database & Blob storage. Thousands of customers trust BizTalk Services for solutions like payment processing, supply chain management, business-to-business interactions, real-time decision making & reporting.

- ✓ Learn more about Microsoft integration →

## Hybrid Connections

The Hybrid Connections feature of BizTalk Services lets you connect Azure Websites or Azure Mobile Services to any on-premises TCP or HTTP resource – such as Microsoft SQL Server, MySQL or any web service – with just a few configuration changes & without using any custom code.



- ✓ For more information, see Hybrid Connections Overview →

## Related Products and Services



Active Directory



API Management



SQL Database

# ← Product / Traffic Manager

Geo-route incoming traffic to your app for better performance & availability.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

|

[FREE ACCOUNT →](#)

- ✓ Improve app availability with automatic failover
- ✓ Increase your application's responsiveness
- ✓ Enable smooth cloud migration

- ✓ Distribute your app traffic with weighted values
- ✓ A/B test new deployments
- ✓ Seamlessly combine on-premises & cloud systems

## Choose from flexible traffic routing options

Azure Traffic Manager gives you three options for traffic routing: [failover](#), [performance](#) or [weighted round robin](#). You choose the one which is right for your application or scenario.



### Reduce application downtime

Traffic Manager can improve the availability of important applications by monitoring your Azure or external sites & services & automatically directing users to a new location anytime there is a failure.

### Improve app performance

Traffic Manager makes applications more responsive and improves content delivery times by directing users to an Azure or external location with the lowest network latency.

### Distribute traffic across locations

Microsoft Azure Traffic Manager can direct user traffic to distribute it across multiple locations, like multiple cloud services or multiple Azure web apps. Traffic Manager can use either equal or weighted load distribution.

### Use with on-premises datacenter

Traffic Manager is a popular option for on-premises scenarios including burst-to-cloud, migrate-to-cloud and failover-to-cloud. Use it to upgrade or perform maintenance on your on-site datacenter without inconveniencing customers.

## Learn more

- ✓ Traffic Manager pricing →
- ✓ What is Traffic Manager →
- ✓ Started with Traffic Manager →
- ✓ Cloud computing terms →

## Resources

- ✓ Traffic Manager Status →
- ✓ Service Level Agreement →
- ✓ Region availability →
- ✓ Support options →

## Related products

- ✓ Virtual Machines →
- ✓ App Service →
- ✓ Cloud Services →
- ✓ Start using Traffic Manager →

Azure Redis Cache offers high throughput, consistent low-latency data access to power fast, scalable Azure apps.

LEARN MORE → | PRICING DETAILS → | DOCUMENTATION → | TRY AZURE REDIS CACHE →

Azure Redis Cache is based on the popular open-source Redis cache. It gives you access to a secure, dedicated Redis cache, managed by Microsoft & accessible from any app within Azure. It is available in the following tiers:

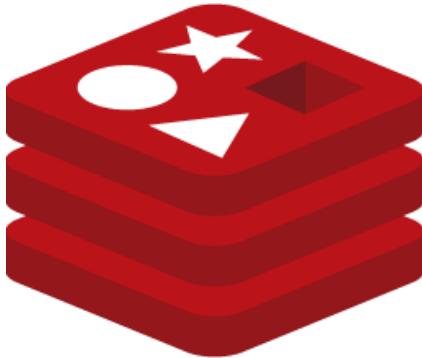
- ✓ Basic: Single node, multiple sizes, ideal for dev/test & non-critical workloads. The basic tier has no SLA.
- ✓ Standard: A replicated cache in a 2-node Primary/Secondary configuration managed by Microsoft.
- ✓ Premium: Includes high availability SLA & all Standard-tier features & more.

## High performance

Azure Redis Cache helps apps become more responsive even as user load increases. It leverages low-latency, high-throughput capabilities of Redis engine. This separate, distributed cache layer allows data tier to scale independently for efficient use of compute resources in your app layer.



## Great features



Redis is an advanced key-value store, where keys contain data structures such as [strings](#), [hashes](#), [lists](#), [sets](#) & [sorted sets](#). Redis supports a set of atomic operations on these data types. It supports trivial-to-setup [master-subordinate replication](#), with very fast non-blocking first synchronisation, auto-reconnection on net split & so forth. Other features include: [transactions](#), [publish/subscribe](#), [Lua scripting](#), [keys with a limited time to live](#) & configuration settings to make Redis behave like a cache. You can use Redis from [most of today's programming languages](#). Azure Redis Cache uses Redis authentication & also supports SSL connections to Redis.

## Easy to use & manage

Azure Redis Cache is easy to use. Just provision a cache using [the Microsoft Azure portal](#) & call into its end point using any client that supports Redis. If you have used Redis before, you already know how to use Azure Redis Cache.

Azure Redis Cache is easy to manage. You can also easily monitor the health & performance of your cache through the preview portal. Also, you can have Microsoft manage replication of the cache for you, helping increase the availability of your cache data across cache failures.

Azure Search is your cloud search service for web and mobile app development.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

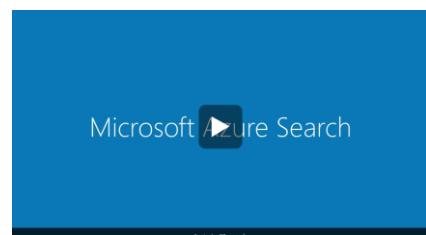
| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Get your search indices up & running quickly
- ✓ Easily scale up & down as needed
- ✓ Connect search results to business goals
- ✓ Use our natural language processing knowledge
- ✓ Auto load & update with integrated indexers
- ✓ Easily add geo-spatial search to your app

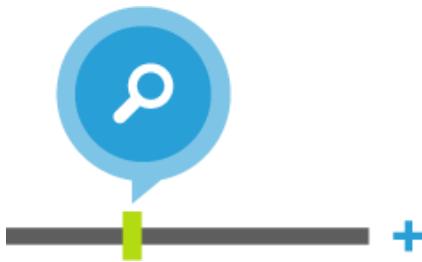
## Build great search experiences for web & mobile apps

Many apps use search as the primary interaction pattern for their users. When it comes to search, user expectations are high. They expect great relevance, suggestions, near-instantaneous responses, multiple languages, faceting & more. Azure Search makes it easy to add powerful & sophisticated search capabilities to your website or application.



The integrated Microsoft natural language stack, also used in Bing & Office, has been improved over 16 years of development. Quickly & easily tune search results & construct rich, fine-tuned ranking models to tie search results to business goals. Reliable throughput & storage provide fast search indexing & querying to support time-sensitive search scenarios.

## Reduce complexity with a fully managed service



Azure Search removes the complexity of setting up & managing your own search index. This fully managed service helps you avoid the hassle of dealing with index corruption, service availability, scaling & service updates. Create multiple indexes with no incremental cost per index. Easily scale up or down as the traffic & data volume of your application changes.

## Get up & running quickly

Azure Search boosts development speed thanks to support for familiar tools & a consistent global cloud platform. Quickly provision search & start populating the index to get up & running quickly. Like other Azure services, Azure Search uses familiar REST API calls & offers a .NET SDK. The worldwide network of Azure datacenters means reduced search latency no matter where your app is located.



# ← Product / Load Balancer

Azure Search is your cloud search service for web and mobile app development.

[LEARN MORE →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [CREATE A LOAD BALANCER →](#)

- ✓ Instantly add scale to your applications
- ✓ Load balance internet & private network traffic
- ✓ Improve application reliability via health checks
- ✓ Flexible NAT rules for better security
- ✓ Integrated into virtual machines & cloud services
- ✓ Native IPv6 support

## Simplify load balancing for apps

Create highly available & scalable apps. Load Balancer supports TCP/UDP-based protocols & protocols used for real-time voice & video messaging applications.



### High availability & robust performance for your apps

Load Balancer auto scales with increasing app traffic. Without you having to reconfigure/manage it, apps will provide a better user experience.

## Internal load balancer

Use the internal load balancer for traffic between VMs inside your private virtual networks, or use it to create multi-tiered hybrid applications.



### Build highly reliable applications

Load Balancer probes the health of your app instances, automatically taking unhealthy instances out of rotation & reinstating them once they become healthy again.

## Secure your networks

Control in/out-bound network traffic & protect private networks using built-in network address translation. Integrate security groups with Load Balancer to secure networks.



Load-balanced IPv6 Internet connectivity all the way to native IPv6 endpoints on your Azure Virtual Machines. Native dual-stack endpoints help meet regulatory requirements & address the fast growing number of devices in mobile & IoT markets looking to connect to Azure-based services.

# ← Product / VPN Gateway

Connecting your infrastructure to the cloud.

[LEARN MORE →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [CREATE A VPN GATEWAY →](#)

- ✓ Industry standard site-to-site IPsec VPNs
- ✓ Highly available & easy to manage
- ✓ Point-to-site VPN access from anywhere
- ✓ Secure connections from anywhere
- ✓ 99.9% uptime SLA for VPN gateways

## Connect your datacenter to the cloud

Azure VPN Gateway connects your on-premises networks to Azure through site-to-site VPNs, much the way you would set up & connect to a remote branch office. The connectivity is secure, using industry standard protocols: Internet Protocol Security (IPsec) & Internet Key Exchange (IKE).



## Connect to Azure virtual networks from anywhere



Point-to-site VPN lets you connect to your virtual machines on Azure virtual networks anytime & from anywhere, whether you are on the road or working from your favourite café, managing your deployment or doing a demo for your clients or customers.

## Related Products and Services



### Virtual Network

Provision private networks, optionally connect to on-premises datacenters



### ExpressRoute

Dedicated private network fiber connections for you to Azure

## Learn more

- ✓ Technical overview →
- ✓ Configuring VPN Gateway →

## Resources

- ✓ VPN Gateway Status →
- ✓ Service Level Agreement →
- ✓ Region availability →
- ✓ Support options →
- ✓ Videos →

## Services updates

- ✓ Support for IaaS under Azure Resource Manager in Australia and Brazil regions →
- ✓ Office 365, Azure Government Cloud, Resource Manager templates, simplified billing →
- ✓ Azure Std. VPN Gateway →

# ← Product / Application Gateway

Azure Application Gateway is a scalable, highly-available HTTP load balancing solution.

[LEARN MORE →](#)

|

[PRICING DETAILS →](#)

|

[DOCUMENTATION →](#)

|

[FREE ACCOUNT →](#)

- ✓ Cookie affinity for cross-session-state sharing
- ✓ 99.9% uptime SLA for multi-instance gateways
- ✓ Management through Azure APIs

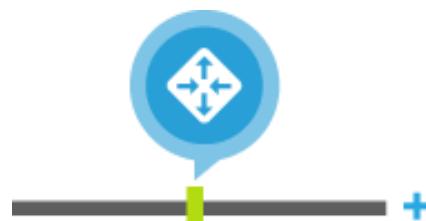
- ✓ Support for both public & private websites
- ✓ SSL offload for better utilisation
- ✓ Web application firewall

## What is Application Gateway

Microsoft Azure Application Gateway provides an Application Delivery Controller (ADC) as a service, providing many layer 7 load balancing capabilities. In simple terms, it works by accepting traffic & based on rules that are defined with it, routes the traffic to the appropriate back-end instances.

## Scalable, highly-available web application delivery

Azure Application Gateway provides application-level routing & load balancing services which let you build a scalable & highly-available web front end in Azure. You control the size of the gateway & can scale your deployment based on your needs.



## Efficient, secure web frontend

SSL offload lets you build a secure web front end with efficient backend servers & also streamline your certificate management.

## Close integration with Azure services

Application Gateway allows easy integration with Azure Traffic Manager to support multi-region redirection, automatic failover & zero-downtime maintenance. Application Gateway is also integrated with Azure Load Balancer to support scale-out & high-availability for both Internet-facing & internal-only web front ends.



## Related Products and Services



Virtual Network



Traffic Manager



Load Balancer

# ← Product / Data Catalog

Get more value from your enterprise data assets by leveraging Azure Data Catalog.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Spend less time looking for data & more time getting value from it
- ✓ Register enterprise data assets
- ✓ Discover data assets & unlock their potential
- ✓ Capture tribal knowledge to make data more understandable
- ✓ Bridge the gap between IT & business, allowing everyone to contribute their insights
- ✓ Let your data live where you want it
- ✓ Control who can discover registered data assets
- ✓ Integrate into existing tools & processes with open REST APIs

## Get more value from your data

In the new world of data, consumers of enterprise data spend more time looking for data than analysing it. Azure Data Catalog is an enterprise-wide metadata catalog that makes data asset discovery trivial. It is a fully managed service that lets any user – from analyst to data scientist to data developer – register, enrich, discover, understand & consume data.



### Your data, your way

Work with data in the tool of your choice. Data Catalog lets you find the data you need & use it in the tools you choose. Your data stays where you want it, and Data Catalog helps you discover it & work with it where you want – making for an effortless & intuitive user experience.

## Tribal knowledge, unlocked

Lower the barrier for broad adoption & continuous value creation for users across the data ecosystem. Data Catalog helps get tips, tricks & unwritten rules out of the heads of a few who know them & into an experience where everyone benefits. When users discover a data source they can easily understand its usage & intent & provide their informed insights into the catalog, enabling a virtuous usage cycle.



### Hidden value, unleashed

Democratise data asset discovery. Data Catalog shines light on the dark data within your organisation, so that everyone can spend less time looking for data & more time using it.

# ← Product / Virtual Machine Scale Sets

Autoscale your virtual machines for high availability with Azure Virtual Machine Scale Sets.

LEARN MORE →

| PRICING DETAILS →

| DOCUMENTATION →

| START FREE →

- ✓ Create hundreds of identical VMs – in minutes
- ✓ Rapidly scale your big compute & big data apps
- ✓ Rely on integrated load balancing & auto scaling

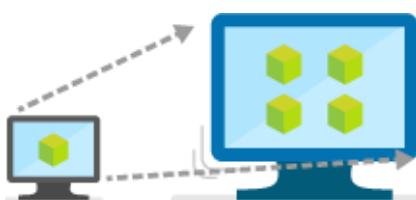
- ✓ Deploy virtual machines & updates at scale
- ✓ Support Linux or Windows images & extensions
- ✓ Run Cassandra, Cloudera, Hadoop & MongoDB

Control it like IaaS, scale it like PaaS

Deploy Virtual Machine Scale Sets using Azure Resource Manager templates – with support for Windows & Linux platform images, as well as custom images & extensions.

Reliably deploy and update at large scale

Deploy hundreds of identical VMs in minutes. With easy updates at scale, focus more on what matters – your app – and less on the infrastructure.



Scale automatically

Integrated with [Azure Insights Autoscale](#), Virtual Machine Scale Sets provide true autoscale. There is no need to pre-provision VMs, so you use only the compute resources your app needs at any time.

Simplify networking

Virtual Machine Scale Sets integrate with Azure networking resources such as [Azure Load Balancer](#) & [Application Gateway](#). Easily spread workloads across VMs in your Virtual Machine Scale Set & configure network address translation rules to connect to specific VM instances for troubleshooting.



Support hyperscale workloads

Virtual Machine Scale Sets are elastic & designed to support scale-out workloads – including stateless web front ends, container orchestration, & microservices clusters. [Azure Container Service](#) & [Azure Service Fabric](#) run on Virtual Machine Scale Sets.

# ← Product / Power BI Embedded

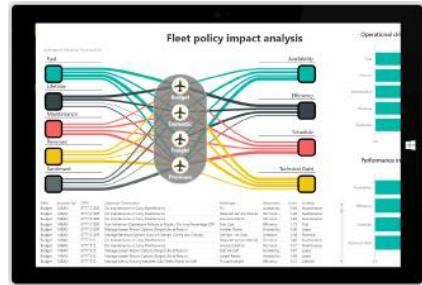
Bring data to life inside your application with Microsoft Power BI Embedded.

MORE → | PRICING → | DOCUMENTATION → | ACCELERATOR OFFER → | START FREE →

- ✓ Easily author interactive reports without writing any code using Power BI Desktop
- ✓ Choose modern visualisations out-of-the-box or customise without building them from scratch
- ✓ Easily embed interactive visuals in your app using REST APIs & the Power BI SDK
- ✓ Ensure consistent high-fidelity data experiences on any device
- ✓ Use existing authentication/authorisation methods
- ✓ Speed up time to value without redesigning apps
- ✓ Pay only for what you use with no upfront costs

## Create compelling interactive reports

Power BI Embedded lets you create visually impactful & interactive reports against your app data in Power BI Desktop. Explore app data through a freeform, drag-&-drop canvas & produce rich data models using formulae & relationships. Choose from a broad range of Power BI data visualisations out-of-the-box, or create custom visuals using open technologies like D3 Web GL. Visualise very large data sets directly from a wide variety of cloud sources like Azure SQL Database & Azure SQL Data Warehouse, using DirectQuery to ensure your data is always up to date.



[Experience Power BI Embedded →](#)

## Embed visuals in your app with no redesign required



Embed interactive visuals in your app using REST APIs & the Power BI SDK. Use Power BI REST APIs to enumerate datasets & reports, provision datasets & reports, embed reports, set connection strings & credentials programmatically. Offer your customers consistent hi-fi data experiences, rendered in HTML5 across devices. Use App Tokens based authentication & authorisation. Realise faster time-to-value without redesigning your app.

