

AWS ROUTE53

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01

Introduction

Introduction

Amazon Route 53 is a scalable and highly available Domain Name System (DNS) web service designed to route end-user requests to Internet applications. It provides developers and businesses with a reliable way to connect user requests to infrastructure running in AWS, such as Amazon EC2 instances, Elastic Load Balancers, and Amazon S3 buckets, and to non-AWS infrastructure.





02

Key
Features

Key Features

Domain Registration:

1

Register new domain names directly or transfer existing domains to Route 53. Supports a wide range of top-level domains (TLDs).

DNS Routing:

2

Route 53 translates domain names into IP addresses using highly available DNS servers distributed globally.

Traffic Flow:

3

Visual editor to manage complex routing configurations and create sophisticated traffic policies.

DNS Failover:

4

Automatically redirects traffic to healthy endpoints in case of an outage, ensuring high availability.

Key Features

5

Integration with AWS Services:

Seamlessly integrates with AWS services like Amazon S3, EC2, ELB, and CloudFront.

6

Domain Name Management:

Supports advanced DNS features like alias records, CNAME, MX, NS, and PTR

7

Private DNS:

Create private hosted zones for internal networks within your Amazon VPC.

8

Compliance and Security:

Provides DNSSEC (Domain Name System Security Extensions) to secure DNS data.
Supports IAM (Identity and Access Management) for fine-grained access control.



03

How it
Works

How it Works

Register a domain

register a new domain or transfer an existing one. Route 53 handles DNS settings for the domain.

Create Hosted Zones

A hosted zone contains DNS records for a domain. Create public or private hosted zones as needed.

Configure DNS records

Add DNS records like A, AAAA (IPv6 Address), CNAME (Canonical Name), and others to manage domain routing.

Create health checks

Configure health checks to monitor the health . & will automatically route traffic to healthy resources.

How it Works

Apply Routing policies

Choose and configure routing policies to control how DNS queries are resolved.

Monitor & Optimize

Use CloudWatch metrics to monitor DNS query logs, health checks, and performance

04

Routing Policies

01

Simple Routing

You have one website, and every time someone types your website address, they go to the same server.

Routes traffic to a single resource.

02

Weighted Routing

You have two servers for your website. You send more visitors to the stronger server and fewer to the weaker one.

Distributes traffic across multiple resources based on specified weights.

03

Latency-based Routing

You have servers in different countries. Route 53 sends visitors to the nearest server to make the website load faster.

Routes traffic to the resource with the lowest network latency for the user.

04

Failover Routing

You have a primary server for your website and a backup server. If the primary server goes down, Route 53 sends visitors to the backup server.

Routes traffic to a secondary resource if the primary resource is unavailable.

05

Geolocation Routing

You want visitors from different countries to see content that's tailored to their location. Route 53 sends them to other servers based on their location.

Routes traffic based on the geographic location of the user.

06

Geoproximity Routing

You want to route traffic to servers in a specific region more often, even if they are slightly farther away, by adjusting the proximity.

Routes traffic based on the geographic location of resources and users with biasing.

07

Multivalue Answer Routing

You have multiple servers, and you want to distribute traffic among them. Route 53 randomly selects a healthy server for each visitor.

Returns multiple values, such as IP addresses, and can perform basic health checks on resources.

05

Health check & Monitoring

Health Checks & Monitoring

Regularly check the health and performance of resources. Automatically removes unhealthy resources from DNS responses.

Use CloudWatch metrics to monitor DNS query logs, health checks, and performance. Optimize configurations as needed.

