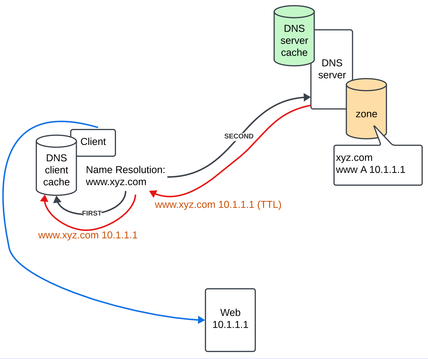
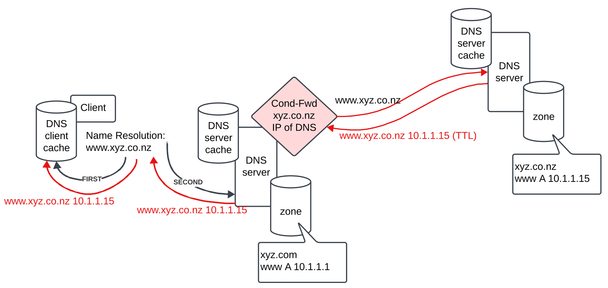
DNS Resolution 1&2



DNS Server Resolution

1. **Locally Cached Zones**: The DNS server first checks its own locally cached zones for the FQDN. If the DNS server is authoritative for the domain in question (meaning it holds the zone file for that domain), it will have the answer and return it immediately.
2. **DNS Server Cache**: If the DNS server is not authoritative for the domain, it will then check its DNS server cache. The cache contains recent queries the server has resolved. If the FQDN is in the cache, the server will return the cached answer.
3. **Conditional Forwarding**: If the FQDN is not in the cache, the server will then check if there are any conditional forwarders configured. A conditional forwarder is a DNS server that is designated to handle queries for specific domain names. If a conditional forwarder is configured for the domain in question, the query will be sent to that server.
4. **Forwarding**: If there are no conditional forwarders for the domain, the server will then check if there are any forwarders configured. A forwarder is a DNS server that handles all queries the local server can't resolve. If a forwarder is configured, the query will be sent to that server.
5. **Root Hints**: If there are no forwarders, or if the forwarders can't resolve the query, the server will then use its root hints. Root hints are a list of authoritative servers for the root zone of DNS (".") and they know which servers are authoritative for top-level domains (like .com, .org, etc.). The local server will query a root hint server, which will direct it to the server authoritative for the top-level domain, and so on, until it finds the server that can answer the query.

DNS Resolution 3



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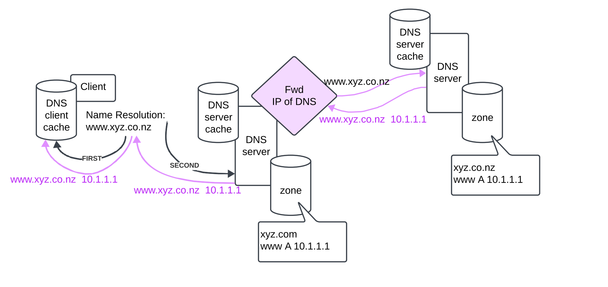

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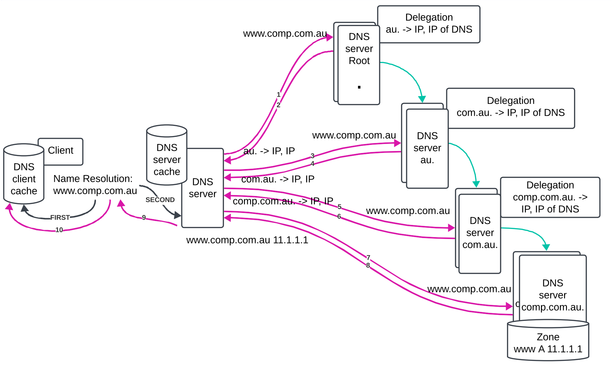

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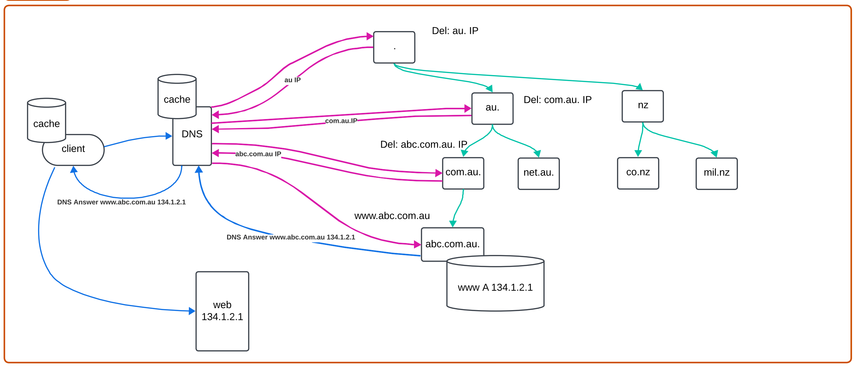
DNS HOW



Not Exists Cache Entries