## Deploy quickly at cloud scale while managing costs

Using both Azure Resource Manager APIs & Power BI APIs, automate your deployment & scale. Programmatically provision Power BI workspaces, create datasets & reports, embed reports in your app, and control refresh behaviour & credentials. Remain in complete control of your cost with a pay-as-you-go, consumption-based pricing model with no upfront costs, hidden maintenance fees, or customisation charges.



# ← Product / Mobile Engagement

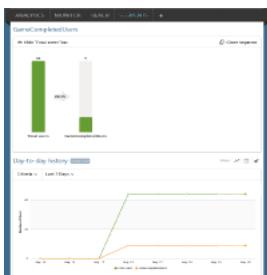
Increase app usage and user retention with Azure Mobile Engagement.

[LEARN MORE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [WHITEPAPER →](#) | [GET STARTED →](#)

- ✓ Collect real-time analytics highlighting user behaviour
- ✓ Measure & act on analytics using single dashboard
- ✓ Create dynamic segments based on collected data
- ✓ Create marketing campaigns or push notifications targeting specific segments
- ✓ Send personalised out-of-app notifications, polls & in-app notifications with rich HTML
- ✓ Integrate & automate with CRM/CMS/IT systems using open platform APIs
- ✓ Find SDKs for all major platforms – iOS, Android, Windows, Windows Phone

## Real-time actionable analytics

Combine big data collection with real-time processing to trigger engagement scenarios according to app-user behaviour & demographics. Azure Mobile Engagement answers nearly any question relevant to your business needs. Using 360° user path view in Mobile Engagement, easily enhance & optimise the UX – driving higher retention rates & increased app usage.



## Dynamic segmentation

Segment users based on behavioural analytics data, technical information or previous campaign feedback. For example, target users on iOS platform who opened the app once & never came back, or other similar scenarios. The possibilities are endless. App developers benefit by reaching users in a highly effective & non-intrusive manner.

## Value-added push & communications

Mobile Engagement works flawlessly with native push-notification gateways, such as Google GCM, Apple APNS or Microsoft WNS. It lets you send targeted notifications, polls & in-app notifications with text & rich HTML payloads. Personalise notifications with data captured from app usage. Send multi-language notifications targeting specific locales. Schedule advance notifications & get feedback on their effectiveness.



## Open APIs & ease of integration

With open APIs & ease of integration, use existing data from CRM, CMS & other business-related systems. This lets you further improve your audience targeting & protect your investments. Import or export data from the system to fit your needs.

# ← Product / Data Lake Store

Microsoft Azure Data Lake Store is a hyper-scale repository for big data analytics workloads.

[LEARN MORE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [TRY DATA LAKE STORE FOR FREE →](#)

✓ An Apache Hadoop Distributed File System for cloud ✓ Massive throughput to increase performance

✓ No fixed limits on file size & account size ✓ High durability, availability & reliability

✓ Unstructured & structured data in their native format ✓ Azure Active Directory access control

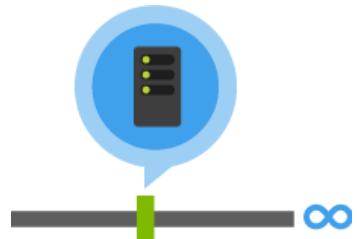


## HDFS for the cloud

Data Lake Store is an Apache Hadoop file system, compatible with HDFS & works with Apache Hadoop ecosystem. It is integrated with Azure Data Lake Analytics & HDInsight, and will be integrated with Microsoft offerings like Revolution-R Enterprise, other industry-standard distributions & individual Hadoop projects.

## Ultra-high capacity

Data Lake Store has no fixed limits on account or file size. It can store very large files, while providing low latency read/write access & high through-put for scenarios like high-res video, scientific, medical, backup data, web logs, IoT, etc.

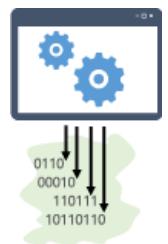


## Optimised for massive throughput

Data Lake Store is built for running large analytic systems which require massive throughput to query & analyse petabytes of data. You only focus on app logic & we automatically optimise store for any throughput level.

## High frequency, low latency, real-time analytics

Data Lake Store handles high volumes of small writes at low latency. It is optimised for near real-time scenarios like website analytics, IoT & analytics from sensors.



# ← Product / Data Lake Analytics

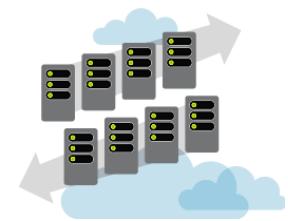
Big data analytics made easy.

[LEARN MORE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [TRY DATA LAKE ANALYTICS FOR FREE →](#)

- ✓ Analyse any kind of data of any size
- ✓ Develop faster, debug & optimise smarter
- ✓ Use U-SQL: simple, familiar & extensible
- ✓ Managed & supported with an enterprise-grade SLA
- ✓ Scale resources to match business priorities
- ✓ Pay only for the processing power which you use
- ✓ Built on YARN, designed for the cloud
- ✓ Proven at Microsoft with over 10,000 developers

## Match resources to business priorities dynamically

Data Lake Analytics makes the complex task of managing distributed infra & complex code easy. It dynamically provisions resources & lets you do analytics on exabytes of data. You pay only for the processing power used. As data or compute size increases/ decreases, you do not have to rewrite code. This lets you focus on your business logic.



## Develop faster, debug and optimise smarter

Data Lake Analytics makes it easy to design & tune big data queries through deep integration with Visual Studio. Visualisations of U-SQL jobs let you see how your code runs at scale. This helps you identify performance bottlenecks & optimise costs. Data Lake Analytics continues to enable you to be productive as an advanced big data developer during all stages of the development lifecycle.



## Use U-SQL: simple & familiar, easily extensible

With Data Lake Analytics, use U-SQL, a query language which blends the declarative nature of SQL with the expressive power of C#. The U-SQL language is built on the same distributed runtime which powers the big data systems inside Microsoft.

## Integrates analytics seamlessly with your IT investments

We address the challenge of big data integration by making sure that Data Lake Analytics can use your existing IT investments for identity, management, security & data warehousing. This simplifies data governance and makes it easy to extend your data apps. Out of the box, Data Lake Analytics is integrated with Active Directory for user management & permissions, and includes web-based & programmatic tools for management & monitoring. It is also a key part of Cortana Analytics Suite & works with Azure SQL Data Warehouse, Power BI & Data Factory. This gives you a complete cloud big data & advanced analytics platform to help you with everything from preparing data to doing interactive analytics on large-scale datasets.

# ← Product / Cognitive Services

Build powerful intelligence into your applications to enable natural and contextual interactions.

MORE → | PRICING → | DOCUMENTATION → | BLOG → | COMMUNITY → | GET STARTED →

Enable natural & contextual interaction with tools that augment users' experiences using the power of machine-based intelligence. Tap into an ever-growing collection of powerful artificial intelligence algorithms for vision, speech, language & knowledge.

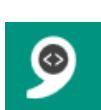


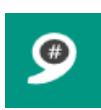
## Language

Allowing apps to process natural language, evaluate sentiments & learn to recognise what users want.

 Language Understanding Intelligent Svc →  
Teach apps to understand user commands

 Text Analytics API →  
Evaluate sentiments to understand user needs

 Web Language Model API →  
Predictive language models for web-scale data

 Bing Spell Check API →  
Detect & correct spelling mistakes in your app

## Vision

State-of-art image processing algorithm to build personalized apps by returning smart insights.

 Face API →  
Detect, analyse, organise & tag faces in photos

 Emotion API →  
Personalise UX with emotion recognition

 Computer Vision API →  
Distil actionable information from images

✓ Explore more Cognitive Services APIs →

## Speech

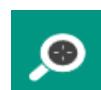
Processing spoken language in your mobile & web applications

 Bing Speech API →  
Convert speech to text to understand user intent

 Speaker Recognition API →  
Use speech to identify & authenticate speakers

## Search

Make your apps, webpages & other experiences smarter & more engaging with the Bing Search APIs.

 Bing Search APIs →  
Web, image, video & news search APIs for apps

 Bing Autosuggest API →  
Give your app intelligent autosuggest options

## Knowledge

Map complex information & data to solve tasks such as intelligent recommendations & semantic search.

 Recommendations API →  
Predict & recommend items customers want

 Academic Knowledge API →  
Tap into content in Microsoft Academic Graph

# ← Product / Azure Container Service

Deploy & manage containers using the tools you choose from Azure Container Service.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [START FREE →](#)

- ✓ Create container hosting solution optimised for Azure
- ✓ Scale & orchestrate applications using DC/OS or Docker Swarm
- ✓ Use popular open source, client-side tooling
- ✓ Migrate container workloads to & from Azure without code changes

## Create an optimised container hosting solution

Azure Container Service optimises configuration of popular open source tools & technologies for Azure. Get an open solution that offers portability for your containers & app configuration. Select size, number of hosts & choice of orchestrator tools, and Container Service handles everything else.



## Manage container applications using familiar tools



No need to change existing management practices to move container workloads to the cloud. Use familiar app management tools & connect via the standard API endpoints for the orchestrator of your choice.

## Scale and orchestrate using DC/OS or Docker Swarm

Choose tools & solutions that best suits your needs for Docker container orchestration & scale operations. Use the Mesos-based DC/OS or use Docker Swarm & Compose for a pure Docker experience.



## Use popular open source tooling

Because we expose standard API endpoints for our orchestration engine, you know the most popular tools will be compatible with Azure Container Service & work out-of-the-box – like: visualizers, monitoring, continuous integration, command line tools & future tools as they become available.

## Migrate container workloads to & from Azure

Azure Container Service only uses open source components in the orchestration layers to give you portability of full apps – not only individual containers – to migrate seamlessly to & from Azure at will.



# ← Product / SQL Server Stretch Database

Dynamically stretch SQL Server databases to Azure.

MORE → | PRICING → | DOCUMENTATION → | TRY SQL SERVER 2016 → | START FREE →

- ✓ Scale SQL 2016 using bottomless cloud storage
- ✓ Make warm/cold data available to users at low cost
- ✓ Access & query stretched data online
- ✓ Move data easily – no query/app change needed
- ✓ Use with advanced security features
- ✓ Reduce data maintenance & storage costs

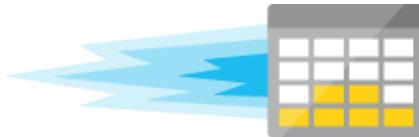
## Make warm & cold data available at a low cost

SQL Server Stretch Database lets you dynamically stretch warm & cold transactional data from Microsoft SQL Server 2016 to Azure. Provide longer data retention times without breaking the bank. Azure storage can be up to 40% less expensive than adding enterprise storage.



- ✓ For details, visit the SQL Server Stretch Database pricing page →

## Move data easily – no application changes required



Seamlessly access SQL Server data regardless of whether it is on-premises or stretched to the cloud. Set policy that determines where data is stored & SQL Server moves the data in the background.

## Use advanced security options

With Stretch Database, stretching the most important apps to cloud is secure. Use with SQL Server [Always Encrypted](#) to encrypt data in motion. [Row Level Security](#) & advanced SQL Server security features work with it, enabling you to extend data to the cloud.



## Streamline on-premises data maintenance

Reduce on-premises maintenance times & storage footprint by moving data to Azure. With Stretch Database, backups for on-premises data run faster & complete more easily than they did on un-stretched data.

## Manage easily

It is easy to turn on Stretch Database from SQL Server Management Studio. Use the Azure portal to configure additional settings & choose a performance level, scaling as needed while maintaining control over cost.

# ← Product / HockeyApp

Dynamically stretch SQL Server databases to Azure.

[LEARN MORE →](#) | [PRICING DETAILS →](#) | [DOCUMENTATION →](#) | [BUY NOW →](#) | [START FREE →](#)

- ✓ Support for Android, Cordova, iOS, OS X, Unity, Windows & Xamarin apps
- ✓ Open source SDKs let you know what code is running in your apps
- ✓ Get live, reliable crash reports
- ✓ Integrate with your existing build system & work item management solution
- ✓ Collect in-app feedback from real users

## Get crash reports

HockeyApp creates debug symbols & group similar crashes to help you understand their frequency & prioritise backlogs. Integrate crash reports with ALM tooling to manage all work items in one place. [LEARN MORE →](#)

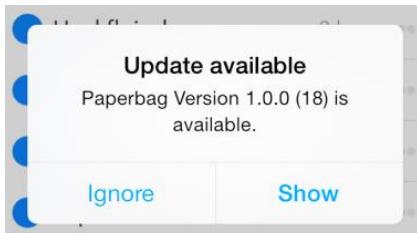
## Track user metrics

Understand user behaviour to improve apps. Track usage through daily & monthly active users. Monitor crash impacted users. Measure customer engagement through session count. [LEARN MORE →](#)



## Collect in-app feedback

HockeyApp lets you collect feedback in the app itself, channelling it right to dev teams. You are able to engage with users to gain a deeper understanding of what they really want from your app. [LEARN MORE →](#)



## Distribute your apps

Think of HockeyApp as your in-house app store for testing. Integrate it into your continuous build process to make uploads & distribution automatic & ensure the latest version is available immediately. [LEARN MORE →](#)

## Full beta test coverage

Make sure your apps are being tested on the platforms you care about & get insights on your beta test coverage. Create a dedicated page to recruit new users, if you need to increase your test coverage. [LEARN MORE →](#)

## Enable mobile DevOps

HockeyApp scales & integrates with your environment to achieve the best mobile DevOps experience. It exposes web hooks & an open API to use the tool chain to its maximum potential & adds work items to your ALM tools. [LEARN MORE →](#)

# ← Product / Functions

Process events with serverless code.

[LEARN MORE →](#) | [PRICING →](#) | [DOCUMENTATION →](#) | [COMMUNITY →](#) | [START FREE →](#)

## Process events with serverless code

Azure Functions is a serverless event driven experience that extends the existing Azure App Service platform. These nano-services can scale based on demand and you pay only for the resources you consume.

[LOGIN TO YOUR ACCOUNT →](#) | [CREATE YOUR FREE ACCOUNT →](#)

### Event based

Write code that can be triggered by virtually any event in Azure, 3rd party services and/or on-premises systems.

### Accelerated build

Write your code in the Functions editor and test immediately to accelerate the software development process.

### Serverless

Built on a serverless architecture, which handles the heavy lifting of building highly available, scalable, end-to-end Functions.

## Develop your way

[Create Functions](#) in languages like JavaScript, C#, Python & PHP, and scripting options like PowerShell, Bash & Batch. Do it in a web-based interface, or upload & trigger pre-compiled code built with any development tool.

## Integrate DevOps

Iterate on Azure Functions with [continuous deployment](#) using VSTS, GitHub or BitBucket. Use the embedded logging environment to monitor and troubleshoot.



## Pay only for what you use



[Pay only for the time your code is running.](#) You will be charged on number of resources Azure Functions needs – for as long as it takes your code to execute.

## Built for business

Use Azure Functions when events occur in internal APIs or business systems & deliver results directly to your on-premises databases or business solutions.



## Common scenarios

- ✓ Timer-based processing
- ✓ Azure service event processing
- ✓ SaaS event processing
- ✓ Serverless web application architectures
- ✓ Serverless mobile backends
- ✓ Real time stream processing
- ✓ Real time bot messaging

# ← Product / Logic Apps

Quickly build powerful integration solutions with Logic Apps.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Create business processes & workflows visually
- ✓ Integrate with SaaS & enterprise applications
- ✓ Automate EAI, B2B/EDI & business processes

- ✓ Unlock value from your on-premises and cloud applications
- ✓ Leverage Microsoft Cloud to enhance integration solutions

## Out-of-box connectors reduce integration challenges

Connect apps, data & devices anywhere – on-premises or in cloud – with our large ecosystem of SaaS & cloud-based connectors which includes Salesforce, Office 365, Twitter, Dropbox, Google Services & more.



## Connect & integrate data from cloud to on-premises



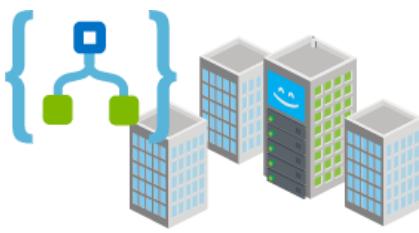
Logic Apps gives a robust set of capabilities that make it easier to unlock data from behind firewall, securely connect to cloud-based services & take advantage of rich integration without migrating from on-premises systems.

## B2B & enterprise messaging in the cloud

B2B capabilities in Logic Apps make it easier to work with trading partners via Electronic Data Interchange standards like EDIFACT, X12 & AS2. This makes it easier for small businesses to work with partners & enterprises to take advantage of scalable benefits of the cloud for B2B messaging.