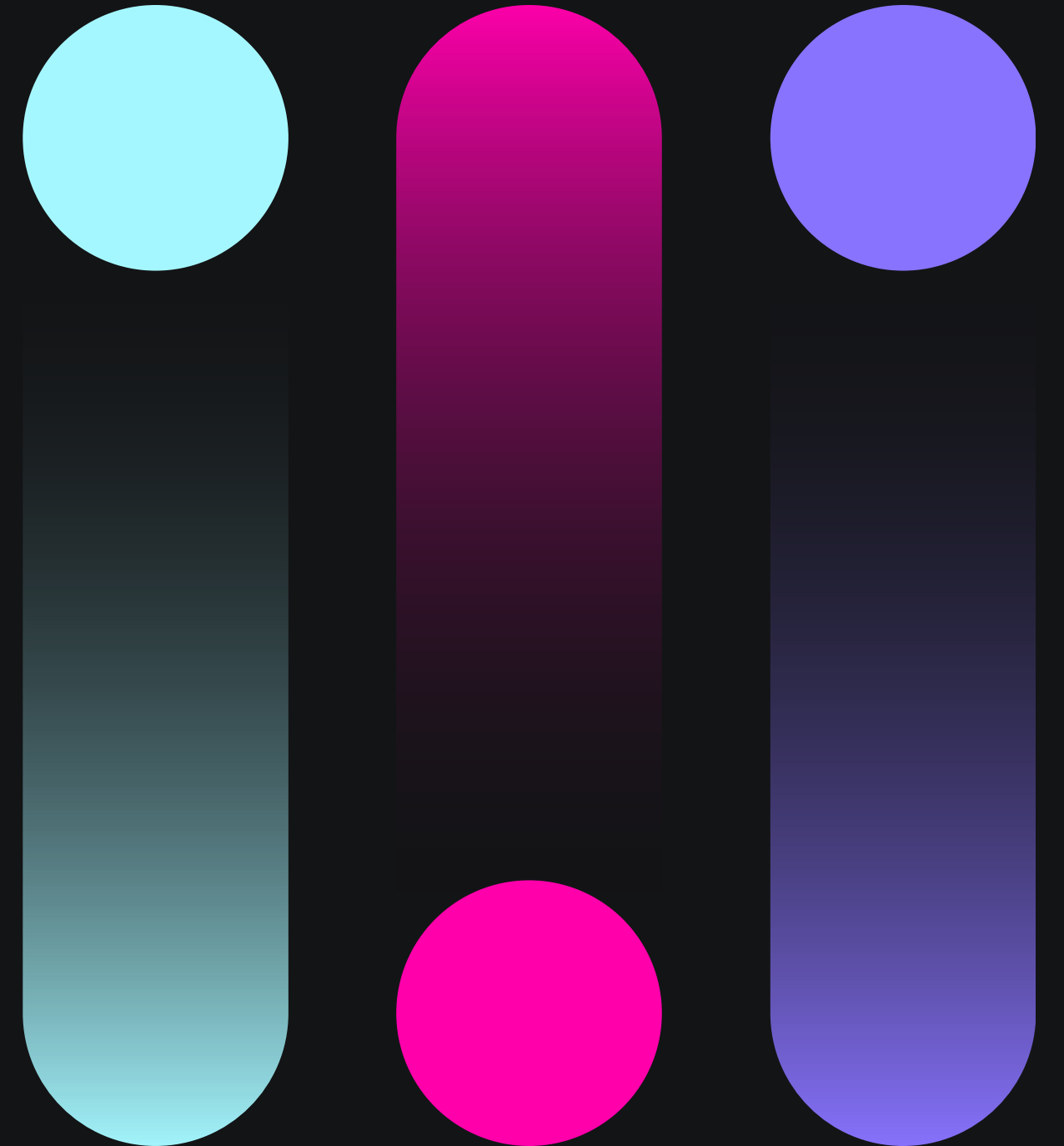


06

Use
Cases

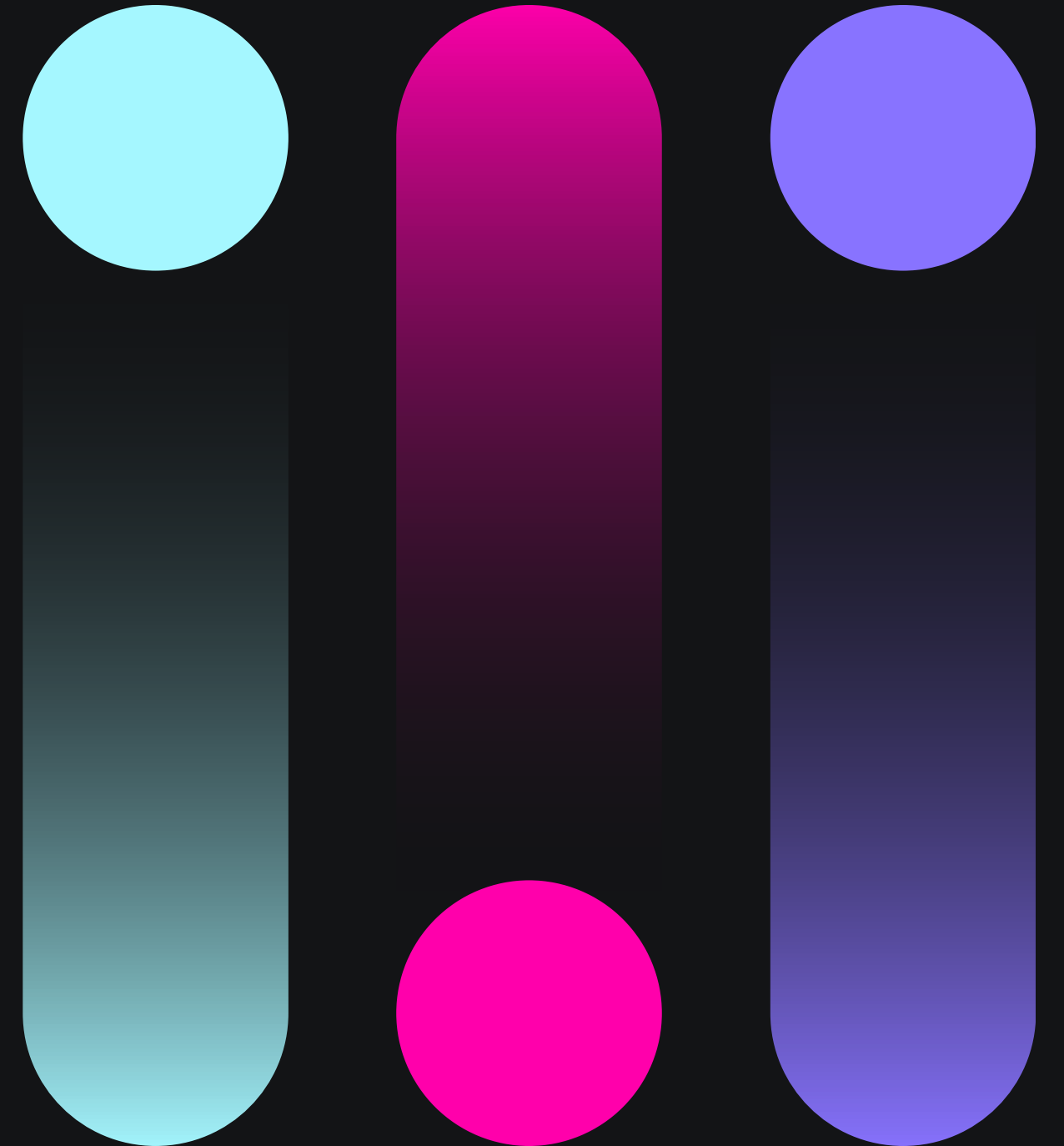
01) Global App Delivery

Use latency-based routing to deliver applications with minimal latency by directing users to the nearest healthy endpoint.



