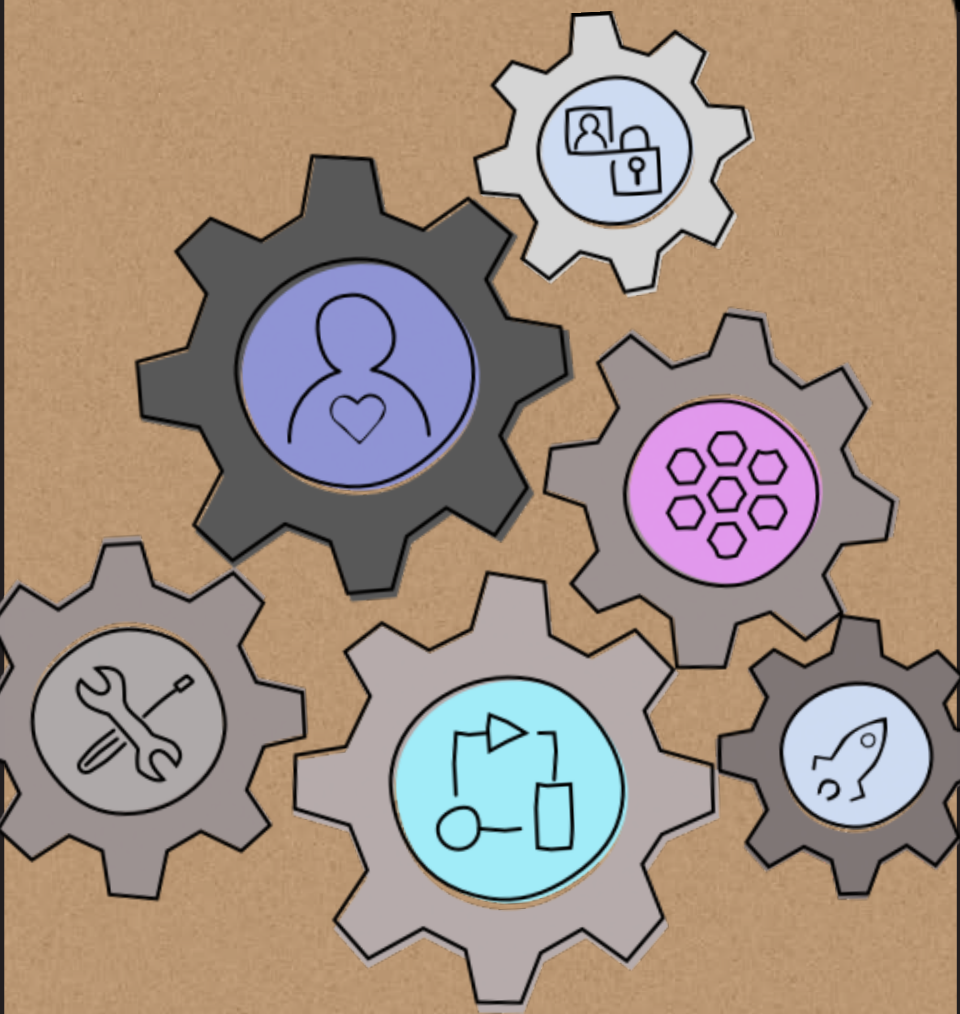




IBM Cloud Adoption and Transformation

Field Guide



**Download the current version of the IBM
Cloud Adoption and Transformation Field
Guide**



<https://ibm.biz/ibm-cloud-adoption-transformation-field-guide>

Cloud adoption and transformation

Digital transformation is the change associated with applying digital technology to all aspects of society. Cloud adoption is how businesses implement digital transformation. Change does not happen overnight. Develop a short term, tactical plan to get started. Then, work towards a longer-term strategic transformation you can implement over time.

ALIGN CULTURE, PROCESS, AND IT

Envision your transformation. Determine what your business wants to achieve through cloud adoption and build a plan to achieve it.

Balance tactical and strategic action. Strike a balance between what aspects of digital transformation you can do quickly and what must be done over time.

Scale your transformation. Establish the culture, process, and technology you need to scale your strategic outcomes. Incorporate AI, security, and DevOps practices every step of the way.



What's inside?

This field guide provides a high-level overview of IBM's approach to cloud adoption and transformation.

LEARN IT

A summary of the concepts.

GET STARTED

Tips to start the journey to adopt the cloud and transform your business.

Adopt the cloud to transform your business

Build a strategic roadmap that balances the best use of your current technology with your future technology needs. Understand the decisions you must make, the talent, capabilities, and management systems you require, and the business goals on which you will be measured, all aligned with your organization's vision.