## Leverage BizTalk Server investments to connect to SaaS apps



Logic Apps makes it possible to initiate BizTalk processing from the cloud. This allows you to leverage existing processes implemented with BizTalk, keep data within on-premises environment & integrate with cloud-based processes. A new adapter provides seamless connectivity to SaaS apps including SalesForce.com & SharePoint Online.

Unleash the power of Azure services like Machine Learning & Cognitive Services – extend your integration scenarios & get insights from all your connected systems to help you make informed business decisions.

# ← Product / Azure Monitor

Get the granular, up-to-date monitoring data you need – all in one place – with Azure Monitor.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [TRY IT NOW →](#)

✓ Monitor your Azure resources with detailed logs

✓ Use flexible config & data consumption options

✓ Set up alerts & take proactive, automated actions

✓ Integrate with analytics & notification tools

## View & manage all your monitoring data easily

Know every detail as it happens – all from one dashboard – with Azure Monitor. Get granular, up-to-date performance & utilisation data, access the activity log that tracks every API call & diagnostic logs that help you debug issues within your Azure resources. All the monitoring data you need to operate & maintain your Azure resources is centrally available through Azure Monitor.



## Setup alerts & take automated actions



It is always better to detect an issue early before it starts impacting your business. With Azure Monitor, you can set up alerts & respond proactively to events by setting up automated actions such as auto scaling a resource, starting an Azure Automation runbook or calling a webhook.

## Diagnose operational issues quickly

When a problem occurs, you need to find the source fast. Azure Monitor gives you the basic tools you need to analyse & diagnose any operational issues, so you can resolve them efficiently. Create dashboards with graphs of performance metrics, search through subscription activities & share your insights with others.



## Integrate with your existing tools



Get rich end-to-end monitoring & analytics by combining Azure Monitor with the analysis tools familiar to you. Azure Monitor integrates with Application Insights, Operations Management Suite Insight & Analytics, and a variety of third-party tools. Plus, it offers REST APIs & webhooks that can be used to build custom integrations.

Ensure application availability & data protection with cloud-first backup & disaster recovery.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Protect Windows & Linux based workloads, whether running on Hyper-V, VMware or physical machines
- ✓ Ensure recovery of multi-tier apps in a healthy, operational state with app-consistent replication
- ✓ Protect hybrid & born-in-the-cloud apps against corruption, either malicious or from human error
- ✓ Leverage Azure as your secondary site to dramatically reduce complexity of the solutions & capital or operating expenditures
- ✓ Protect remote and branch applications with speedy operational recovery from disk & long-term retention in the cloud

Affordably protect all of your assets, wherever they are

Get real-time availability of your apps & data, regardless of platform or location, without the cost of traditional infrastructure maintenance. Backup & restore or replicate & failover, all your major apps & data using enterprise-grade cloud-first backup & disaster recovery service offerings.



Free-up your resources by eliminating secondary site

Extend on-premises data protection tools with a rich & powerful Azure-based backup as a service. Achieve low RPO & RTO targets for every major system by using an Azure-based DRAas. Eliminate the need for a secondary data center & offsite for protection.

Simplify backup & disaster recovery across entire environment

Remove complexity & increase options for restoring apps & services quickly with DRAaaS. Orchestrate replication, create customised recovery plans & easily test failover.



Tailor protection based on your requirements

Enable policy-based replication & protection, customisable for business needs to achieve synchronous replication, providing class-leading recovery point objectives. Archive backups securely & reliably, and ensure compliance with retention up to 99 years.

Born-in-the-cloud apps require new paradigms of protection. Use cloud-first application availability & data protection tools to afford born-in-the-cloud apps & get the same level of protection as traditional apps.

Enable continuous services & compliance with automation & configuration management.

[LEARN MORE →](#)

| [PRICING DETAILS →](#)

| [DOCUMENTATION →](#)

| [GET STARTED →](#)

- ✓ Manage all automation & configuration assets from a centralized repository with granular access control
- ✓ Retain control of when & how to patch without unplanned downtime & with an app owner's approval
- ✓ Resolve alerts & orchestrate disaster recovery with automated remediation scripts & recovery plans
- ✓ Apply & monitor configurations using a highly available pull service and fix configuration drift without manual intervention
- ✓ Run automated processes from Azure or locally from an on-premises datacenter with hybrid runbook workers

## Establish responsive IT operations

Trigger processes on-demand or automatically. Improve your response time by taking immediate action on operational issues.



## Sustain consistent configuration



Avoid configuration drift by applying, monitoring & automatically updating the desired states of apps & infrastructure resources using a highly-available pull service from Azure.

## Maintain compliant IT resources

Combine change tracking with configuration management to identify & apply configurations & enable compliance. Deliver orchestrated update management for Windows Server & Linux from the cloud.



## Create automated delivery of services



Integrate process automation & configuration management for end-to-end automated delivery of services across your IT environment.

## Use across on-premises & the cloud

Use familiar PowerShell skills to automate complex & repetitive tasks. Extend cloud automation capabilities to your on-premises datacenter without human intervention.





# Microsoft Azure Solutions

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

You build. You innovate. You choose.

Microsoft Azure is everything you need in a complete solution – from technical documentation to partner resources. Get started quickly with solutions that multi-national customers like GE Healthcare, 3M and Rolls-Royce already trust and are using on a daily basis.

LEARN MORE →

## Digital Marketing



[azure.microsoft.com/en-in/solutions/digital-marketing](http://azure.microsoft.com/en-in/solutions/digital-marketing)

## Mobile



[azure.microsoft.com/en-in/solutions/mobile](http://azure.microsoft.com/en-in/solutions/mobile)

## E-commerce



[azure.microsoft.com/en-in/solutions/ecommerce](http://azure.microsoft.com/en-in/solutions/ecommerce)

## Microservice Applications



[azure.microsoft.com/en-in/solutions/microservice-applications](http://azure.microsoft.com/en-in/solutions/microservice-applications)

## Business Intelligence



[azure.microsoft.com/en-in/solutions/business-intelligence](http://azure.microsoft.com/en-in/solutions/business-intelligence)

## Predictive Maintenance with IoT



[azure.microsoft.com/en-in/solutions/predictive-maintenance](http://azure.microsoft.com/en-in/solutions/predictive-maintenance)

## Big Data & Analytics



[azure.microsoft.com/en-in/solutions/big-data](http://azure.microsoft.com/en-in/solutions/big-data)

## Data Warehouse



[azure.microsoft.com/en-in/solutions/data-warehouse](http://azure.microsoft.com/en-in/solutions/data-warehouse)

## Backup & Archive



[azure.microsoft.com/en-in/solutions/backup-archive](http://azure.microsoft.com/en-in/solutions/backup-archive)

## Development & Test



[azure.microsoft.com/en-in/solutions/dev-test](http://azure.microsoft.com/en-in/solutions/dev-test)

## Disaster Recovery



[azure.microsoft.com/en-in/solutions/disaster-recovery](http://azure.microsoft.com/en-in/solutions/disaster-recovery)

## Remote Monitoring



[azure.microsoft.com/en-in/solutions/remote-monitoring](http://azure.microsoft.com/en-in/solutions/remote-monitoring)

# Microsoft Azure Solutions

Your app. Your framework. Your platform. All welcome.

Microsoft Azure is a growing collection of integrated cloud solutions and services – analytics, computing, database, mobile, networking, storage and web – for moving faster, achieving more and saving money. No other cloud platform provide as comprehensive an offering of solutions as Azure does.

LEARN MORE →

High Perf Computing



[azure.microsoft.com/en-in/solutions/high-performance-computing](http://azure.microsoft.com/en-in/solutions/high-performance-computing)

SAP on Azure



[azure.microsoft.com/en-in/solutions/sap](http://azure.microsoft.com/en-in/solutions/sap)

SharePoint on Azure



[azure.microsoft.com/en-in/solutions/sharepoint](http://azure.microsoft.com/en-in/solutions/sharepoint)

Dynamics on Azure



[azure.microsoft.com/en-in/solutions/dynamics](http://azure.microsoft.com/en-in/solutions/dynamics)

Digital Media



[azure.microsoft.com/en-in/solutions/digital-media](http://azure.microsoft.com/en-in/solutions/digital-media)

Customers are doing amazing things with Azure →

Check out some innovative stories by world class companies



GE Healthcare



Free Account

Sign up now and get \$200 in Azure credits

✓ Start Today →

Visual Studio

Subscribers get up to \$1,800 per year of Azure services

✓ Activate Now →

Startups

Join the BizSpark program and get free Azure services

✓ Learn More →

# ← Solution / Digital Marketing

Engage with customers with rich, personalised digital marketing experiences. Build & launch digital campaigns that automatically scale based on demand. Analyse & improve campaign effectiveness leveraging data analytics.

## Create personalised and timely customer experiences

Different customers have different content needs. Our digital marketing platform rapidly launches and updates your marketing site based on user behavior, customer feedback or competitor moves. And impactful digital marketing campaigns require connecting with your customers at the right time and place. Build companion mobile apps to share contextual content and special offers with your customers on the go. [LEARN MORE →](#)

## Optimise with data, not best guesses

Your goal is to increase campaign performance to win customers & drive more revenue for your business. Get equipped with marketing campaign tools that gives you data & predictive analytics to understand customer profiles, behaviour & improve overall effectiveness of your campaigns.



### Stay ahead of the competition

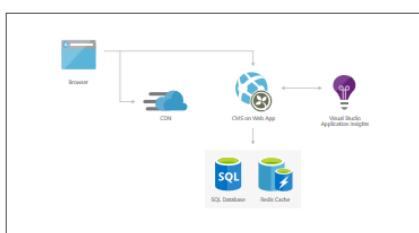
Time to market is critical for marketing campaigns. Dev teams can quickly build digital marketing experiences using their existing skills & tools. With support of CMS, campaign owners can create content directly on the website, preview changes in real time & push them live in seconds.

## Be prepared when your campaign takes off

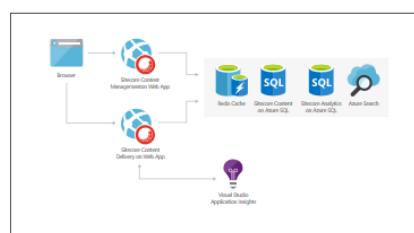
When your campaign is wildly successful, make sure you are ready for the highest level of customer demand. To get maximum performance on regional campaigns, deploy them in datacenters closer to your customers. Azure will scale up & down automatically to save your campaign budget.



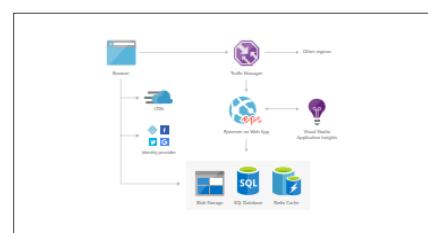
## Solution architectures



Digital mktg website for SMB →



Sitecore for medium business →



Episerver for medium business →

# ← Solution / Mobile

Connect with customers wherever they are with mobile backend as a service. Create tailored experiences based on customer interests & behaviour. Reduce time to market with cloud services, tools & DevOps designed for mobile.

Build once. Reach more customers, across any platform.

Write in one language & target any device, including iOS, Android & Windows – ultimately expanding your audience. Take advantage of your team's existing skills. And save time by reusing code from existing mobile app development projects.

[LEARN MORE →](#)

Ship quality apps faster

Accelerate shipping time with mobile backend as a service (MBaaS) by finding & fixing bugs on any device before you release your app. Take advantage of thorough, automated testing with access to over 2,000 real devices in our cloud.



Get closer to your customers

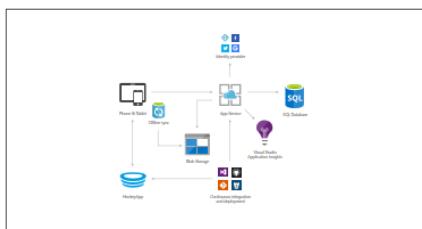
Embrace DevOps when building your mobile applications & create reliable applications that your customers love. Use mobile backend as a service (MBaaS) to distribute beta versions of your applications & collect real-time data that drives continuous improvement. Identify any churn issues with your mobile application & get feedback from customers that you can act on to increase usage & retention.

Light up apps with proven mobile services

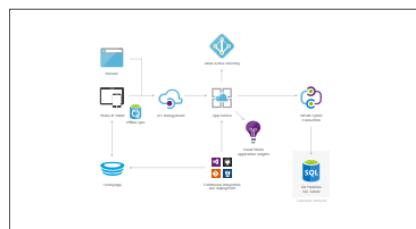
No two mobile apps are the same. But they all have building blocks in common. Use our tried-&-tested MBaaS solutions to accelerate your time to market. Let your developers focus on the app logic & let us take care of the plumbing.



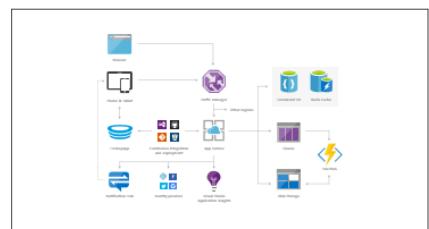
Solution architectures



Task based consumer app →



Custom mobile workforce app →



Social mobile & web app →

## ← Solution / E-commerce

You need secure & scalable e-commerce solutions to meet customer & business demands. Engage customers through customised solutions, process transactions quickly & securely, & focus on fulfillment & customer service.

### Give customers what they want – and drive sales

Before you can sell it, people must want to buy it. Our e-commerce platform lets you analyse site traffic & browse-to-buy conversion rates to define special offers & new products based on customer behavior. Create personalised shopping experiences with targeted content & offers, and increase satisfaction through ongoing engagement – before, after & at the point of sale.

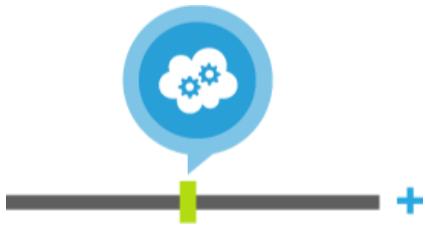
[LEARN MORE →](#)

### Transact more sales, more often, more securely

More customers mean more transactions. Make sure you are ready to handle every transaction smoothly by designing an e-commerce purchasing experience that is simple to navigate. Then, deploy it to a secured & compliant e-commerce platform.



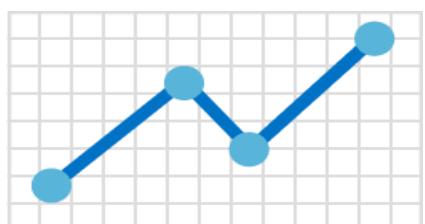
### Have the capacity to meet customer demand



You need an e-commerce solution that adapts to the size & seasonality of your business. When demand for your products or services takes off – predictably or unpredictably – be prepared to handle more customers & more transactions automatically. Plus, take advantage of cloud economics by paying only for the capacity you use.

### Optimise every point in your supply chain

Driving sales is not the only way to increase your bottom line. Save money by streamlining your supply chain, reducing support costs & increasing satisfaction with your suppliers & sellers through online self-service portals. Improve inventory management & reduce shipping costs using order information & historical customer data.



### Focus on driving sales, not managing IT infrastructure

Your core business is selling – not IT. Take advantage of pre-built services in the cloud to create e-commerce solutions that enhance your sales performance & leaves infrastructure management to your cloud provider.

# ← Solution / Microservice Applications

Deliver scalable, reliable apps faster to meet customer & business demands. Born-in-the-cloud services built on a rich Microservices platform free developers from infra concerns & help them realise full potential of the Cloud.

## Realise the full potential of your applications in the cloud

Get the scale, power & global reach your start-up demands to meet the needs of your customers as your business grows – without rearchitecting your apps. Run your apps at cloud scale with a rich set of services that allows you to focus all your energy on building apps instead of managing infrastructure. [LEARN MORE →](#)

### One solution, many customers, always up to date

Serve a broad range of customers from the same codebase. Update in real-time as small dev teams work independently, using continuous delivery pipelines & rolling upgrades so that customers have access to latest features.



### Related Azure Services & Microsoft Products



Azure Container Service →



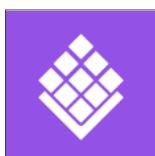
Service Fabric →



### Avoid costly maintenance outages

Deliver the best customer service & business value by keeping your applications running 24x7 without the need for lengthy maintenance windows to deploy & test new features & bug fixes.

### Pre-built solutions from our partners →



### Related Solutions



Development & Test



Mobile



E-commerce

# ← Solution / Business Intelligence

Transform your data to support informed decision making. Gain deeper insight into data to stay in the know & spot trends as they happen. Modern BI solutions & tools enable organisations to understand & quickly act on data.

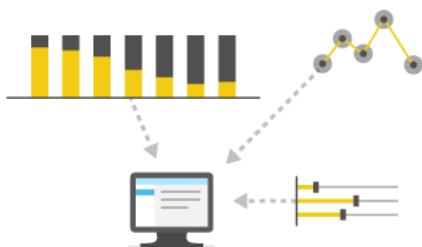
## Get the right insight into the right hands

Offer business analysts – and everyone in your organisation – powerful, self-service analytical & BI tools to drive better, faster decision making. Combine data from multiple sources to build tailored reports & create rich analytics that bring your data to life.

