DNS

Level 100

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Objectives

After completing this lesson, you should be able to:

• DNS Zone Management
  • Managing Zone and records
  • Secondary Zone Use Cases
DNS – How it works!

Users

Query

Example.com?

1.1.1.1

Answer

1.1.1.1

Recursive DNS Servers

1.1.1.1

Authoritative DNS

ROOT DNS Servers

Top-Level Domains

OCI DNS is Authoritative
DNS Zone Management
DNS Zone Management

- Highly scalable, global anycast Domain Name System (DNS) network that assures high site availability and low latency
- Offers a complete set of functions for zone management:
  - Create and manage zones and records
  - Import/upload zone files
  - Filter and sort views of zones and records
  - Secondary DNS support
  - APIs and SDKs
Supported Record Types

OCI DNS supports the following DNS records

- A (IPv4 Address Record) - RFC 1035
- AAAA (IPv6 Address Record) - RFC 3596
- CAA (Certificate Authority Authorization) - RFC 6844
- CDNSKEY (Child DNSKEY) - RFC 7344
- CDS (Child Delegation Signer) - RFC 7344
- CERT (Certificate Record) - RFC 2538, RFC 4398
- CNAME (Canonical Name Record) - RFC 1035
- CSYNC (Child-toParent sync Record) - RFC 7477
- DHCID (DHCP Identification Record) - RFC 4701
- DKIM (Domain Key Identified Mail Record - RFC 6376
- DNAME (Delegation Name Record) - RFC 6672
- DNSKEY (DNS Key Record) - RFC 4034
- DS (Delegation Signer Record) - RFC 4034
- IPSECKEY (IPSec Key Record) - RFC 4025
- KEY (Key Record) - RFC 4025
- KX (Key Exchanger Record) - RFC 2230
- LOC (Location Record) - RFC 1876
- MX (Mail Exchange Record) - RFC 1035
- NS (Name Server Record) - RFC 1035
- PTR (Pointer Record) - RFC 1035
- SOA (Start of Authority Record) - RFC 1035
- SPF (Sender Policy Framework) - RFC 4408
- SRV (Service Locator Record) - RFC 2782
- SSHFP (SSH Public Key Fingerprint) - RFC 6594
- TLSA (Transport Layer Security Auth) - RFC 6698
- TXT (Text Record) - RFC 1035
- ALIAS (CNAME at the apex)
  - A private pseudo-record that allows CNAME functionality at the apex of a zone.
DNS Zone Management

- OCI DNS is available in the OCI Console under the “Edge Services” tab
- This will bring the user to the DNS Zone Management Screen. From here the user can create Zones to see that the service is working
Adding a Zone

From the Managed DNS – Zones page:

- Click “Add Zone”, Select Method type of “Manual”
- Enter a “Zone Name”, Select Zone Type of “Primary”

Zone is created and can be verified from the Managed DNS Zones Management page
View/Add Records

- Select a zone to view record details for that zone
- Zone details will show the list of records for that zone
- Select Add Record to add new record
- Click “Publish Changes” to update Zone with new record details.

Default NS and SOA records are automatically generated when a Zone is created, so no new records need to be added to generate query data.
DNS Zone – Use Cases
Secondary DNS Architecture (1)

Configuration 1:

• Oracle is Secondary, another vendor is Primary
DNS Zone – Use Cases
Secondary DNS Architecture with ’Hidden Master’

Configuration 2: ”Hidden Master” Secondary

- Only public-facing nameserver is visible from the outside world. All DNS requests are sent to this nameserver.
- Primary DNS services secured behind firewall
- Customer maintains complete control
- Public-facing DNS network is global, primary network doesn’t need to be
Oracle Cloud always free tier:
oracle.com/cloud/free/

OCI training and certification:
https://www.oracle.com/cloud/iaas/training/
https://www.oracle.com/cloud/iaas/training/certification.html
education.oracle.com/oracle-certification-path/pFamily_647

OCI hands-on labs:
ocitraining.qloudable.com/provider/oracle

Oracle learning library videos on YouTube:
youtube.com/user/OracleLearning