SAVE TIME, CUT \$\$, AND IMPROVE QUALITY

Lower your costs. Build and use an affordable, flexible infrastructure that can be expanded, or reduced, based on your needs. Take advantage of flexibility in choosing a cloud provider.

Deliver high quality solutions faster. Adopt the culture, process, and IT you need to enable experimentation and accelerated releases. Ensure resilience through automation.

Standardize to scale. Develop and use reference implementations to deliver solutions in a repeatable way. Expand your references into new areas to drive consistency and build consistent skills.

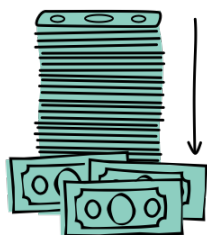
Meet security and compliance requirements. Build confidence by ensuring you can deliver secure solutions that meet regulatory requirements using proven, auditable processes.



Learn more

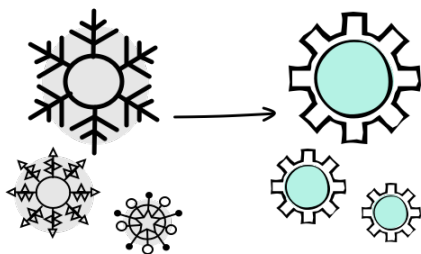
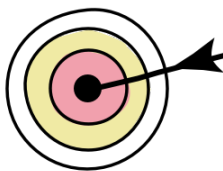
Check out cloud adoption and transformation.

<https://www.ibm.com/cloud/architecture/adoption>



Reduced costs

Increased quality



Increased standardization

Increased security



Architect your transformation strategy

The best approach to architecting your transformation is through modernization, building on what you have today and setting a course for where you want to go.

CHART YOUR JOURNEY

Start where you are. Every enterprise starts from a different place when transforming and moving to the cloud. Get a clear idea of where you currently are and do a gap analysis to see where you need to improve.

Figure out where you want to go and why. Clearly define your business goals. Based on your goals, prioritize and determine your direction with cloud adoption and clarify why cloud is important to meeting your goals.

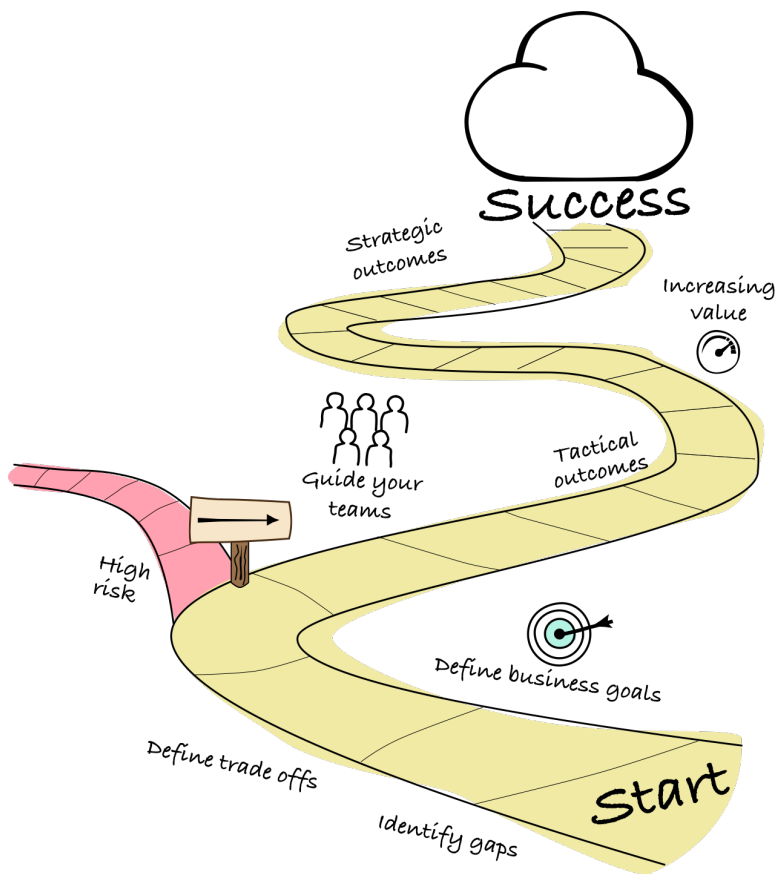
Decide how to get there. Every journey has tradeoffs. Getting there fast may be more expensive, and risky. A less risky path might take longer. Examine the tradeoffs and develop a roadmap that fits your needs.