[LEARN MORE →](#)

## Integrate and manage business intelligence securely

Better integrate with existing systems by choosing feature-rich, enterprise-ready BI platform. Maximise resources, monitor access to data & assets, help ensure security & compliance – and deliver a business intelligence solution designed for the needs of your organisation.



## Bring data to life in your apps

Help your customers easily access valuable data on any device at any time. Embed fully interactive & up-to-date visual analytics directly in your apps with ease – without the time & expense of writing code.

## Related Azure Services & Microsoft Products



Power BI Embedded →



SQL Data Warehouse →

## Power BI solution templates

Get Power BI solutions up & running by starting with a working end-to-end, enterprise-ready template that incorporates top customer technical & business practices.

[BROWSE POWER BI SOLUTION TEMPLATES →](#)

## Related Solutions



Big Data & Analytics



E-commerce



Digital Marketing



Predictive Maintenance

# ← Solution / Predictive Maintenance with IoT

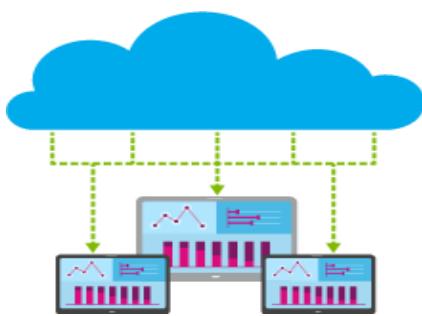
Predict & systematically prevent equipment failures before they happen. Use streaming data from sensors & devices to recognise warning signs, predict maintenance needs & pre-emptively repair, saving time & money.

## Increase asset reliability with rich insights

Focus on what matters most to customers: reliability. Improve asset availability & operations by gathering & transforming data from sensors & systems – offering predictive & pre-emptive maintenance. [LEARN MORE →](#)

### Predict equipment failures before they happen

Monitor an asset's health to head off potential problems, while promoting equipment efficiency through preventative maintenance software. Collect & analyse untapped data from your connected assets to proactively plan maintenance, decrease downtime & improve retention of the asset's value.



### Monitor millions of devices, globally

Use a cloud solution to connect devices & assets, collect untapped data & create predictive models, anywhere in the world. Improve access to production & supply chain data worldwide, reduce costly downtime & maintenance, and increase productivity.

### Related Azure Services & Microsoft Products



Azure IoT Hub →



Machine Learning →



Stream Analytics →

### Bring the Internet of Things to life with Azure IoT Starter Kits

Start innovating today with Internet of Things (IoT) starter kits that include development boards that are Azure Certified for IoT, sensors & actuators. Use the easy-to-follow tutorials & seamlessly connect devices to cloud.

### Related Solutions



Remote Monitoring



Big Data & Analytics



Business Intelligence

# ← Solution / Big Data & Analytics

Deliver better experiences & make better decisions by analysing massive amounts of data in real time. Get the insight you need to deliver intelligent actions to improve customer engagement, increase revenue & lower costs.

## Bring together all of the data you need

Data volumes are exploding – from traditional point-of-sale systems & e-commerce websites to new customer sentiment sources, like Twitter & IoT sensors that stream data in real time using Apache Hadoop & Spark. By analysing a diverse dataset from the start, you will make more informed decisions that are predictive & holistic, rather than reactive & disconnected.

[LEARN MORE →](#)

## Hold onto your most valuable asset – big data

Keep your organisation's data indefinitely, no matter the size. Instead of making cost tradeoffs on what data to hold onto, retain your data to meet regulatory & company standards at affordable prices – now possible with Hadoop & Spark technologies & the cloud.



## Deliver a personalised experience to customers

Different people want different experiences. Delight your customers with a personalised experience that changes based on their behavior, even offering recommended products that include dynamic discounts for a personalised shopping experience. Give suppliers a predictive list of things to purchase based on current order information & historical customer data.

## Create a more cost-effective supply chain

Integrate big data from across the enterprise value chain & use advanced analytics in real time to optimise supply-side performance & save money. Embrace proactive measures with a live view into your supply chain – assess inventory levels, predict product fulfillment needs & identify potential backlog issues.



## Be more efficient in everything you do

Uncover insights buried in your data to optimise the way you do business. Whether organising human resources, managing supply chains or forecasting staff and customer needs, understanding the factors that affect operational efficiency is essential to streamlining your business.

# ← Solution / Data Warehouse

Today's data-driven world requires a new kind of data warehouse solution – one which can scale on-demand, handle exponential data growth, protect data access & deliver predictive analytics for business transformation.

## Enable transformative data insights

Transform your business through predictive analytics over all of your data with tools you already know & love – Power BI, Excel & third-party BI tools. Plus, seamless compatibility with machine learning, ingestion, data movement & data store services ensures transformative insights over all your data.

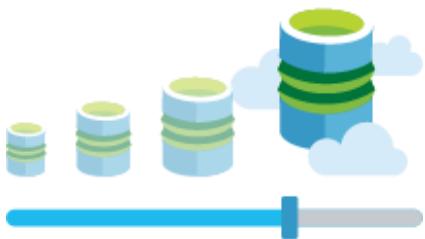
[LEARN MORE →](#)

## Scale with more freedom

No need to over-provision or over-pay. Decoupled storage & compute models offer more freedom to easily scale your environment. The ability to pause compute gives you budget flexibility for batch-based workloads. With Azure data warehouse solutions, ingest all your data with no tradeoffs.



## Get up & running quickly



Provision data warehouse solutions in 3-5 minutes. Azure uniquely scales your compute in seconds – delivering the promise of cloud elasticity to data warehousing. Use T-SQL skills to ingest & query data from on-premises & cloud sources – all for approximately 10x the value of traditional solutions.

## Protect & help secure data

Gain multiple layers of data protection – starting with data encryption & auditing. Azure uniquely offers threat detection, which functions like an alarm system over your data. Also, support for Azure Active Directory helps limit BI access to the appropriate subset of the data to further support compliance policies.



## Related Azure Services & Microsoft Products



[SQL Data Warehouse →](#)



[Data Lake Store →](#)



[Data Factory →](#)

# ← Solution / Backup & Archive

Protect your data & apps no matter where they are – to avoid costly business interruptions or meet compliance requirements. Securely extend your on-premises backup storage & data archiving solutions to the cloud.

## Increase capacity, reduce costs

Keep pace with exponential growth of your enterprise data while lowering deployment & management costs. With a low-cost, massively-scalable, tiered backup storage solution in the cloud, you will reduce forecasting risks while transforming capital expenditure commitments to a pay-as-you-go cloud model.

[LEARN MORE →](#)

## Get hassle-free backup and data archiving

Improve your organisation's productivity by spending less time managing & maintaining your on-premises backup storage infrastructure & software. Simplify backup & data archiving with backup-as-a-service & hybrid storage solutions that easily restore data & applications from the cloud.



## Rest assured your compliance goals are met

Take advantage of policies designed to meet your business or regulatory compliance requirements. Benefit from the most comprehensive [compliance portfolio](#) available, get more than 99 years of retention for your backup data & pick any Azure region around the globe for your backup & archive location.

## Keep remote & branch offices running smoothly

Move backup storage to the cloud to save on infrastructure investments for remote & branch offices. Replace expensive intranets with low-cost internet & archive data in your preferred [Azure datacenter region](#) across the globe, so that your data is close to your branch office – maintaining enterprise-grade security for data in transit & at rest.



## Related Azure Services & Microsoft Products



Backup →



Site Recovery →



Storage →

# ← Solution / Development & Test

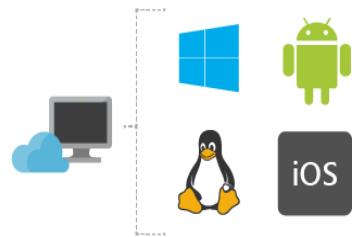
Deliver more features faster. Keep up with a comprehensive set of dev & test tools for your team to collaborate & deliver at cloud speed. Create consistent dev & test environments through a scalable, on-demand infrastructure.

## Get more time to create better applications

Let developers do what they do best – build great apps. Using dev & testing solutions, significantly reduce time & hassle of managing dev efforts so your team can maintain its focus on app development. [LEARN MORE →](#)

## Build for all the platforms you use

Heterogeneous environments are the norm. Bring cross-platform functionality to dev-test environments & use preferred coding languages to natively build & test apps on devices & platforms you use – from Linux to Windows to iOS & Android.

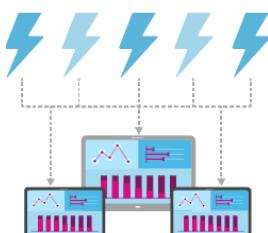
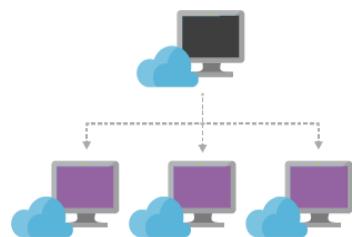


## Create dev-test environments in minutes, not weeks

Simplify & speed the process of running dev-test environments. Provision VMs in minutes. And unlike other cloud providers, you only pay by the minute. Spin up as many VMs as you need, network them & allocate to your developers. Manage your environment with agility.

## Scalable, high-fidelity test environments

Replicate real-world scenarios in test environments. Test at production scale to catch & fix problems before release. If production environment runs on Azure, create exact clones & gain precise views into how apps will behave in real world.



## Minimise waste, maximise control

Get visibility & control on usage of computing resources. Access real-time utilisation data to eliminate wastage & implement chargebacks to internal customers. Advanced automation helps reduce errors, unified management balances access & control.

## Related Azure Services & Microsoft Products



Azure DevTest Labs →



Visual Studio Team Services →



VS Application Insights →

# ← Solution / Disaster Recovery

Even a minor outage can put you at a competitive disadvantage. So, be ready with a business continuity plan that includes disaster recovery for all your major IT systems – without the expense of secondary infrastructure.

## Protect all of your major IT systems. Affordably.

Achieve low recovery point objective & recovery time objective targets for every system in your organisation, simply & cost-effectively. Eliminate the hassle & cost of secondary datacenters & tap into nearly infinite capacity at a moment's notice with a cloud-based data recovery solution designed for enterprises. [LEARN MORE →](#)

## Unify data management, security & protection

Achieve business goals for continuity & compliance throughout the lifecycle of your apps. Help secure data with industry leading protection offered by encryption features. Manage & protect your apps with offerings such as [Operations Management Suite](#) that includes centralised management, integrated data protection, and application availability solutions.



## Ensure apps work when you need them the most

Rest assured during an outage or disaster scenario with a disaster recovery solution that protects & natively supports the widest range of enterprise apps of any cloud disaster recovery provider. Fail over your apps & datacenter with automated recovery plans in a matter of hours.

## Perform tests any time for complete confidence

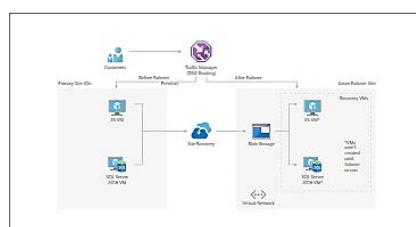
Test your business continuity plans or run dev-test copies of production workloads in Azure whenever you need to, without impacting users. Plus, test new versions of apps with copies of live data, and then seamlessly put the new version into production in your datacenter.



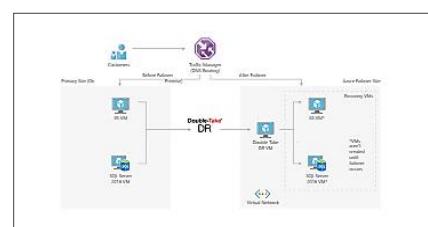
## Solution architectures



Enterprise Scale Disaster Recovery →



SMB Disaster Recovery with Azure Site Recovery →



SMB Disaster Recovery with Double Take DR →

# ← Solution / Remote Monitoring with IoT

Bring the Internet of your things to life. Connect & monitor all your devices, assets & sensors. Increase visibility into performance & efficiency, enable innovation & improve business outcomes through yet untapped data.

## Scale to millions of devices for quick time to market

Create a broad-scale IoT solution by connecting devices, assets & sensors to the cloud. Scale from a few sensors to millions of simultaneously connected devices – with reliability & global availability. [LEARN MORE →](#)

## Uncover insights with previously untapped data

With your company's devices & sensors connected, remote management helps you collect previously untapped data, then use built-in capabilities to improve operational efficiencies. Set up real-time analytics in a scalable, high-performance & resilient way – without having to manage complex infrastructure & software.



## Build IoT solutions with confidence



Enhance the security of your IoT solution across physical devices, connections & data by using remote monitoring. Use per-device authentication by setting up individual identities & credentials for each of your connected devices. And, retain the confidentiality of both cloud-to-device & device-to-cloud messages.

## Monitor assets anywhere in real time

Whether assets are down the street or across the globe, automate the tracking of their status & health – more effectively, efficiently & reliably than your existing systems. With asset management solutions, you will get live data & insights to make real-time decisions that move your business forward – no matter how remote your assets.



## Related Azure Services & Microsoft Products



Azure IoT Hub →



Machine Learning →



Stream Analytics →

# ← Solution / High Performance Computing

Break free from overheads & limitations of on-premises infrastructure. Tap into unlimited resources to scale HPC jobs – analysing data, running simulations & financial models, and experimenting while reducing time to market.

## Scale on demand, stay on budget

When the amount of data you have to ingest & process grows, tap into cloud resources for elastic extension of compute capabilities. Scale cost-effectively with the HPC capabilities of Azure.

[LEARN MORE →](#)

## Democratize access to achieve fast results

As scientific experiments drive an explosion in data growth, the need to share, process & protect that data grows too. Bring collaborative, scalable & secure access from anywhere, at any time, to all users.



### Reduce time to market



Add flexible compute resources to deliver more granularity and improved results faster.



Ultimately, you'll finish more projects & get more done.

## Disrupt the market with new products



Whether re-inventing classic lines of business apps, re-architecting proven scenarios or taking data-driven into overdrive, you need fast & flexible architectures. Use Azure to build architectures that expand, adapt & shrink with the demand of customers.

## Related Azure Services & Microsoft Products



[Virtual Machines →](#)



[Batch →](#)



[Storage →](#)



[ExpressRoute →](#)

# ← Solution / SAP on Azure

Quickly deploy SAP solutions across dev-test & production scenarios on the most comprehensive cloud platform – providing unparalleled performance for even the largest SAP & SAP HANA workloads.

## Bring cloud scale & agility to your SAP estate

Reliably run your mission critical SAP & other workloads on the cloud platform built for enterprises. Rest assured that your scalability, flexibility & compliance needs are met with Azure. With the expanded partnership between Microsoft & SAP, run a broad array of SAP applications across dev-test & production scenarios in Azure – and be fully supported. From SAP NetWeaver to SAP S4/HANA, Linux to Windows, SAP HANA to SQL Server, we have you covered.

[LEARN MORE →](#)

## Get unparalleled performance for SAP HANA

Get the broadest choice & industry leading performance when running SAP workloads on Azure. Spanning Azure VMs & purpose-built hardware that is [specifically tuned for SAP HANA](#), scale SAP HANA workloads up to 32 TB on multimode configurations. Azure lets you run the largest SAP HANA workloads (OLTP and OLAP) of any global scale cloud provider.



## Bet on the cloud that is engineered for the enterprise



With the broadest global footprint, largest compliance portfolio, enterprise-grade SLAs & world-class support, Azure provides a robust, resilient & reliable environment for not just your SAP applications, but also other workloads. Bet your business on the cloud that is designed for enterprise needs. Join the 85 percent of Fortune 500 companies that already have.

## Related Azure Services & Microsoft Products



Virtual Machines →



SQL Database →



Azure AD Domain Services →



Storage →



Virtual Network →

# ← Solution / SharePoint on Azure

Host SharePoint farms in Azure, scale rapidly & save on infrastructure costs. Whether it is for development, testing, staging, production or disaster recovery purposes, Azure is the perfect home for your SharePoint workloads.

## Deploy SharePoint rapidly and scale as needed

Spin up infrastructure for SharePoint servers in minutes. Set up development or test farms or scale out production SharePoint deployments by instantly adding more resources. Simplify deployment & configuration with ready-to-deploy images & templates that are based on tried & tested configurations, and reduce the time to deploy complex SharePoint farms from days to minutes.

[LEARN MORE →](#)

## Host your SharePoint sites cost effectively

Pay-as-you-go pricing & per-minute billing from Azure helps you save money. For development & testing, take advantage of Azure benefits for [Visual Studio subscribers](#) to reduce software licensing costs. When testing, spin up additional servers as needed for scale & load testing over short periods of time & remove them when you are finished.



## Seamlessly move virtual machines across premises

A virtual machine in Azure running Windows or SQL Server is no different than a server running on-premises. Easily move VMs between on-premises physical servers, servers at your hosting providers & Azure. Quickly & easily replicate SharePoint dev-test environments or secondary production sites in Azure – and, move them back on-premises when the need arises.

