The `dns_google` plugin automates the process of completing a `dns-01` challenge (`DNS01`) by creating, and subsequently removing, TXT records using the Google Cloud DNS API.

**Note:** The plugin is not installed by default. It can be installed by heading to [certbot.eff.org](https://certbot.eff.org), choosing your system and selecting the Wildcard tab.
### NAMED ARGUMENTS

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>--dns-google-credentials</code></td>
<td>Google Cloud Platform credentials JSON file. (Required - Optional on Google Compute Engine)</td>
</tr>
<tr>
<td><code>--dns-google-propagation-seconds</code></td>
<td>Number of seconds to wait for DNS to propagate before asking the ACME server to verify the DNS record. (Default: 60)</td>
</tr>
</tbody>
</table>
Use of this plugin requires Google Cloud Platform API credentials for an account with the following permissions:

- dns.changes.create
- dns.changes.get
- dns.changes.list
- dns.managedZones.get
- dns.managedZones.list
- dns.resourceRecordSets.create
- dns.resourceRecordSets.delete
- dns.resourceRecordSets.list
- dns.resourceRecordSets.update

Google provides instructions for creating a service account and information about the required permissions. If you’re running on Google Compute Engine, you can assign the service account to the instance which is running certbot. A credentials file is not required in this case, as they are automatically obtained by certbot through the metadata service.

Listing 1: Example credentials file:

```
{
  "type": "service_account",
  "project_id": "...",
  "private_key_id": "...",
  "private_key": "...",
  "client_email": "...",
  "client_id": "...",
  "auth_uri": "https://accounts.google.com/o/oauth2/auth",
  "token_uri": "https://accounts.google.com/o/oauth2/token",
  "auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",
  "client_x509_cert_url": "...
}
```

The path to this file can be provided interactively or using the --dns-google-credentials command-line argument. Certbot records the path to this file for use during renewal, but does not store the file’s contents.

**Caution:** You should protect these API credentials as you would a password. Users who can read this file can use these credentials to issue some types of API calls on your behalf, limited by the permissions assigned to the
account. Users who can cause Certbot to run using these credentials can complete a dns-01 challenge to acquire new certificates or revoke existing certificates for domains these credentials are authorized to manage.

Certbot will emit a warning if it detects that the credentials file can be accessed by other users on your system. The warning reads “Unsafe permissions on credentials configuration file”, followed by the path to the credentials file. This warning will be emitted each time Certbot uses the credentials file, including for renewal, and cannot be silenced except by addressing the issue (e.g., by using a command like chmod 600 to restrict access to the file).
CHAPTER
THREE

EXAMPLES

Listing 1: To acquire a certificate for example.com

```bash
certbot certonly \
   --dns-google \
   --dns-google-credentials ~/.secrets/certbot/google.json \
   -d example.com
```

Listing 2: To acquire a single certificate for both example.com and www.example.com

```bash
certbot certonly \
   --dns-google \
   --dns-google-credentials ~/.secrets/certbot/google.json \
   -d example.com \
   -d www.example.com
```

Listing 3: To acquire a certificate for example.com, waiting 120 seconds for DNS propagation

```bash
certbot certonly \
   --dns-google \
   --dns-google-credentials ~/.secrets/certbot/google.json \
   --dns-google-propagation-seconds 120 \
   -d example.com
```
Certbot plugins implement the Certbot plugins API, and do not otherwise have an external API.
CHAPTER
FIVE

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