Define your transformation roadmap. Guide your teams to deliver tactical and strategic changes needed to adopt cloud and transform your enterprise.



Check out cloud adoption and transformation.

<https://www.ibm.com/cloud/architecture/adoption>



Elements of transformation

Six key elements must be addressed in your transformation roadmap: people, process, technology, DevSecOps, compliance, and operations. In any single project, any one of these might have more focus than another.

If you change one element, you impact all of them. For instance, changing your process to support continuous delivery requires you to implement a DevOps pipeline with built in security. Or, adding AI to your solutions requires new team members with AI expertise and changes to how you operationally manage your solution.



Learn more

Check out cloud adoption and transformation.

<https://www.ibm.com/cloud/architecture/adoption>

People. Build a culture that encourages a service mindset, empowers people, embraces innovation, aligns with business goals, and accelerates execution.

Process. Adopt agile practices for planning, development, operations, and optimization of your infrastructure and software development.

Technology. Establish an overall cloud technology vision and capabilities. Consider your desired state and establish enterprise goals for your infrastructure, workloads, and data.

Compliance. Build security in everything you do to enable holistic cloud operations. Ensure compliance with security standards and regulations. Reduce the risk of security incidents and enable audit where required.

DevSecOps. Evaluate agile and DevOps practices relevant to your business, development, and operations. Develop a roadmap that enables your team to improve where gaps have been identified.

Operations. Build a cloud management framework, process, and practice to ensure that you can operationally achieve your service level goals.

Any one element affects all of the others!

Be realistic: Start small and expand with confidence

Make sure that your roadmap is realistic and advances your cloud adoption and enterprise transformation. Review, revise, and refine as you learn at each step.

ROME WASN'T BUILT IN A DAY

Start with low hanging fruit. Pick your first transformation project carefully. Build confidence early by starting with a project, such as an easy migration, that delivers a short-term success.

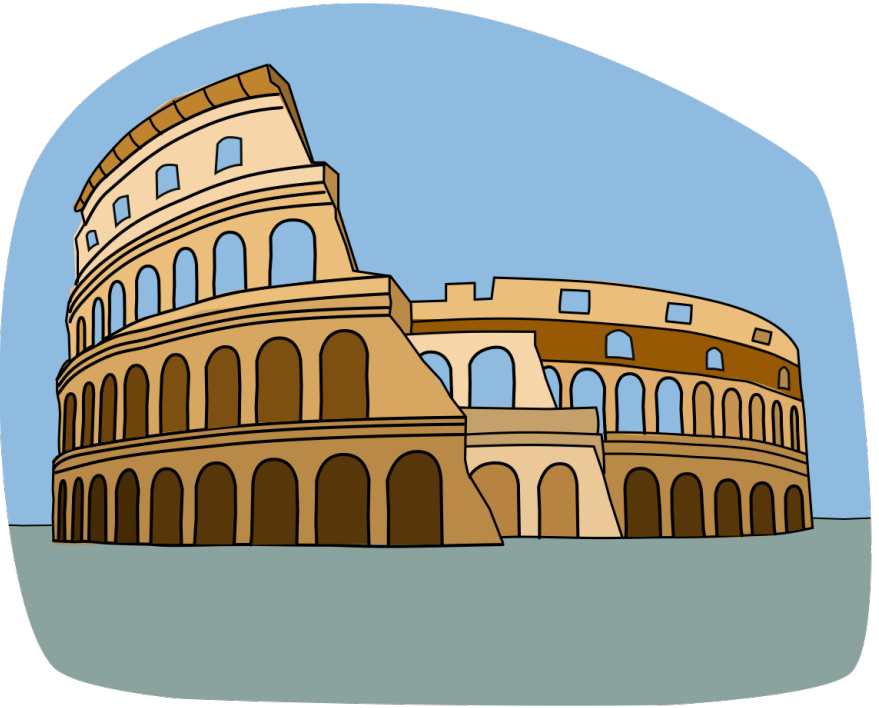
Proceed with small steps. Expand on your initial success by building additional functionality in your first project and, maybe, spinning up another project team that builds on the success of the first. Understand that every new step requires additional skills and new ways of approaching the six key elements.

Know when to say no. As you progress, you will encounter things that should be left as is. It is okay to say no and leave some things as they are.



Learn more

Check out Accelerating Modernization with Agile Integration.
<http://ibm.biz/accelerate-modernization-redbook>



Don't try to do everything at once. Build new skills and function as you transform.