## Run Microsoft applications where they run best

SharePoint & SQL Server are tested to perform well on Azure. Use existing licenses with license mobility & [Azure Hybrid Use Benefit](#) to get first-party support across Azure, SharePoint & SQL Server. Running SharePoint on Azure ensures your solution is on the same cloud that runs Office 365 & Microsoft Dynamics CRM Online, helping you easily integrate across these.



## Related Azure Services & Microsoft Products



[Virtual Machines →](#)



[SQL Database →](#)



[Azure Active Directory →](#)

# ← Solution / Dynamics on Azure

Make smarter decisions, redesign business processes faster & fuel business growth using the cloud-based ERP solution built for & on Azure – bringing together ERP, BI, infrastructure, compute & database services.

## Make smarter decisions. Faster.

Give your entire company access to the business intelligence (BI) they need – whenever & wherever they need it. By integrating BI into your company's office tools, you will transform your data to enable greater insights for faster, more informed decisions.

[LEARN MORE →](#)

## Increase the speed of doing business

Transform & adapt quickly to keep your organisation at the forefront of your market. Simplify changes to your business process development & deployment with a consistent & user-friendly ERP solution.



## Grow at your own pace

Grow how, where & when you need to. Whether you are introducing new products, expanding into new markets, or growing through acquisition, get the agility & flexibility of the cloud to scale at the right pace for you.

## Drive business performance

Better plan & anticipate business needs. Increase visibility of organisational risks with a single, holistic view to help your IT department expand your business – while continuing to provide security, scalability and reliability.



## Related Azure Services & Microsoft Products



SQL Database →



Power BI Embedded →



Azure Active Directory →



Multi-Factor Authentication →



Machine Learning →



ExpressRoute →

## ← Solution / Digital Media

From global distribution of premium video content to engaging with employees & interacting with customers, use the power of media to transform businesses. Build, deploy, scale & deliver videos anywhere, anytime.

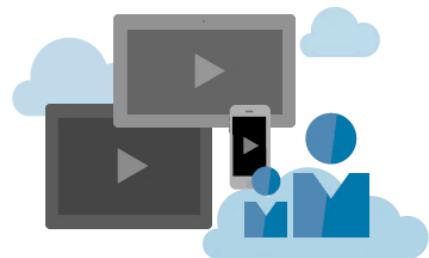
### Create a distinct personal element with videos to increase engagement

Whether it is your digital marketing campaign, e-commerce site, a classroom or customer service portal, use the power of videos to build a vivid experience & drive engagement.

[LEARN MORE →](#)

### Connect with your audience anywhere, anytime

Whether they are looking for information or entertainment, deliver the videos which customers want – when they want it, on any popular device. Regardless of where they are in the world, regardless of connection speeds, your customer will be delighted with high quality video playback.



### Gather actionable intelligence from your media



Your media is a treasure trove of information. Use cutting edge machine learning to unearth it. Enable new forms of content discovery by extracting spoken words, characters & emotions. Process video & audio feeds automatically, and improve your operations.

### Gain business agility with a comprehensive media platform

Get to market faster & reap the benefits customer feedback. Comprehensive & reliable media & cloud services enable you to iterate & adopt an agile approach.



### Scale as you need

As your marketing campaign takes off or video goes viral, use the cloud to scale as you need & pay as you go. Expand to new geographies seamlessly.

### Related Azure Services & Microsoft Products



[Media Services →](#)



[CDN →](#)



[Storage →](#)



# Microsoft Azure Best Practices

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

## Availability Checklist



[azure.microsoft.com/en-in/documentation/articles/best-practices-availability-checklist](https://azure.microsoft.com/en-in/documentation/articles/best-practices-availability-checklist)

## Scalability Checklist



[azure.microsoft.com/en-in/documentation/articles/best-practices-scalability-checklist](https://azure.microsoft.com/en-in/documentation/articles/best-practices-scalability-checklist)

## Resiliency Guidance



[azure.microsoft.com/en-in/documentation/articles/resiliency-technical-guidance](https://azure.microsoft.com/en-in/documentation/articles/resiliency-technical-guidance)

## Network Security



[azure.microsoft.com/en-in/documentation/articles/best-practices-network-security](https://azure.microsoft.com/en-in/documentation/articles/best-practices-network-security)

## Monitoring & Diagnostic Guidance



[azure.microsoft.com/en-in/documentation/articles/best-practices-monitoring](https://azure.microsoft.com/en-in/documentation/articles/best-practices-monitoring)

## Data Partitioning Guidance



[azure.microsoft.com/en-in/documentation/articles/best-practices-data-partitioning](https://azure.microsoft.com/en-in/documentation/articles/best-practices-data-partitioning)

## Caching Guidance



[azure.microsoft.com/en-in/documentation/articles/best-practices-caching](https://azure.microsoft.com/en-in/documentation/articles/best-practices-caching)

## Autoscaling Guidance



[azure.microsoft.com/en-in/documentation/articles/best-practices-auto-scaling](https://azure.microsoft.com/en-in/documentation/articles/best-practices-auto-scaling)

## Background Jobs Guidance



[azure.microsoft.com/en-in/documentation/articles/best-practices-background-jobs](https://azure.microsoft.com/en-in/documentation/articles/best-practices-background-jobs)

# ← Best Practice / Availability Checklist

Microsoft Azure Availability Checklist can be broken down into the following major patterns and practices:

App Design → | Deployment & Maintenance → | Data → | Monitoring & Disaster Recovery →

## Application design

- ✓ Avoid any single point of failure;
- ✓ Decompose workload per service-level agreement;
- ✓ Minimize & understand service dependencies;
- ✓ Design tasks & messages to be idempotent;
- ✓ Use message brokers to implements high availability for critical transactions;
- ✓ Design applications to gracefully degrade; and
- ✓ Gracefully handle rapid burst events.

## Deployment & maintenance

- ✓ Deploy multiple instances of roles for each service;
- ✓ Host applications in multiple datacenters;
- ✓ Automate and test deployment and maintenance tasks;
- ✓ Consider using staging and production features of the platform;
- ✓ Apply configuration changes without recycling;
- ✓ Use upgrade domains for zero downtime during updates; and
- ✓ Configure availability sets for Azure virtual machines.



## Data management

- ✓ Take advantage of data replication through both local & geographical redundancy;
- ✓ Use optimistic concurrency & eventual consistency;
- ✓ Use periodic backup and point-in-time restore; and
- ✓ Enable high availability option to maintain secondary copy of Azure Redis cache.



## Monitoring & disaster recovery

- ✓ Provide rich instrumentation for likely failures & failure events;
- ✓ Monitor system health by implementing checking functions;
- ✓ Regularly test all failover & fallback systems;
- ✓ Test the monitoring systems;
- ✓ Track the progress of long-running workflows and retry on failure; and
- ✓ Plan for disaster recovery.

## Errors & failures

- ✓ Introduce the concept of a timeout;
- ✓ Retry failed operations caused by transient faults;
- ✓ Compose or fall back to multiple components; and
- ✓ Fall back to different service or workflow if possible.

# ← Best Practice / Scalability Checklist

Review a checklist of patterns and practices considerations with designing your applications for scalability.

Service Design →

|

Data Management →

|

Service Implementation →

## Service design

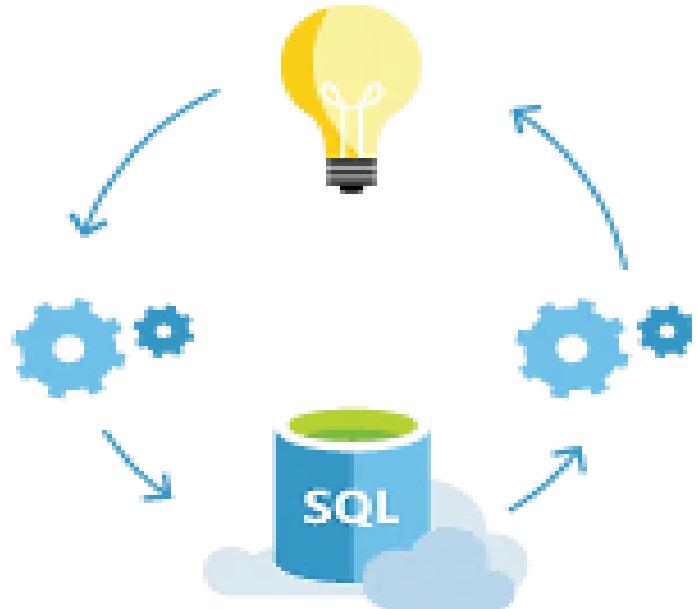
- ✓ Partition the workload;
- ✓ Take advantage of platform autoscaling features;
- ✓ Design for scaling;
- ✓ Distribute the workload for background tasks;

- ✓ Scale as a unit;
- ✓ Offload intensive CPU/IO tasks as background tasks;
- ✓ Avoid client affinity; and
- ✓ Move towards a *shared-nothing* architecture.

## Data management

- ✓ Use [Data Partitioning](#);
- ✓ Design for eventual consistency – for more info, see the [Data Consistency Primer](#);
- ✓ Reduce chatty component-service interactions;
- ✓ Use queues to level load for high velocity data writes – see [Queue-Based Load Levelling Pattern](#);
- ✓ Minimize load on data store & volume of data retrieved, while handling data growth & retention;
- ✓ Aggressively use [Caching](#);
- ✓ Optimize DTOs using an efficient binary format;
- ✓ Set cache control & enable client side caching;
- ✓ Use Azure blob storage & Azure [CDN](#) to reduce the load on applications;
- ✓ Optimize & tune [SQL Queries & Indexes](#); and

- ✓ Consider de-normalizing through [data partitioning](#).



## Service implementation

- ✓ Use asynchronous calls – implement asynchronous operations by [Task-based Asynchronous Pattern](#);
- ✓ Avoid locking resources – use optimistic approach;
- ✓ Compress highly compressible data over high latency, low bandwidth networks;
- ✓ Minimize the time that connections and resources are in use;
- ✓ Minimize the number of connections required;
- ✓ Send requests in batches to optimize network use;
- ✓ Avoid requirement to store server-side session state;

- ✓ Optimize table storage schemas;
- ✓ Use Task Parallel Library to perform asynchronous operations;
- ✓ Create resource dependencies during deployment or at application start-up;
- ✓ Use lightweight frameworks;
- ✓ Consider minimizing the number of service accounts; and
- ✓ Carry out performance profiling and load testing during development.

# ← Best Practice / Resiliency Guidance

Review a checklist of patterns & practices guidance & resources for increasing the uptime of your applications.

[View Details →](#) | [Additional Resources →](#)

## Introduction

Meeting high availability & disaster recovery requirements necessitates two types of knowledge:

- ✓ Detailed technical understanding of a cloud platform's capabilities; and
- ✓ Knowledge of how to properly architect a distributed service

The below mentioned series of articles covers the former: capabilities & limitations of Azure platform with respect to resiliency. For the latter, please see the article series focused on [Disaster Recovery & High Availability](#). For design guidance, you can consult the materials in the [Additional Resources](#) section.

The information is organized into the following articles:

- ✓ [Recovery from local failures](#): This article describes the capabilities that Azure provides to maintain high availability under various conditions.
- ✓ [Recovery from region-wide service disruption](#): This article explains how to use Azure to create apps that span geographically diverse regions.
- ✓ [Recovery from on-premises to Azure](#): This article explains capabilities that Azure provides for extending on-premises datacenters to the cloud.
- ✓ [Recovery from data corruption/accidental deletion](#): This article explains what Azure provides for backing up & restoring data.



## Additional resources

- ✓ Disaster recovery & high availability for apps built on Microsoft Azure →
- ✓ High-availability checklist →
- ✓ Microsoft Azure service resiliency guidance →
- ✓ Overview: Cloud business continuity and database disaster recovery with SQL Database →
- ✓ High availability and disaster recovery for SQL Server in Azure Virtual Machines →
- ✓ Best practices for designing large-scale services on Azure Cloud Services →
- ✓ Backup and restore for SQL Server in Azure Virtual Machines →
- ✓ Failsafe: Guidance for resilient cloud architectures →
- ✓ Technical case study: Using cloud technologies to improve disaster recovery →

# ← Best Practice / Network Security

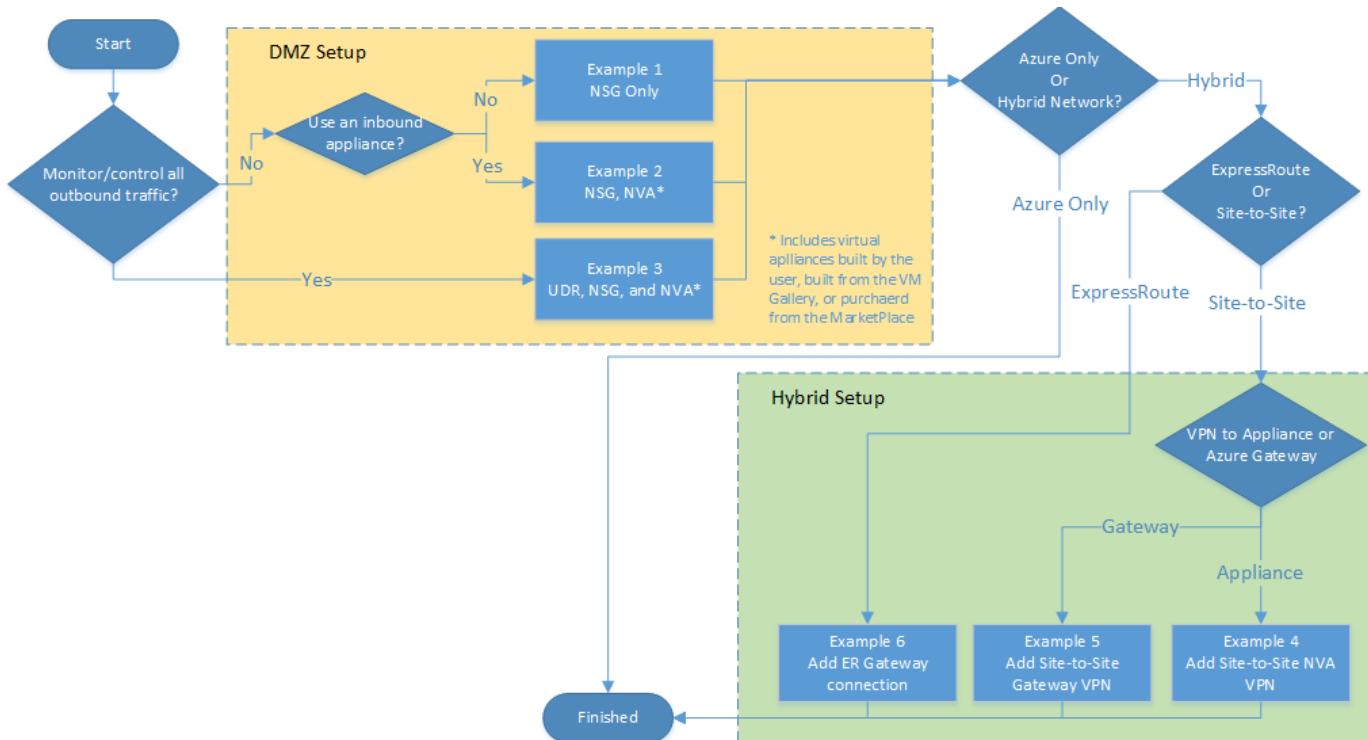
Review a checklist of patterns & practices guidance for creating secure network environments.

Infra Protection → | Security Architectures → | Virtual Networks → | Perimeter Network →

Microsoft cloud services deliver hyperscale services & infrastructure, enterprise-grade capabilities & many choices for hybrid connectivity. Customers can choose to access these services either via Internet or with Azure ExpressRoute, which provides private network connectivity. The Microsoft Azure platform allows customers to seamlessly extend their infrastructure into the cloud & build multitier architectures. Additionally, third parties can enable enhanced capabilities by offering security services & virtual appliances.

## Fast start

The following logic chart can direct you to specific examples of security techniques available with Azure. For quick reference, find the example that best fits your case.



## Examples

- ✓ Example 1: Build perimeter networks (also known as DMZ, demilitarized zone & screened subnet) to help protect applications with network security groups (NSGs) →
- ✓ Example 2: Build perimeter networks to help protect applications with firewalls & NSGs →
- ✓ Example 3: Build perimeter networks to help protect networks with firewalls, user-defined routes & NSGs →
- ✓ Example 4: Add hybrid connections with site-to-site, virtual appliance virtual private networks (VPNs) →
- ✓ Example 5: Add hybrid connections with site-to-site, Azure gateway VPNs →
- ✓ Example 6: Add hybrid connections with ExpressRoute →

# ← Best Practice / Monitoring & Diagnostics Guidance

Review a checklist of patterns & practices guidance for building robust monitoring & diagnostics into your app.