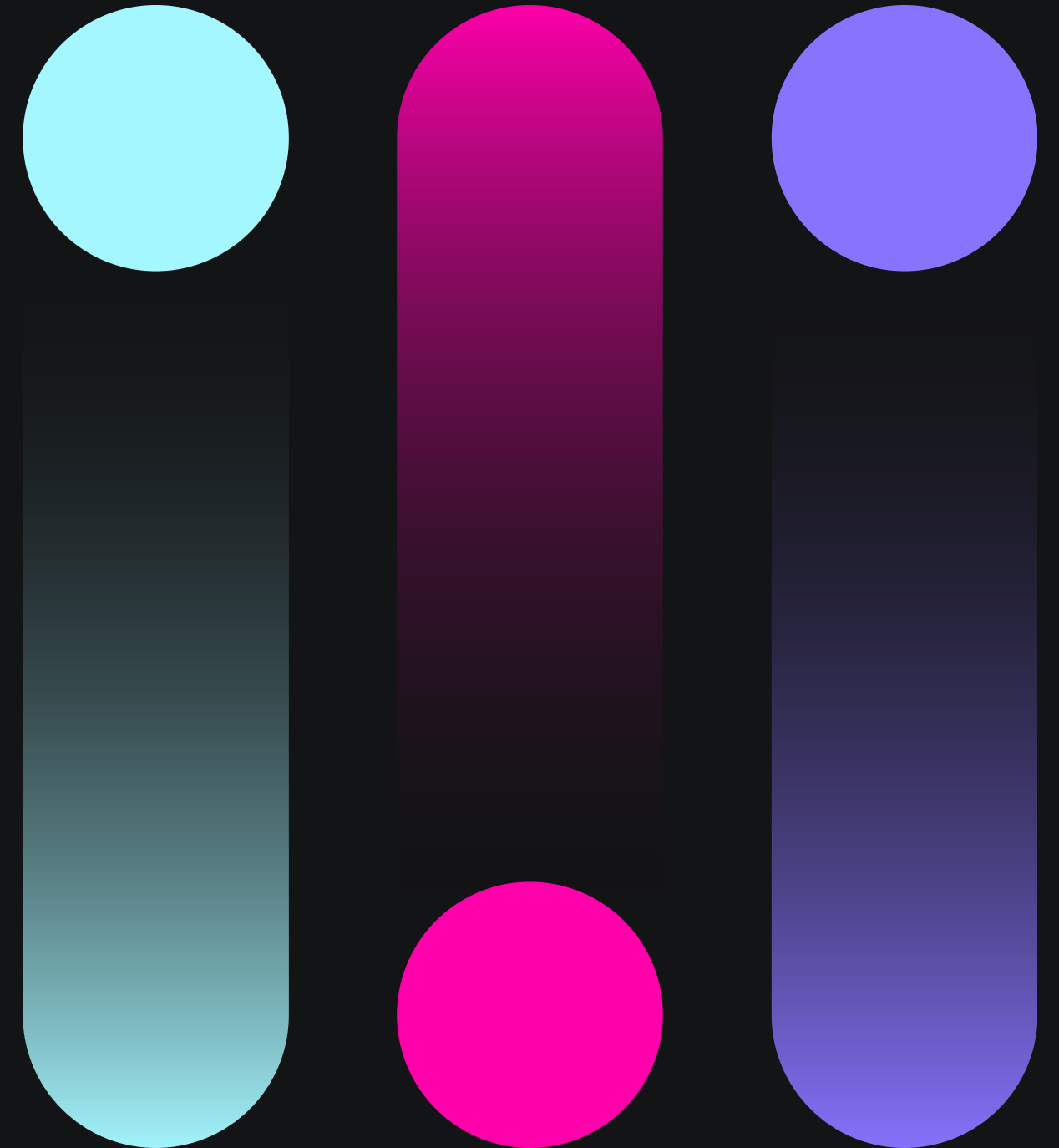
02) High Available Websites

Implement failover routing to ensure your website remains available by redirecting traffic to backup servers in case of an outage.