People: Cultural and organizational change

Transforming your enterprise and adopting cloud requires changes to your culture. Build a culture that encourages innovation, aligns with business goals, and accelerates your ability to deliver innovative solutions for your customers. Create a great place to work that attracts and retains the right people to enable you to realize your goals.

CULTURE IS KEY TO YOUR SUCCESS

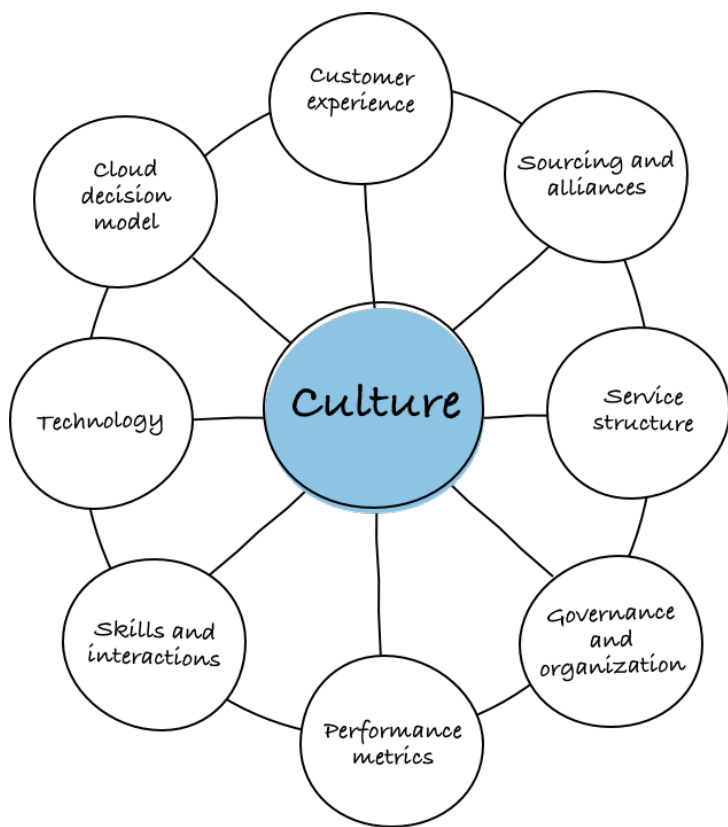
Build skills. Perform skills assessments and identify the skills and training gaps your talented squad members need to be successful. Provide opportunities for your team to get education and hands-on experience to fill the gaps.

Create a Cloud Center of Competence (CCC). Your CCC serves as an innovation and enablement hub, developing common solutions and building the new skills that are needed to ensure successful deployment of new technology at the enterprise level. Then, teams across your enterprise learn from the CCC.

Build a Target Operating Model (TOM). Define your core values, vision, and business strategy. Consider the initiatives and projects needed to realize your vision. Establish a governance model to describe the decision-making mechanisms, policies, and processes necessary to operate your business.



Learn how people are critical to your transformation.
<https://www.ibm.com/cloud/architecture/adoption/people>



Define your target operating model.

Process: Define new ways of working

As you transform your enterprise to adopt and deliver on the cloud, adopt a methodology, including best practices, that provides guiding principles for continuously designing, delivering, and validating new function. Equip your business leaders, developers, and operations teams to work together using practices that cover the entire product lifecycle.

TAILOR HOW YOUR TEAM WORKS

Embrace Enterprise Design Thinking. Design thinking is a powerful approach to innovation and brand differentiation that is focused on creating engaging experiences and getting customer feedback every step of the way.

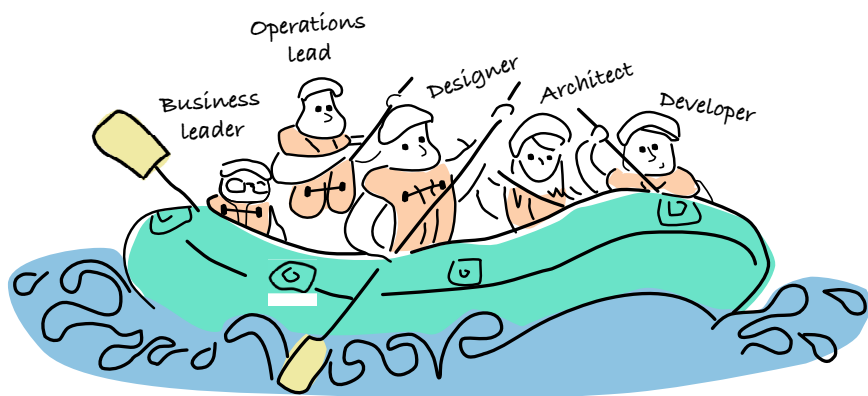
Adopt agile principles. Agile development produces software in short iterations with a goal of continuous delivery. Best practices describe iterative development, simplicity, developing at a sustainable pace, and employing test driven development and automation to ensure quality.