Scenarios → | Health → | Availability → | Performance → | Security → | SLA → | Usage →

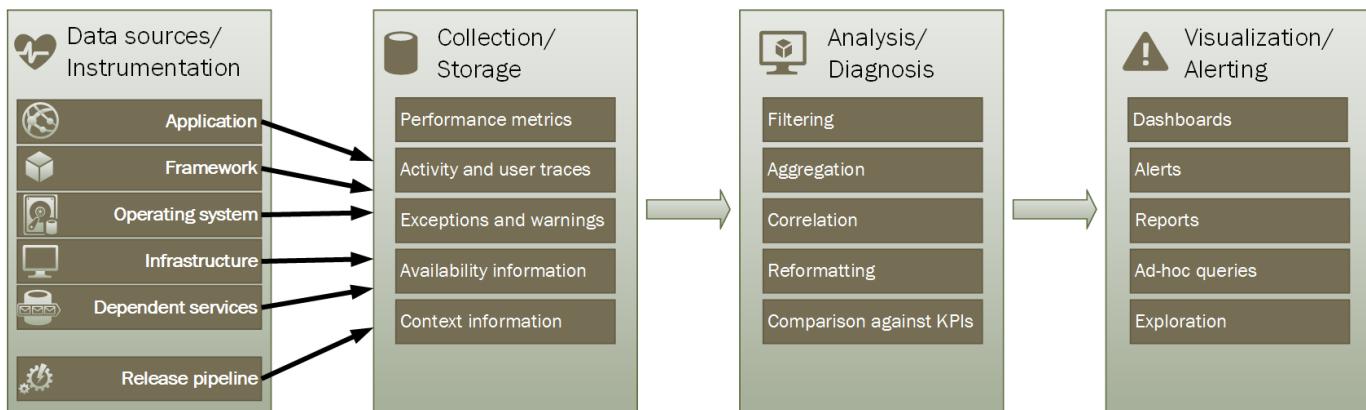
Distributed apps & services running in the cloud are complex pieces of software that comprise many moving parts. In production environments, it's important to be able to track the way in which users utilize systems, trace resource utilization & monitor health & system performance. Use this information as a diagnostic aid to detect & correct issues, and also to help spot potential problems & prevent them from occurring.

## Monitoring & diagnostics scenarios

Use monitoring to gain insight into how well a system is functioning. It is a crucial part of maintaining quality-of-service targets. Common scenarios for collecting monitoring data include:

- ✓ Ensuring that the system remains healthy;
- ✓ Tracking the availability of the system & its component elements;
- ✓ Maintaining performance to ensure system throughput does not degrade as work volume increases;
- ✓ Guaranteeing the system meets any SLAs established with customers;
- ✓ Protecting the privacy & security of the system, users & their data;
- ✓ Tracking the operations performed for auditing or regulatory purposes;
- ✓ Monitoring day-to-day system usage & spotting trends that might lead to problems if not addressed.
- ✓ Tracking issues that occur, from initial report to possible cause analysis, rectification, updates & deployment.
- ✓ Tracing operations & debugging software releases.

## The monitoring and diagnostics pipeline



## More information

- ✓ Monitor, diagnose & troubleshoot Azure Storage →
- ✓ Azure: Telemetry Basics and Troubleshooting →
- ✓ Diagnostics in Azure Cloud Services & VMs →
- ✓ [Azure Redis Cache](#), [DocumentDB](#), & [HDInsight](#) →
- ✓ How to use Service Bus queues →
- ✓ SQL Server business intelligence in Azure VMs →
- ✓ [Alert Notifications](#) & [Service Health](#) →
- ✓ Application Insights →

# ← Best Practice / Data Partitioning Guidance

Review a checklist of patterns & practices guidance for partitioning your data into multiple data stores.

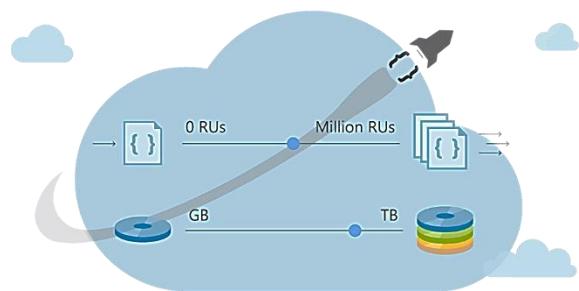
Why partition data → | Designing partitions → | Partitioning strategies → | Migration →

In many large-scale solutions, data is divided into separate partitions that can be managed & accessed separately. The partitioning strategy must be chosen carefully to maximize the benefits while minimizing adverse effects. Partitioning can help improve scalability, reduce contention & optimize performance. Another benefit of partitioning is that it can provide a mechanism for dividing data by the pattern of use.

## Why partition data?

Most cloud apps & services store & retrieve data as part of their operations. The design of the data stores that an app uses can have a significant bearing on the performance, throughput & scalability of a system. One technique that is commonly applied in large-scale systems is to divide the data into separate partitions. Partitioning refers to the process of physically dividing data into separate data stores. It can offer a number of benefits. For example, it can be applied in order to

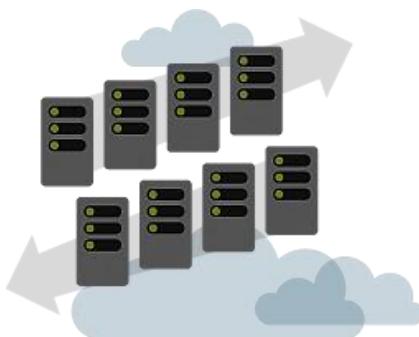
- ✓ Improve scalability;
- ✓ Improve performance;
- ✓ Improve availability;
- ✓ Improve security;
- ✓ Provide operational flexibility; and
- ✓ Match the data store to the pattern of use.



## Designing partitions

Data can be partitioned in different ways: horizontally, vertically or functionally. The strategy you choose depends on the reason for partitioning of data, and the requirements of apps & services that will use the data.

## Partitioning strategies



- ✓ **Horizontal partitioning (*sharding*):** In this strategy, each partition is a data store in its own right, but all partitions have the same schema.
- ✓ **Vertical partitioning:** In this strategy, each partition holds a subset of the fields for items in the data store. The fields are divided according to their pattern of use.
- ✓ **Functional partitioning:** In this strategy, data is aggregated according to how it is used by each bounded context in the system.

# ← Best Practice / Caching Guidance

Review a checklist of patterns & practices considerations for implementing Azure Redis Cache.

Considerations → | Managing concurrency → | Caching & consistency → | Using Redis Cache →

Caching is a common technique that aims to improve the performance & scalability of a system. It does this by temporarily copying frequently accessed data to fast storage that's located close to the app. If this fast data storage is located closer to the app than the original source, then caching can significantly improve response times for client apps by serving data more quickly.

## Caching in distributed applications

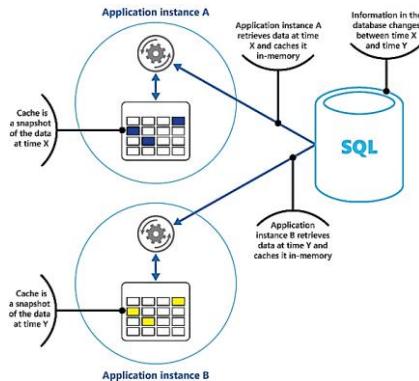
Distributed apps typically implement either or both of the following strategies when caching data:

- ✓ Using a private cache, where data is held locally on computer that's running an instance of an app or service;
- ✓ Using a shared cache, serving as a common source that can be accessed by multiple processes or machines.

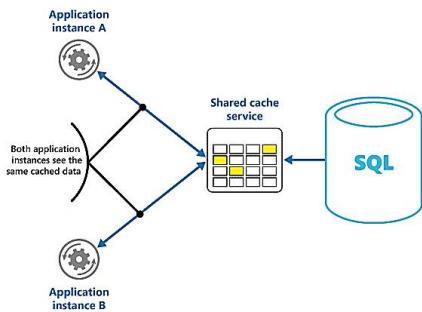
In both cases, caching can be performed client-side or server-side. Client-side caching is done by the process that provides the user interface for a system, such as a web browser or desktop app. Server-side caching is done by the process that provides the business services that are running remotely.

### Private caching

The most basic type of cache is an in-memory store. If you need to cache more information than is physically possible in memory, you can write cached data to the local file system. This will be slower to access than data that's held in-memory, but still be faster & more reliable than retrieving data across a network. If you have multiple instances of an app that uses this model running concurrently, each app instance has its own independent cache holding its own copy of the data.



### Shared caching



Using a shared cache can help alleviate concerns that data might differ in each cache, which can occur with in-memory caching. Shared caching ensures that different app instances see the same view of cached data. It does this by locating the cache in a separate location, typically hosted as part of a separate service. An important benefit of this approach is the scalability it provides. Many shared cache services are implemented by using a cluster of servers & utilize software that distributes the data across the cluster in a transparent manner.

# ← Best Practice / Autoscaling Guidance

Review a checklist of patterns & practices considerations & guidance for implementing an autoscaling strategy.

Types of Scaling → | Autoscaling Strategy → | Autoscaling for Azure Solution → | App Design →

Autoscaling is the process of dynamically allocating resources required by apps to match performance requirements & satisfy SLAs, while minimizing runtime costs. As the volume of work grows, apps may require additional resources to enable them to perform tasks in a timely manner. As demand slackens, resources can be de-allocated to minimize costs, while maintaining adequate performance & meeting SLAs. Autoscaling takes advantage of elasticity of cloud-hosted environments while easing management overhead. It does so by reducing operator need to continually monitor system performance & make decisions about resources.

## Types of scaling

✓ **Vertical (*scaling up and down*):** It requires hardware modification or solution redeployment using alternative hardware with apt capacity & performance. It is a disruptive process that invariably requires making the system temporarily unavailable while it is being redeployed. Even if the original system is running, there will be some interruption while processing transitions from old to new environment. It is uncommon to use autoscaling for vertical scaling.



✓ **Horizontal (*scaling out and in*):** It requires deploying the solution on additional/fewer resources. It can continue running without interruption while these resources are provisioned. When the provisioning process is complete, copies of the elements that comprise the solution can be deployed on these additional resources & made available. Many cloud-based systems support automation of this form of scaling.

## Implement an autoscaling strategy

Implementing an autoscaling strategy typically involves the following:



- ✓ Instrumentation & monitoring systems at app, service & infra levels – capturing metrics, like: response time, queue length, CPU utilization, etc.
- ✓ Decision-making logic that can evaluate the monitored scaling factors against predefined system thresholds or schedules & make decisions regarding whether to scale or not.
- ✓ Components that are responsible for carrying out tasks associated with scaling the system, such as provisioning or de-provisioning resources.
- ✓ Testing, monitoring & tuning of autoscaling strategy to ensure that it functions as expected.

# ← Best Practice / Background Jobs Guidance

Review a checklist of patterns & practices to understand the advantages of using background jobs in Azure apps.

Types → | Triggers → | Returning Results → | Hosting Environment → | Design Considerations →

Many types of apps require background tasks that run independently of the UI. They can be executed without requiring user interaction – apps can start jobs & then continue to process interactive requests from users. This can help minimize the load on app UI, which can improve availability & reduce interactive response times. When considering whether to implement a task as a background job, the main criteria is whether the task can run without user interaction & without the UI needing to wait for the job to be completed. Tasks that require the user or the UI to wait while they are completed might not be appropriate as background jobs.

## Types of background jobs

Background jobs typically include one/more of the following types of jobs:

- ✓ CPU-intensive jobs, like: maths calculations or structural model analysis;
- ✓ I/O-intensive jobs, like: executing a series of storage transactions;
- ✓ Batch jobs, like: nightly data updates or scheduled processing;
- ✓ Long-running workflows, like: provisioning services & systems; and
- ✓ Sensitive-data processing where task is handed off to secure locations.



## Triggers



The way background jobs are initiated can be grouped into 2 categories:

- ✓ [Event-driven triggers](#): The task is started in response to an event, typically an action taken by a user or a step in a workflow; and
- ✓ [Schedule-driven triggers](#): The task is invoked on a schedule based on a timer. This might be a recurring schedule or a one-off invocation.

## Hosting environments

- ✓ [Azure Web Apps and WebJobs](#): Use WebJobs to execute custom jobs based on a range of different types of scripts or executable programs within the context of a web app;
- ✓ [Azure Cloud Services web and worker roles](#): Write code within a role that executes as a background task.
- ✓ [Azure Virtual Machines](#): If you have a Windows service or want to use the Windows Task Scheduler, it is common to host your background tasks within a dedicated VM.
- ✓ [Azure Batch](#): It's a platform service that schedules compute-intensive work to run on a managed collection of virtual machines, and can automatically scale compute resources to meet the needs of your jobs.



# Microsoft Azure Pricing

About Azure

No upfront costs. Only pay for what you use.

[FREE ACCOUNT →](#) | [PRICING CALCULATOR →](#) | [PRICING FAQ →](#) | [LEARN MORE →](#)

Get Started

Azure allows you to quickly deploy infrastructures & services to meet all your business needs. Run Windows & Linux based apps in [30 Azure datacenter regions](#), delivered with enterprise grade SLAs.

✓ No upfront costs

✓ Pay only for what you use

✓ No termination fees

✓ Per minute billing

Initial Education

Azure Products

Sign up and [start a free account today](#). Please call us at 000-800-100-3928 ([or local number](#)) if you have any questions about Azure pricing or capabilities.

## Pricing details

Estimate expected monthly bill using our [Pricing Calculator](#) & track your actual account usage & bill at any time using the [billing portal](#). Setup [automatic email billing alerts](#) to be notified if your spend goes above an amount you configure.

### Example Pricing:

 App Service	STARTING FROM FREE EVERY MONTH	>
 Virtual Machines	STARTING FROM ₹781.14 PER MONTH	>
 SQL Database	STARTING FROM ₹299.84 PER MONTH	>

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

### Pay-As-You-Go Subscriptions



[azure.microsoft.com/en-in/offers/ms-azr-0003p](http://azure.microsoft.com/en-in/offers/ms-azr-0003p)

### Microsoft Resellers (CSPs | Open)



[microsoft.com/en-us/licensing/licensing-programs/open-license](http://microsoft.com/en-us/licensing/licensing-programs/open-license)

### Enterprise Agreements



[azure.microsoft.com/en-in/pricing/enterprise-agreement](http://azure.microsoft.com/en-in/pricing/enterprise-agreement)

### Microsoft Azure Compute Option



[azure.microsoft.com/en-in/pricing/microsoft-azure-compute-option](http://azure.microsoft.com/en-in/pricing/microsoft-azure-compute-option)

### Microsoft Azure Hybrid Use Benefit



[azure.microsoft.com/en-in/pricing/hybrid-use-benefit](http://azure.microsoft.com/en-in/pricing/hybrid-use-benefit)

### Enterprise Agreement Support



[azure.microsoft.com/en-in/offers/enterprise-agreement-support-upgrade](http://azure.microsoft.com/en-in/offers/enterprise-agreement-support-upgrade)

# ← Microsoft Azure / Detailed Pricing Information

## Compute

[Linux Virtual Machines →](#)  
[Windows Virtual Machines →](#)  
[Virtual Machine Scale Sets →](#)  
[Azure Container Service →](#)  
[Service Fabric →](#)  
[MORE +](#)

## Networking

[Virtual Network →](#)  
[Load Balancer →](#)  
[Application Gateway →](#)  
[VPN Gateway →](#)  
[Azure DNS →](#)  
[MORE +](#)

## Storage

[Storage →](#)  
[Data Lake Store →](#)  
[StorSimple →](#)  
[Backup →](#)  
[Site Recovery →](#)

## Web + Mobile

[App Service →](#)  
[Logic Apps →](#)  
[CDN →](#)  
[Media Services →](#)  
[Mobile Engagement →](#)  
[MORE +](#)

## Databases

[SQL Database →](#)  
[SQL Data Warehouse →](#)  
[SQL Server Stretch Database →](#)  
[DocumentDB →](#)  
[Redis Cache →](#)  
[Data Factory →](#)

## Intelligence + Analytics

[HDInsight →](#)  
[Machine Learning →](#)  
[Stream Analytics →](#)  
[Cognitive Services →](#)  
[Data Lake Analytics →](#)  
[MORE +](#)

## Internet of Things

[Azure IoT Hub →](#)  
[Event Hubs →](#)  
[Stream Analytics →](#)  
[Machine Learning →](#)  
[Notification Hubs →](#)

## Enterprise Integration

[Logic Apps →](#)  
[BizTalk Services →](#)  
[Service Bus →](#)  
[SQL Server Stretch Database →](#)  
[Data Factory →](#)  
[MORE +](#)

## Security + Identity

[Security Center →](#)  
[Key Vault →](#)  
[Azure Active Directory →](#)  
[Azure Active Directory B2C →](#)  
[Azure AD Domain Services →](#)  
[Multi-Factor Authentication →](#)

## Developer Tools

[Visual Studio Team Services →](#)  
[Azure DevTest Labs →](#)  
[Visual Studio App Insights →](#)  
[API Management →](#)  
[HockeyApp →](#)

## Monitoring + Management

[Visual Studio Application Insights →](#) [Automation →](#)  
[Log Analytics →](#) [Backup →](#)  
[Security and Compliance →](#) [Site Recovery →](#)  
[Protection and Recovery →](#) [Scheduler →](#)  
[Automation and Control →](#) [Traffic Manager →](#)  
[Insights and Analytics →](#) [Azure Monitor →](#)



# Microsoft Azure Support

About Azure

Microsoft offers a range of support options for you – whether you are a developer exploring cloud or work for an enterprise deploying business-critical workloads on Azure.