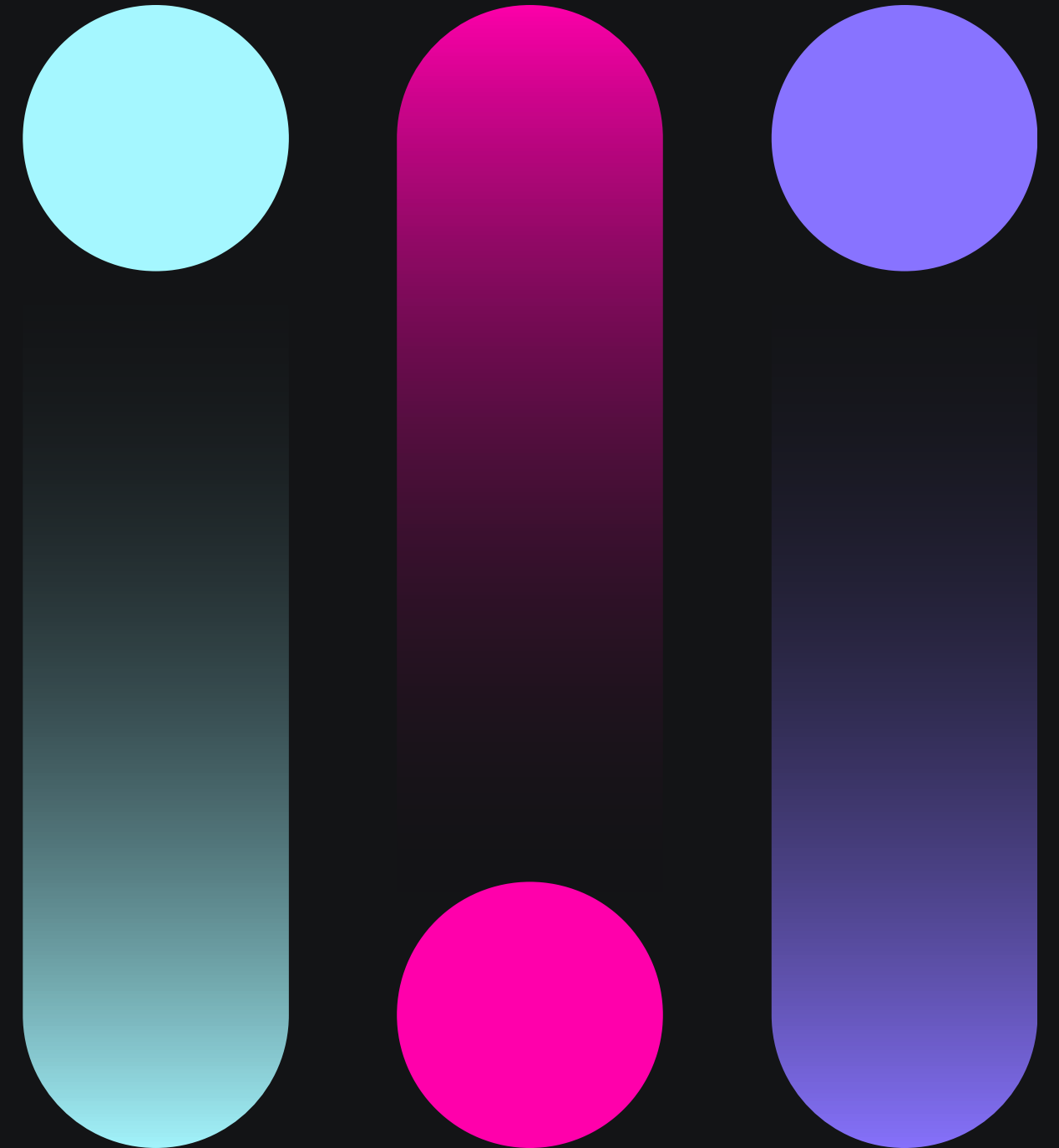
03) Load Balancing

Use weighted routing to distribute traffic across multiple resources to balance load and increase reliability.