Account for multispeed IT. As you develop hybrid multicloud solutions, your teams build the integrations needed to connect new cloud native applications with legacy on-premises applications. Define interfaces and a delivery plan that enables each team to progress.



Learn more

Learn how process change is critical to your transformation.
<https://www.ibm.com/cloud/architecture/adoption/process>



Adopt a consistent set of processes to get everyone rowing in the same direction.

Technology: Adopt the cloud and AI

Why do you want to use new technology? When your organization adopts cloud, AI, and other emerging technology, you must establish a vision and formulate and drive a strategy to implement the vision.

COMPOSE YOUR TECHNOLOGY VISION

Adopt hybrid multicloud. IBM's hybrid multicloud platform is an infrastructure-independent common operating environment that runs virtually anywhere—from essentially any data center, multiple clouds, or the edge. Use the platform to select the best architecture and approach that can address your most critical application, data, and workload requirements.

Integrate AI into process and solutions. Build a trusted analytics foundation. Discover all types of data and keep it simple and accessible. Use advanced analytics and data science to discover new insights and deliver better business results.

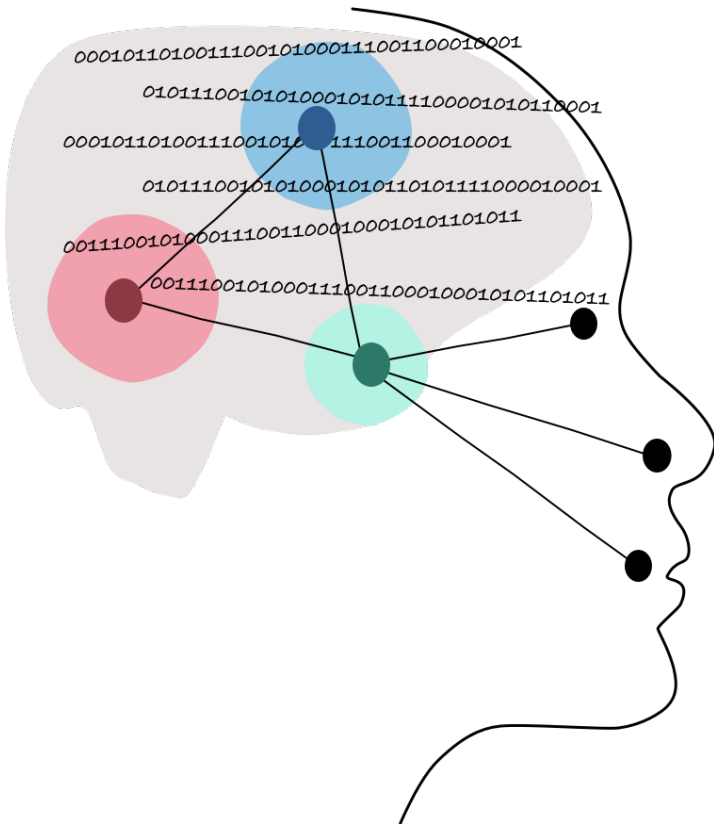
Consider emerging technology. Explore emerging technologies, such as blockchain, Internet of Things (IoT), and quantum computing. Use them to enhance your applications and develop new, exciting ones.



Learn more

Learn how new technology fits into your transformation.

<https://www.ibm.com/cloud/architecture/adoption/technology>



Establish a vision and strategy to leverage emerging technologies.

Embrace new technology

Define the use cases and guiding principles needed to pursue adoption of cloud, AI, and emerging technologies. Take on pilot projects based on your use cases and business goals.

HOW DO I START?

Perform workload analysis. Assess your current workloads and determine what should move, what should be left in place and integrated with cloud applications, and what to develop as new cloud native applications.

Start with reference architectures. Use the IBM Cloud Architecture Center to develop repeatable patterns that solve problems that your squads encounter. Use the patterns to create implementations that provide guidance on application runtimes, components, microservices, APIs, and nonfunctional requirements.