[SELECT A PLAN →](#)

Get Started

## Trial, testing & development

If you are getting started with Azure in a non-production environment or trying it out for your business, the Developer Plan gives you access to Microsoft support resources & engineers to troubleshoot issues with unlimited technical support during business hours.

[LEARN MORE ABOUT DEVELOPER SUPPORT →](#)

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

## Production workloads

When you are running a production workload on Azure and need 24x7 technical support with a fast response time, the Standard plan provides you with quick access to support resources and engineers whenever you need them, so you can troubleshoot issues with unlimited technical support.



[LEARN MORE ABOUT STANDARD SUPPORT →](#)

## Business-critical functions



If you need faster response times, proactive monitoring & high severity incident escalation management from a collaborative account management team, you want Professional Direct support. You also get more services, information & experts, plus upcoming features & releases.

[LEARN MORE ABOUT PROFESSIONAL DIRECT SUPPORT →](#)

For enterprise support on Microsoft technologies, consider Premier Support →

## Billing & Subscription

- ✓ Billing/Subscription FAQs →
- ✓ Billing Support Articles →

## Community

- ✓ Connect with us on Twitter →
- ✓ Forums →

## Support

- ✓ Create Support Request →
- ✓ Azure Support FAQs →

Contact

# ← Support / Developer Support Plan

The Microsoft Azure Developer Support Plan is appropriate for companies or individuals using Microsoft Azure in a non-production environment or for trial and evaluation.

[LEARN MORE →](#) | [PURCHASE NOW →](#)

Microsoft offers a range of support options for developers starting their journey in the cloud or deploying business critical, strategic applications on Microsoft Azure. As part of this plan, developers receive:

- ✓ Reactive technical support
- ✓ Support for non-Microsoft technologies running on Azure
- ✓ Lowest priced technical support option

## Developer details

---

RANGE OF SUPPORT	MICROSOFT AZURE
Unlimited billing & subscription support	Business hours only
Unlimited technical support	Business hours only
Non-Microsoft technologies running on Azure ( <a href="#">See FAQ</a> )	Microsoft will assist Azure customers with issues associated with select non-Microsoft technologies
Incident submission	Online
Initial response time	< 8 hours
Maximum severity	"C" (Minimal business impact)

## Included for all Azure customers & partners

- ✓ Support provided in nine languages: English, Spanish, French, German, Italian, Portuguese, Traditional Chinese, Korean & Japanese.
- ✓ Unlimited subscription management (e.g., billing, quota adjustments, account transfers).
- ✓ Two Azure online forum options: MSDN and Stack Overflow. MSDN is a Microsoft online property. Stack Overflow is not associated or affiliated with Microsoft.
- ✓ Twitter @AzureSupport.
- ✓ Azure service dashboard.

# ← Support / Standard Support Plan

The Microsoft Azure Standard Support Plan is a good choice for small or mid-size companies with minimal business critical dependence on Microsoft Azure.

[LEARN MORE →](#) | [PURCHASE NOW →](#)

Microsoft offers a range of support options for small & mid-size companies focused on deploying apps with minimal business criticality on Microsoft Azure. As part of this plan, enrolled companies receive:

- ✓ Reactive 24x7 technical support
- ✓ Fast initial response for support issues
- ✓ Ability to set severity of issues

## Standard details

RANGE OF SUPPORT	MICROSOFT AZURE
Unlimited 24x7 billing and subscription support	√
Unlimited 24x7 technical support	√
Non-Microsoft technologies running on Azure ( <a href="#">See FAQ</a> )	Microsoft will assist Azure customers with issues associated with select non-Microsoft technologies
Incident submission	Online
Initial response time	< 2 hours
Maximum severity	"A" (Critical business impact)

## Learn about other plans

### PREMIER

Premier offering is well suited for large or global enterprises with strategic and business critical dependence on Microsoft products including Azure.

[LEARN MORE →](#)

### PRODIRECT

The Azure ProDirect offering is most appropriate for mid-size or large companies with substantial business critical utilisation of Microsoft Azure.

[LEARN MORE →](#)

### DEVELOPER

The Azure Developer offering is appropriate for companies or individuals using Microsoft Azure in non-production environment or for trial and evaluation

[LEARN MORE →](#)

# ← Support / Professional Direct (ProDirect) Support Plan

The Microsoft Azure ProDirect Support Plan is most appropriate for mid-size & large companies with substantial business critical utilisation of Microsoft Azure.

[LEARN MORE →](#) | [PURCHASE NOW →](#)

Microsoft offers a range of support options for mid-size & large companies focused on deploying mission-critical enterprise solutions on Microsoft Azure. As part of this plan, enrolled companies receive:

- ✓ Faster initial response and escalation management for high priority issues
- ✓ Proactive monitoring of business critical support issues
- ✓ ProDirect Manager provides account management from pooled set of resources

## ProDirect details

RANGE OF SUPPORT	MICROSOFT AZURE
Unlimited 24x7 billing, subscription & tech support	✓
Escalation management	✓
Non-Microsoft technologies running on Azure ( <a href="#">See FAQ</a> )	Microsoft will assist Azure customers with issues associated with select non-Microsoft technologies
Proactive monitoring	Monitoring severity "A" support requests
Advisory services ( <a href="#">See FAQ</a> )	<p>Guidance based on best practices to:</p> <ul style="list-style-type: none"><li>✓ Plan for deployments &amp; migrations</li><li>✓ Plan for hybrid cloud solutions</li><li>✓ Boost performance</li><li>✓ Improve reliability and recoverability</li><li>✓ Enhance security</li></ul>
Service account management	<ul style="list-style-type: none"><li>✓ Monthly Service Review</li><li>✓ "Ask the Experts" Online Seminar</li><li>✓ Enhanced outage communications</li><li>✓ Onboarding</li></ul>
Incident submission & initial response time	Online   < 1 hour
Maximum severity	"A" (Critical business impact)

# ← Support / Premier Support Plan

The Premier offering is well suited for large or global enterprises with strategic and business critical dependence on Microsoft products including Azure.

[LEARN MORE →](#) | [CONTACT US FOR PRICING →](#)

Microsoft offers a range of support options for large and/or global enterprises focused on building & deploying strategic mission critical solutions on Microsoft products. As part of this plan, enrolled companies receive:

- ✓ Complete coverage for cloud, hybrid and on premises solutions across all Microsoft products
- ✓ Support available onsite in addition to online
- ✓ Technical Account Manager is assigned to account

## Premier details

RANGE OF SUPPORT	MICROSOFT AZURE
Unlimited 24x7 billing, subscription & tech support	✓
Non-Microsoft technologies running on Azure ( <a href="#">See FAQ</a> )	Microsoft will assist Azure customers with issues associated with select non-Microsoft technologies
Escalation management	✓
Advisory services	<p>Assistance based on best practices to resolve how-to scenarios regarding, for example:</p> <ul style="list-style-type: none"><li>✓ Migration &amp; deployment</li><li>✓ Development &amp; optimisation</li><li>✓ Design &amp; implementation</li><li>✓ Performance tuning</li></ul>
Service account management	<ul style="list-style-type: none"><li>✓ Monthly service review &amp; service delivery planning</li><li>✓ Remediation planning, reporting &amp; trending advice</li><li>✓ Operational guidance &amp; onboarding</li></ul>
Proactive services	<ul style="list-style-type: none"><li>✓ Risk assessments &amp; operations assessments</li><li>✓ Support workshops timed with key release cycles</li><li>✓ Guidance to help maximise current Microsoft platform &amp; support business initiatives</li><li>✓ Monitor severity "A" support requests</li></ul>
Incident submission	<ul style="list-style-type: none"><li>✓ Submitted by assigned Microsoft TAM</li><li>✓ Online &amp; dedicated phone line</li></ul>

# ← Support Plan / Feature Comparison

## Select a support plan

SUPPORT PLANS	INCLUDED	DEVELOPER	STANDARD	PRODIRECT	PREMIER
Best for:	Billing/subscription support; online self help	Non-production environment	Limited business critical dependence on Azure	Substantial dependence on Azure	Business critical, strategic Azure dependence
Range of support	Microsoft Azure	Microsoft Azure	Microsoft Azure	Microsoft Azure	Microsoft products
Twitter @AzureSupport	√	√	√	√	√
Azure forums & documentation	√	√	√	√	√
Support for Azure service issues via self-help	√	√	√	√	√
Unlimited 24x7 billing/subscription support	√	√	√	√	√
Azure service dashboard	√	√	√	√	√
Unlimited 24x7 technical support	-	Business hours only	√	√	√
Non Microsoft tech running on Azure		√	√	√	√
Advisory services	-	-	-	Limited advisory	Customer specific
Support account management	-	-	-	Pooled	Assigned
Cloud service dependency mapping	-	-	-	-	√
Onsite support	-	-	-	-	√
Initial response time	-	< 8 hours	< 2 hours	< 1 hour	< 15 minutes
Maximum severity	-	C	A	A	A
Monthly costs	Included	₹1,742.54/month	₹18,026.25/month	₹60,087.50/month	CONTACT US →
Support plans	Included with Azure subscription	LEARN MORE →	LEARN MORE →	LEARN MORE →	LEARN MORE →



# Microsoft Azure Trust Centre

About  
Azure

Entrust Microsoft with maintaining security, privacy, transparency & compliance of your data.

[LEARN MORE →](#) | [SEE ALL CERTIFICATIONS →](#) | [VISIT MICROSOFT TRUST CENTRE →](#)

Get  
Started

- ✓ Security & privacy are embedded into the development of Azure;
- ✓ Security: We work to keep your data safe;
- ✓ Privacy: You own & control your customer data;
- ✓ Transparency: You know how your data is stored & accessed, and how we help secure it; and
- ✓ Compliance: We conform to global standards.

Azure  
Products

Security & privacy are embedded into the development of Azure

Azure  
Solutions

Microsoft makes security & privacy a priority at every step, from code development through incident response. Security & privacy are built into Azure platform, beginning with the [Security Development Lifecycle](#) that addresses security at every development phase from planning to launch. Azure is continually updated to make it even more secure. [Operational Security Assurance](#) builds on SDL knowledge & processes to provide a framework that helps ensure secure operations throughout the lifecycle of cloud-based services. [Azure Security Center](#) makes Azure the only public cloud platform to offer continuous security-health monitoring.

Best  
Practices

Azure  
Pricing

Security: We keep your customer data safe

Microsoft offers a robust set of security technologies & practices, helping ensure that Azure infra is resilient to attack, safe-guards user access to Azure environments & helps keep data secure.

✓ **Managing identity & user access** to your environments, data & apps by federating user identities to Azure AD & enabling multi-factor authentication for more secure sign-in.



✓ **Encrypting communications & operation processes.** For data in transit, Azure uses industry-standard transport protocols between user devices & Microsoft datacenters & within datacenters themselves. For data at rest, Azure offers a wide range of encryption capabilities up to AES-256.

✓ **Securing networks.** Azure provides the infra necessary to securely connect VMs to one another & to connect on-premises datacenters with Azure VMs.

✓ **Managing threats.** To protect against online threats, Azure offers Microsoft Antimalware for cloud services & VMs, and employs intrusion detection, DDoS, etc. [LEARN MORE ABOUT SECURITY →](#)

FAQ

Contact

## Privacy: You own & control your data

Microsoft's time-tested approach to privacy & data protection is grounded in our commitment to organisations' ownership & control over collection, use & distribution of their information. We strive to be transparent in our privacy practices, offer you meaningful privacy choices & responsibly manage the data we store & process.



- ✓ **You own your own data.** Own your customer data with Azure. Access customer data at any time & for any reason. We will not use customer data or derive information from it for advertising or data mining.
- ✓ **You are in control of your data.** Because the customer data you host on Azure belongs to you, you have control over where it is stored and how it is securely accessed and deleted.
- ✓ **How we respond to government & law enforcement requests to access data.** When a government wants customer data, it must follow applicable legal processes. If compelled to disclose data, Microsoft will notify you & provide a copy of the demand, unless legally prohibited from doing so. [LEARN ABOUT PRIVACY →](#)

## Transparency



You know how your data is stored & accessed, and how we help secure it. Microsoft Azure is built on the premise that for you to control customer data in the cloud, you require visibility into that data. Know where it is stored, and through clearly stated & readily available policies & procedures, know how we help secure your customer data, who can access it, and under what circumstances. [LEARN MORE ABOUT TRANSPARENCY →](#)

## Compliance: We conform to global standards

Azure meets a broad set of international & industry-specific compliance standards, such as ISO 27001, HIPAA, FedRAMP, SOC 1 & SOC 2. Rigorous third-party audits verify Azure's adherence to the strict security controls these standards mandate. You can verify our implementation of security controls by requesting audit results from certifying agencies. When we verify that our services meet compliance standards & demonstrate how we achieve compliance, it makes it easy for customers to secure compliance for the infra & apps they run in Azure. [LEARN ABOUT COMPLIANCE →](#)





# Microsoft Azure Support for ISVs

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

As a valued Microsoft Azure ISV (Independent Services Vendor), you may be eligible for valuable Go-to-Market programs. Contact your Microsoft Azure representative for further details.

## Marketing Support for Azure ISVs

Microsoft has designed a Go-to-Market (GTM) program to help ISVs promote & grow Microsoft Azure apps while providing technology insights that help ISVs expand cloud capabilities.

- ✓ Learn more about Microsoft's Go-to-Market programs for ISVs →
- ✓ Join Microsoft's ISV focused Go-to-Market programs →
- ✓ Contact Microsoft to join the program →

### ISV GTM: Partner Solution Battlecard (Office 365)

Learn how to lead customer conversation about the benefit of using O365 as the platform for apps you are promoting.

[DOWNLOAD →](#)

### ISV GTM: SMB Messaging Framework (Azure)

Use this document to support messaging and positioning of Microsoft for cloud application focused ISVs.

[DOWNLOAD →](#)

### ISV GTM: SMB Messaging Framework (Office 365)

Use this document to support messaging and positioning of Microsoft for cloud application focused ISVs.

[DOWNLOAD →](#)

### Marketing Planning Guidebook

Full detail guidebook to help you get started with marketing planning to help you promote your applications.

[DOWNLOAD →](#)

### Social Media PR Blog Guidebook

Learn how to effectively leverage social media, blogging & public relations to help you nurture leads for your apps.

[DOWNLOAD →](#)

### Digital Readiness Guidebook

Learn how to build effective landing pages, websites & how to use SEO & SEM to increase traffic.

[DOWNLOAD →](#)

### ISV GTM: Customer Sales Presentation (Office 365)

Leverage Microsoft ready templates to drive Office 365 focused conversation with your customers.

[DOWNLOAD →](#)

### ISV GTM: Customer Sales Presentation (Azure)

Leverage Microsoft ready templates to drive Microsoft Azure focused conversations with your customers.

[DOWNLOAD →](#)

### ISV GTM: Partner Solution Battlecard (Azure)

Learn how to drive customer conversations about benefits of using Azure as the platform for apps you are promoting.

[DOWNLOAD →](#)

# ← ISV Support / Microsoft Partner Network

You want to grow your business. We know how. Partnering with Microsoft pays off.

GET STARTED TODAY → | GET PARTNER NEWS UPDATE → | CURRENT PARTNER? LOG IN HERE →

## See how the Microsoft Partner Program works for you

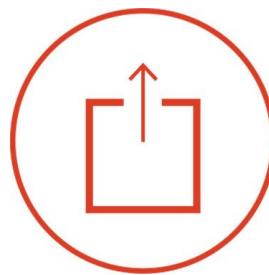
The Microsoft Partner Network (MPN) provides three types of memberships. Each type provides a set of benefits to help your business grow. As you achieve your goals, participate in the program at the level that suits your unique needs to access more benefits & develop your relationship with us & other partners in the network.



Network member

This no-cost, basic level is your first step to receive relevant information & exploring Microsoft's resources.

[JOIN NOW →](#)



Action Pack

Access developer tools, support, training and software to run your business.

[CLICK FOR DETAILS →](#)



Competency

Be rewarded for your success with increased support, software and training.

[LEARN MORE →](#)

## Cloud Performance Competencies

### Build a profitable cloud business

Customer demand for Microsoft's cloud products is booming. By partnering with Microsoft to deploy & sell industry-leading cloud solutions, you can grow your business' profits, unlock additional support, enablement & incentives within Microsoft Partner Network.

[LEARN MORE →](#)

### Performance driven competencies

Partners who earn Microsoft's cloud performance competencies receive enhanced set of benefits, including unlimited cloud-specific technical support, incentives & software to run your business. MPN offers five performance based competencies that align to 4 key areas of business.