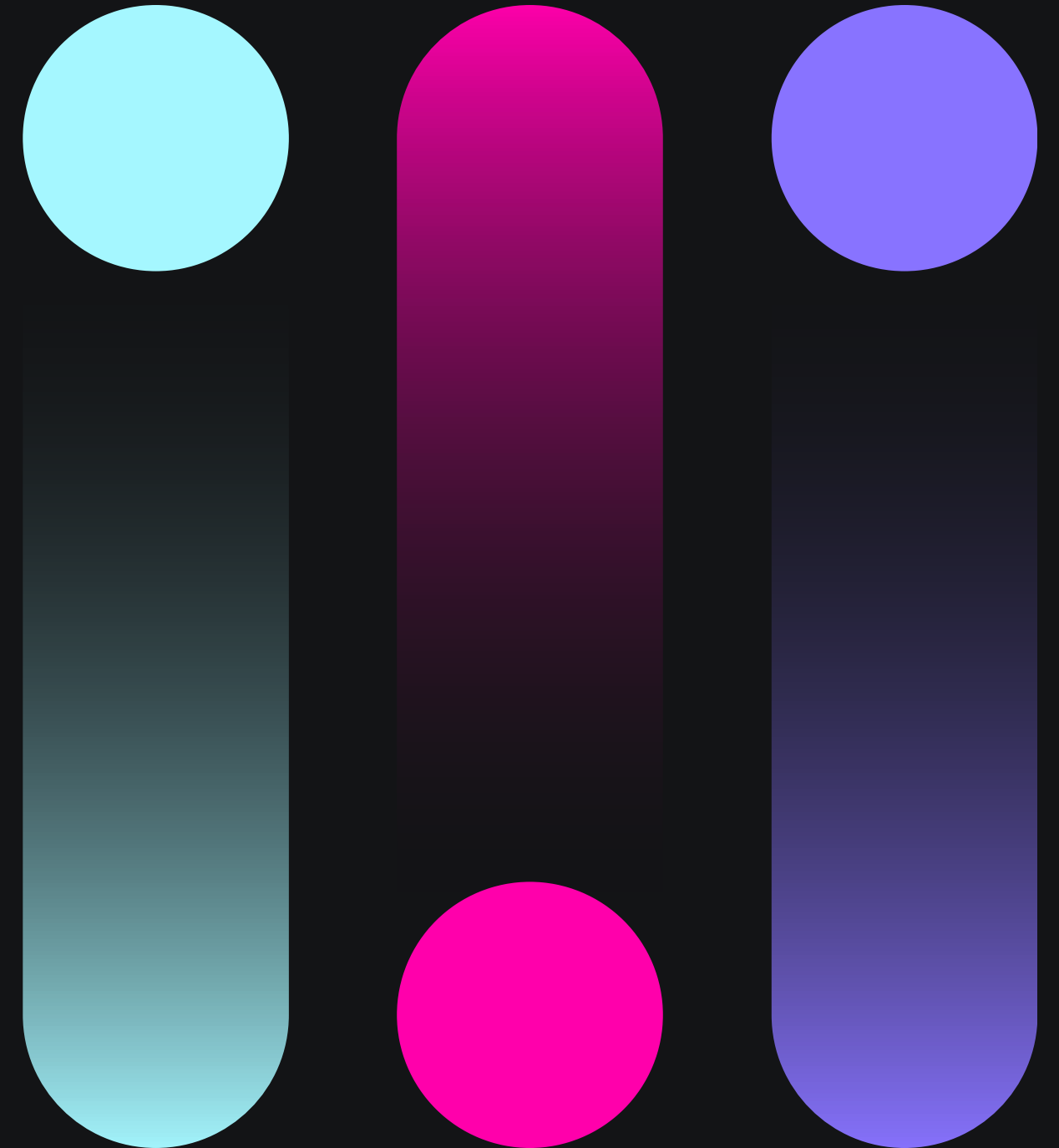
04) Compliance & Security

Use DNSSEC to protect DNS data from tampering and ensure users are directed to the correct endpoint.



05) Private Networks

Manage internal DNS names for resources within a VPC using private hosted zones.



07

✦ Benefits ✦

Benefits

1

High Availability & Reliability

Route 53 operates on a global network of AWS edge locations, providing high availability and low latency for DNS queries.

2

Scalability

Automatically scales to handle large volumes of DNS queries without compromising performance.

3

Security

Advanced security features, including DNSSEC and integration with AWS IAM, ensure secure and controlled DNS management.

Benefits

4

Cost-effective

Pay-as-you-go pricing model with no upfront costs, making it affordable for both small and large applications.

5

Ease of Use

User-friendly management console and APIs simplify domain registration, DNS management, and routing policy configuration.

Any Questions?



The Tech Stuff



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Thank You