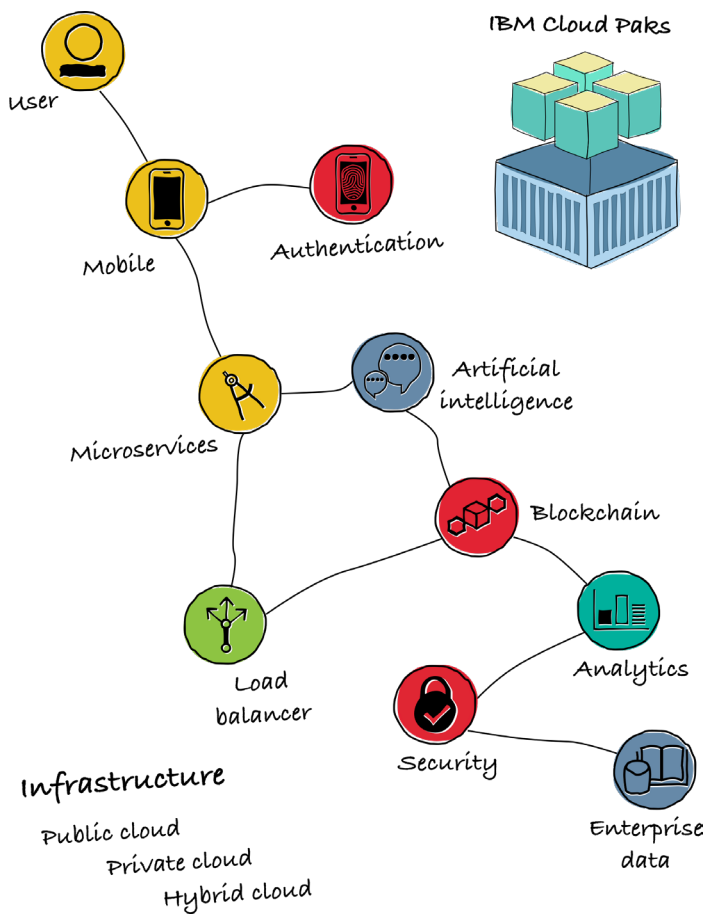
Build and automate your cloud infrastructure. Automate your cloud deployment so you can redeploy your infrastructure without manual intervention. Ensure that your process is repeatable and efficient.

Take advantage of IBM Cloud Paks®. IBM Cloud Paks are enterprise-ready, containerized software solutions that run on Red Hat® OpenShift® on IBM Cloud® and Red Hat® Enterprise Linux®.



See the IBM Cloud Technical Strategy Field Guide.

<https://www.ibm.com/cloud/architecture/content/field-guide/technical-strategy-field-guide>



Compliance: Mitigate risk

Establish an understanding of the key considerations for security and compliance to mitigate risk across shared-responsibility cloud models.

SLEEP WELL - BUILD IN SECURITY FROM THE BEGINNING

Meet regulatory compliance requirements. Compliance is defined by regulations, such as HIPAA and GDPR. Determine the actions needed to meet your compliance requirements, including implementing controls, monitoring conformity, remediating violations, reporting, and conducting audits.

Protect your data. Your data is your most valuable asset. Protect your data from unauthorized access, whether that data is at rest, in motion, or in use. Ensure data protection by understanding encryption key management, certificate management, and how and when to encrypt your data.

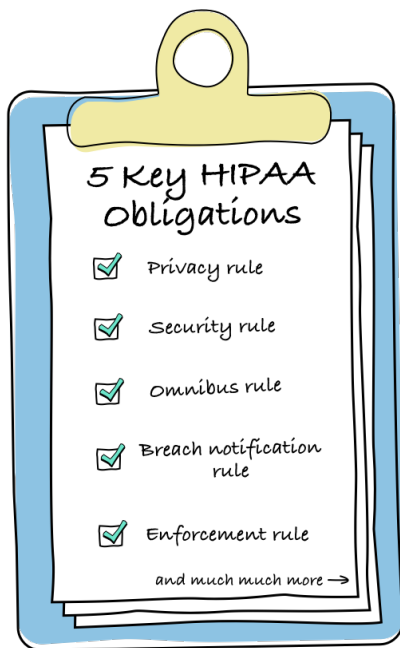
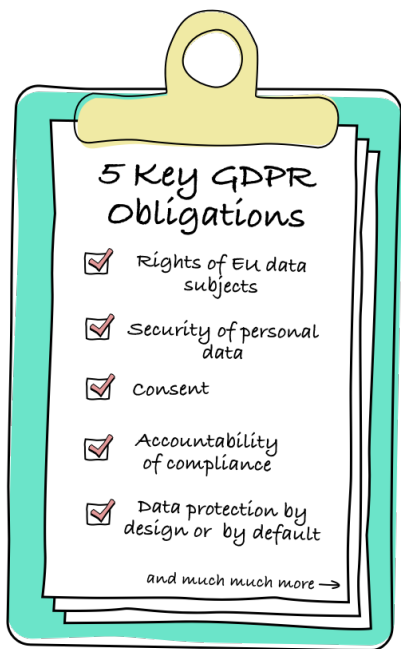
Implement identity and access management. Securely host your user profiles and the credentials used to access your applications. Combat identity theft by implementing the appropriate level of authentication needed to access your applications.