[LEARN MORE →](#)

### Additional Resources

- ✓ Review small/mid-market cloud solution competency →
- ✓ Review the cloud productivity competency →
- ✓ Review cloud customer relationship mgmt competency →
- ✓ Cloud platform competency →
- ✓ Review enterprise mobility mgmt competency →
- ✓ Visit cloud SureStep page →

Microsoft supports your startup as you grow.

[LEARN MORE →](#)

|

[START →](#)

|

[BUILD →](#)

|

[GROW →](#)

|

[JOIN BIZSPARK →](#)

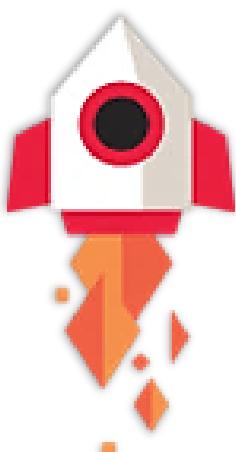
## Startups, your journey starts in the cloud

BizSpark gives startups 3 years of free stuff – software, services, tech support & Azure cloud. Your startup qualifies if it is less than 5 years old, is privately held & earns less than \$1M annually. And at the end of your 3 years, you keep all the software you have downloaded – at no cost.

## Sky's the limit with Azure

With Microsoft Azure, you have a gallery of open source options. Code in Ruby, Python, Java, PHP & Node.js. Build on Windows, iOS, Linux & more.

- ✓ Azure gets your business up & running in the cloud. Build on Windows, iOS, Linux & more. Deploy web apps or VMs in seconds. Launch servers in minutes. Azure makes it fast & easy to get ahead in the cloud.
  
- ✓ And that's just the beginning. Membership puts all Microsoft development & test software at your fingertips, including Azure, Windows & Office 365 – for free. Plus, enjoy access to hundreds of free training classes, technical content, and 4 break-fix phone support incidents.



## More ways to grow

- ✓ **BizSpark Plus:** Free cloud services mean cost savings that you can spend elsewhere, such as hiring developers, investing in marketing & acquiring new customers. Get up to \$ 120,000 in FREE Azure cloud services to start scaling up. [LEARN MORE →](#)
  
- ✓ **Microsoft Ventures:** Microsoft Ventures is an active, strategic partner at key stages of a startup's growth, typically investing between Series A & D. We give innovative startups the resources & mentorship they need to move to the next stage. [LEARN MORE →](#)

## Ready to start?

Let Microsoft help you start, build & grow your business.



[JOIN BIZSPARK →](#)

[SIGN UP →](#)

[SHARE INFO](#)

[REVIEW](#)

# ← ISV Support / Programs for Customers

Let us help you build something amazing. GET STARTED WITH MICROSOFT CLOUD →

TRUSTED CLOUD → | CLOUD DECISION FRAMEWORK → | CLOUD ACCELERATOR PROGRAM →

## Trusted Cloud

A cloud platform that uses big data & advanced analytics, the Trusted Cloud is the result of continuous software development. Its foundation is made up of four principles that serve as the primary functions on which customers build & manage virtual environments, applications, and associated configurations.



SECURITY → | PRIVACY & CONTROL → | COMPLIANCE → | TRANSPARENCY →

## Cloud Decision Framework



Cloud Computing is poised to transform the way Government entities & BFSI companies use IT. Microsoft's Cloud Decision Framework is a unified, condensed & clarified set of best practices to help Governments & BFSI companies focus on & navigate through the relevant regulatory issues when contemplating a move to the cloud. It covers key requirements like confidentiality, availability & integrity, and is derived from the very laws, regulations & guidelines with which Government & BFSI companies must comply. The Cloud Decision Framework will help Governments & BFSI companies to be better prepared, have a clearer understanding of the relevant requirements and assist in making better decisions.

[DOWNLOAD BROCHURE →](#)

## Cloud Accelerator Program

Your cloud journey begins here. This is meant for senior decision makers who need to understand how cloud benefits & impacts their organizations. There are 4 major stages in cloud adoption journey. [LEARN MORE →](#)

Stage-01: Cloud Awareness | Stage-02: Solution Envisioning | Stage-03: Cloud Blueprinting | Stage-04: Adoption

Functionality Criterion	Utilization Criterion	Trust Criterion	Commercial Criterion
Classify apps based on functional suitability	Allocate resources based on historical utilization	Classify apps based on trust, privacy & security	Classify apps based on commercial logic



# Microsoft Azure vs. Amazon Web Services

About Azure

Wondering which cloud is right for you? Microsoft Azure can accelerate app development & provide a bridge from your datacenter to the public cloud. [HERE'S HOW WE STACK UP AGAINST AWS →](#)

Get Started

## Build stuff faster

Azure's integrated tools, unified services & proven solutions help you build enterprise, mobile, web, & IoT apps faster, for any platform or device. Any developer can be productive on Azure, because Azure supports the broadest selection of devices, OS, databases, languages, frameworks & tools.

- ✓ Don't want to manage virtual infrastructure? You don't have to on Azure →
- ✓ See how 3M is speeding up mobile app development with Azure →

## Seamlessly connect your datacenter to cloud

Unlike AWS, Azure lets you build hybrid apps that leverage resources in datacenter, at service providers & within Azure – all without the need for complex workarounds & tradeoffs. Use wide set of hybrid connections including VPNs, CDNs, caching, [ExpressRoute connections](#) for performance & ease of use. It is a new hybrid cloud platform that enables organizations to deliver Azure services from datacenters. Azure runs on a [global network of Microsoft-managed datacenters](#) across 30 regions.



- ✓ Find out why Azure is a more complete hybrid platform than AWS →
- ✓ Learn more about Microsoft Azure Stack →

## Use what you already know

Unlike AWS, there's no steep learning curve with Azure. Azure gives you access to technologies that businesses trust, including: Windows & Linux, VMs & containers, etc. It ties into toolsets like: Visual Studio, XCode, Eclipse, GitHub & Hadoop, & offers a vast array of third party tools, solutions & apps.

Azure vs. AWS

## Minimize your risk

Microsoft leads the industry in its commitment to protection & privacy of data & services. It starts with [SDL](#). We were the first cloud provider to receive joint approval from EU's data protection authorities & the first major to adopt the international standard for cloud privacy, ISO 27018.

- ✓ Microsoft leads the way with adoption of the first international privacy standards →
- ✓ The Electronic Frontier Foundation gives Microsoft 6 stars in its 2014 report →

Contact

Case Studies

FAQ



# Microsoft Azure: India Case Studies

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact



Delving into Wipro's Cloud journey with Microsoft Azure

[READ NOW →](#)



Solutions Firm uses the Cloud to speed release cycles & cut IT costs

[READ NOW →](#)



Logistics Company delivers on-demand scalability and deploys applications faster

[READ NOW →](#)



Technology Firm transforms business with scalable Cloud solution

[READ NOW →](#)



IT Services Firm adopts Cloud services, and reduces costs by 25 to 35 Percent

[READ NOW →](#)



Cloud-based CRM/ERP helps Customers organize, conduct, monitor and stay focused

[READ NOW →](#)



Online retailer scales for demand, improves latency by using Cloud services

[READ NOW →](#)



IT Firm enhances application performance, offers scalability, compatibility with low latency

[READ NOW →](#)



A card less loyalty Startup accelerates time-to-market with Cloud services

[READ NOW →](#)



Enterprise Mobility Firm offers a virtual education platform on Microsoft Azure

[READ NOW →](#)



Cloud enabled SMEs avail the benefits of a human resource management suite at low cost

[READ NOW →](#)



Solution Provider uses Cloud platform to generate paperless MIS reports for government

[READ NOW →](#)



# Microsoft Azure: Frequently Asked Questions

About Azure

Get Started

Initial Education

Azure Products

Azure Solutions

Best Practices

Azure Pricing

Support Options

Trust Center

Support for ISVs

Azure vs. AWS

Case Studies

FAQ

Contact

## Azure Support: Frequently Asked Questions (FAQ)

Access to Azure tech support requires a [paid support plan](#). However, some Microsoft programmes could give you access to Azure technical support via Support Benefits even if you do not have a paid support plan. The following programmes include Azure Support Benefits:

MSDN & BIZSPARK → | MPN → | SIGNATURE CLOUD SUPPORT →

Each of these programmes gives you different support benefits. Check details of these programme for more information. There are also some programmes like MSDN & BizSpark Plus that give you other Microsoft Azure Benefits, like monthly usage credits, free services & discounted consumption rates. Check the details of these programmes for more information.

- ✓ View Azure Support Overview related Frequently Asked Questions (FAQ) →

## Azure Pricing: Frequently Asked Questions (FAQ)

Azure is intended for use by businesses to build cloud scale apps & services. Individuals may also purchase Azure services by using credit or debit cards. The other payment option is to be invoiced. To sign up for invoicing, please go [here](#).

- ✓ View Azure Pricing related Frequently Asked Questions (FAQ) →

## Windows Virtual Machines: Frequently Asked Questions (FAQ)

This article addresses some common questions about Windows virtual machines created in Azure using the Resource Manager deployment model.

- ✓ View Azure Pricing related Frequently Asked Questions (FAQ) →

## Linux Virtual Machines: Frequently Asked Questions (FAQ)

This article addresses some common questions about Linux virtual machines created in Azure using the Resource Manager deployment model.

- ✓ View Azure Pricing related Frequently Asked Questions (FAQ) →

- ✓ Azure for Microsoft Software FAQ. Get answers to frequently asked questions on promos, offers & licensing options that provide you the low cost computing infra for changing business priorities →

# ← Microsoft Azure: Frequently Asked Questions

## VM Licensing FAQ



[azure.microsoft.com/en-in/pricing/licensing-faq](http://azure.microsoft.com/en-in/pricing/licensing-faq)

## SQL Database FAQ



[azure.microsoft.com/en-in/documentation/articles/sql-database-faq](http://azure.microsoft.com/en-in/documentation/articles/sql-database-faq)

## Cloud Services FAQ



[azure.microsoft.com/en-in/documentation/articles/cloud-services-faq](http://azure.microsoft.com/en-in/documentation/articles/cloud-services-faq)

## Active Directory FAQ



[azure.microsoft.com/en-in/documentation/articles/active-directory-faq](http://azure.microsoft.com/en-in/documentation/articles/active-directory-faq)

## Backup Service FAQ



[azure.microsoft.com/en-in/documentation/articles/backup-azure-backup-faq](http://azure.microsoft.com/en-in/documentation/articles/backup-azure-backup-faq)

## StorSimple FAQ



[azure.microsoft.com/en-in/documentation/articles/storsimple-local-volume-faq](http://azure.microsoft.com/en-in/documentation/articles/storsimple-local-volume-faq)

## API Management FAQ



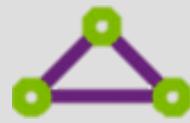
[azure.microsoft.com/en-in/documentation/articles/api-management-faq](http://azure.microsoft.com/en-in/documentation/articles/api-management-faq)

## Azure IoT Suite FAQ



[azure.microsoft.com/en-in/documentation/articles/iot-suite-faq](http://azure.microsoft.com/en-in/documentation/articles/iot-suite-faq)

## ExpressRoute FAQ



[azure.microsoft.com/en-in/documentation/articles/expressroute-faqs](http://azure.microsoft.com/en-in/documentation/articles/expressroute-faqs)

## Site Recovery FAQ



[azure.microsoft.com/en-in/documentation/articles/site-recovery-faq](http://azure.microsoft.com/en-in/documentation/articles/site-recovery-faq)

## Machine Learning FAQ



[azure.microsoft.com/en-in/documentation/articles/machine-learning-faq](http://azure.microsoft.com/en-in/documentation/articles/machine-learning-faq)

## Virtual Network FAQ



[azure.microsoft.com/en-in/documentation/articles/virtual-networks-faq](http://azure.microsoft.com/en-in/documentation/articles/virtual-networks-faq)

## Azure Multi-Factor Authentication FAQ



[azure.microsoft.com/en-in/documentation/articles/multi-factor-authentication-faq](http://azure.microsoft.com/en-in/documentation/articles/multi-factor-authentication-faq)

## Application Insights FAQ



[azure.microsoft.com/en-in/documentation/articles/app-insights-how-do-i](http://azure.microsoft.com/en-in/documentation/articles/app-insights-how-do-i)

## Azure Media Services FAQ



[azure.microsoft.com/en-in/documentation/articles/media-services-frequently-asked-questions](http://azure.microsoft.com/en-in/documentation/articles/media-services-frequently-asked-questions)

# ← Microsoft Azure: Frequently Asked Questions

## AD Connect FAQ



[azure.microsoft.com/en-in/documentation/articles/active-directory-aadconnect-faq](https://azure.microsoft.com/en-in/documentation/articles/active-directory-aadconnect-faq)

## Event Hubs FAQ



[azure.microsoft.com/en-in/documentation/articles/event-hubs-faq](https://azure.microsoft.com/en-in/documentation/articles/event-hubs-faq)

## Data Factory FAQ



[azure.microsoft.com/en-in/documentation/articles/data-factory-faq](https://azure.microsoft.com/en-in/documentation/articles/data-factory-faq)

## Service Bus FAQ



[azure.microsoft.com/en-in/documentation/articles/service-bus-faq](https://azure.microsoft.com/en-in/documentation/articles/service-bus-faq)

## DevTest Labs FAQ



[azure.microsoft.com/en-in/documentation/articles/devtest-lab-faq](https://azure.microsoft.com/en-in/documentation/articles/devtest-lab-faq)

## Notification Hubs FAQ



[azure.microsoft.com/en-in/documentation/articles/notification-hubs-push-notification-faq](https://azure.microsoft.com/en-in/documentation/articles/notification-hubs-push-notification-faq)

## Log Analytics FAQ



[azure.microsoft.com/en-in/services/log-analytics/faq](https://azure.microsoft.com/en-in/services/log-analytics/faq)

## Security Center FAQ



[azure.microsoft.com/en-in/documentation/articles/security-center-faq](https://azure.microsoft.com/en-in/documentation/articles/security-center-faq)

## Azure Redis Cache FAQ



[azure.microsoft.com/en-in/documentation/articles/cache-faq](https://azure.microsoft.com/en-in/documentation/articles/cache-faq)

## Azure VPN Gateway FAQ



[azure.microsoft.com/en-in/documentation/articles/vpn-gateway-vpn-faq](https://azure.microsoft.com/en-in/documentation/articles/vpn-gateway-vpn-faq)

## Power BI Embedded FAQ



[azure.microsoft.com/en-in/documentation/articles/power-bi-embedded-faq](https://azure.microsoft.com/en-in/documentation/articles/power-bi-embedded-faq)

## Azure Data Lake Store FAQ



[azure.microsoft.com/en-in/documentation/articles/data-lake-store-troubleshooting-guidance](https://azure.microsoft.com/en-in/documentation/articles/data-lake-store-troubleshooting-guidance)

Ready to get started?

Sign up & get ₹ 12,100 in Azure credits. Full access to explore any service you want.

TRY FOR FREE →

Purchase Options →





# Contact Us

About Azure

We have a global Azure sales team available to assist you with a variety of topics including new orders, activations & managing your subscription.

[EXPLORE SALES OPTIONS →](#)

Get Started

Interested in Azure? Give us a call

✓ If you already have an Azure account & need tech support, review available support options →

Initial Education

Argentina	0-800-222-0036	Malaysia	1-800-815-289
Australia	1-800-765-471	Mexico	01-800-681-5371
Austria	0-800-802-127	Netherlands	0-800-022-9265
Belgium	0-800-71-835	New Zealand	0-800-440-910
Brazil	0-800-591-6057	Norway	0-800-19-656
Canada	1-800-867-1389	Peru	0-800-55-027
Colombia	01-800-710-2238	Philippines	1-800-1116-1155
Czech Republic	800-701-208	Poland	0-800-112-4161
Denmark	808-26-831	Portugal	800-180-126
Finland	0-800-552-049	Puerto Rico	1-855-800-1106
France	0-800-916-603	Russia	8-800-100-6347
Germany	0-800-180-8941	Singapore	800-130-1963
Hong Kong	800-908-680	Spain	900-809-756
Hungary	06-1-437-2736	Sweden	020-889-875
India	0-800-100-3928	Switzerland	0-800-802-551
Ireland	1-800-947-246	Taiwan	0-800-008-833 #2 #9
Israel	1-809-494-226	Trinidad and Tobago	1-800-206-3672
Italy	800-788-741	Turkey	0-800-113-6242
Japan	0-120-952-593	United Kingdom	0-800-098-8435
Korea	0-80-808-0894	United States	1-800-867-1389
Luxembourg	800-2-7961	Uruguay	0-401-901-84

FAQ

✓ If you would like Azure sales to contact you, please complete the Registration Form →

Contact



About  
Azure

Get  
Started

Initial  
Education

Azure  
Products

Azure  
Solutions

Best  
Practices

Azure  
Pricing

Support  
Options

Trust  
Center

Support  
for ISVs

Azure vs.  
AWS

Case  
Studies

FAQ

Contact



Jan-2016 Edition | © Microsoft Corporation (India) Pvt Ltd



Please note that the content outlined in this Azure Handbook is subject to change.

For the latest updates on Microsoft Azure, please visit: <https://azure.microsoft.com/en-in/>