Learn more

See how compliance and security are critical to your transformation.

<https://www.ibm.com/cloud/architecture/adoption/security>



Identify and address compliance and security obligations.

DevSecOps: Reduce time to market

With DevSecOps, traditionally siloed development and operations teams come together to deliver faster and with higher quality. Follow the DevOps approach, based on agile and lean principles, to seize market opportunities and reduce the time it takes to include customer feedback in your products and beat your competition.

DEVSECOPS = SPEED + SECURITY + QUALITY

Architect your DevSecOps approach. Explore the IBM DevOps reference architecture to see common patterns that align tools to practices used to deliver software in a hybrid multicloud environment.

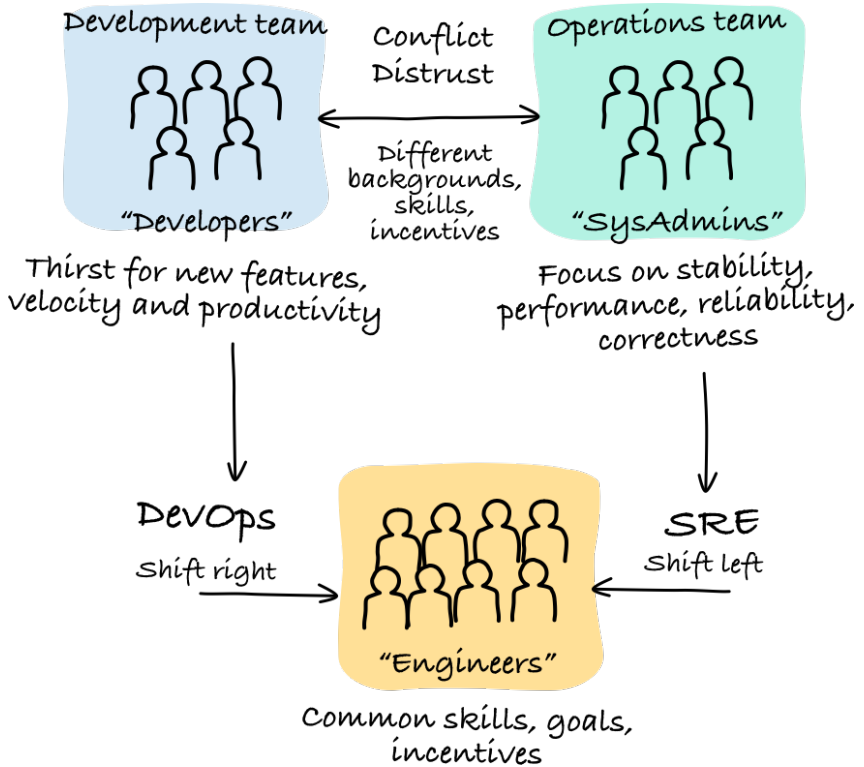
Construct your continuous delivery pipeline. A continuous delivery pipeline defines how development, build, test, and deployment tools are integrated to deliver product features. Pipelines provide governance, transparency, and observability into the continuous integration, delivery, and deployment process.

Remember the Ops in DevSecOps. Development and operations must work together to achieve common operational goals. Together the team can incorporate build to manage features, implement automation for monitoring and incident management, and write runbooks to solve common problems.



Evaluate and improve your DevSecOps practices.

<https://www.ibm.com/cloud/architecture/adoption/devops>



Operations: 24x7 availability

No matter where your applications run, you must manage them to ensure availability, security, and quality of service for your users. Design, implement, and continuously improve your operations management processes for optimal cloud operations.

SERVICE MANAGEMENT FOR DAY 2 +

Optimize incident and problem management. Monitor your solutions. Attempt to detect and prevent incidents before they happen. Recover quickly when an incident occurs. Perform root cause analysis to prevent the same issue from recurring.

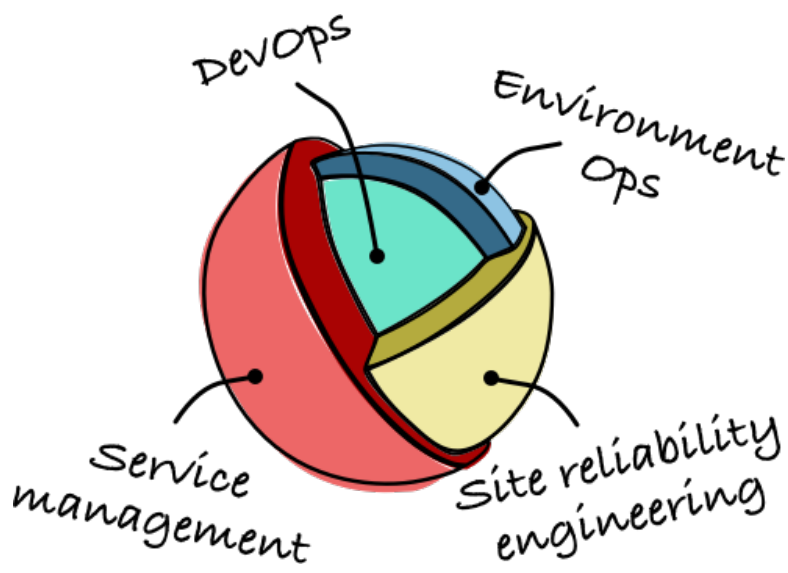
Communicate via chatOps. Integrate tools and processes to form a collaboration platform used to efficiently communicate and manage workflow. Keep everyone up to date, reduce information overload, and eliminate the need to continuously provide status updates.

Incorporate site reliability engineering. Ensure that cloud-based applications run reliably using software engineering and automation solutions. Include a data-driven approach to operations, automation to drive efficiency and reduce risk, and hypothesis-driven methodology in incident, performance, and capacity tasks.



Evaluate and improve your Operations.

<https://www.ibm.com/cloud/architecture/adoption/csmo>



Cloud adoption and IBM Garage

IBM experts can help guide you through your cloud adoption and enterprise transformation, starting with a framing discussion, focused workshop, or consulting engagement.

LET OUR CLOUD LEADERS HELP YOU!

Explore value and outcomes. Focus on your business and technical areas of interest. Learn the potential outcomes of successful cloud transformation. Then, create a plan you can use to achieve a quick win.

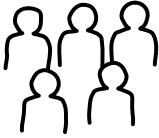
Drive immediate impact. Participate in a workshop where you might analyze an area such as infrastructure or application workload and receive recommendations based on industry best practices and IBM expertise.

Build a roadmap for success. Work extensively with cloud adoption thought leaders to create a comprehensive analysis of your cloud adoption journey. Consider all your current systems, business objectives, users, constraints, dependencies, and gaps.

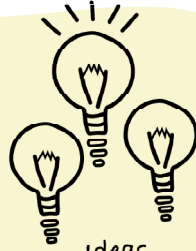


Check out the IBM Garage™.
<https://www.ibm.com/garage>

Modernize your applications
quickly and safely using our
accelerators and tools.



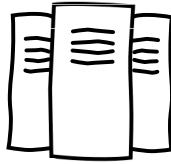
Organizational
dynamics



Ideas



Business results



Current IT



Competitive
landscape



Your cloud adoption roadmap

IBM Garage is a trusted partner, providing technology and prescriptive guidance to deliver immediate business value.

Notes:

See IBM Cloud Adoption and Transformation

<https://www.ibm.com/cloud/architecture/adoption>

Visit an IBM Garage

<https://www.ibm.com/garage>

Check out the Garage
Methodology

<https://www.ibm.com/garage/method>

Check out the IBM Cloud
Architecture Center

<https://www.ibm.com/cloud/architecture/architectures>

IBM Cloud Paks

<https://www.ibm.com/cloud/paks/>

Read the IBM Cloud Technical
Strategy Field Guide

[https://www.ibm.com/cloud/
architecture/content/field-guide/
technical-strategy-field-guide](https://www.ibm.com/cloud/architecture/content/field-guide/technical-strategy-field-guide)

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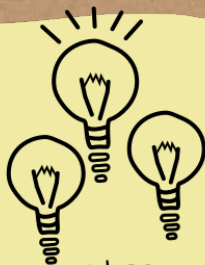
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IBM CLOUD ADOPTION AND TRANSFORMATION



Organizational
dynamics



Ideas



Business results



Current IT



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Your cloud adoption roadmap

