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## Automating Google Cloud Storage Backups with a Cron Job and Logging

Step1 – Create Source & Destination Buckets in Google Cloud Storage (GCS)

Step2 – Create a VM Instance with Service account having (Storage Admin & Storage Object User)

Step3 – Login to VM Instance SSH terminal and Check and start the cron job

- `sudo service cron start`
- `sudo service cron status`

Step4 – Create the backup.sh script: paste the content below in it.

`vim /root/backup.sh`

```
#!/bin/bash

# Set variables
SOURCE_BUCKET="gs://your_source_bucket"
BACKUP_BUCKET="gs://your_backup_bucket"
DATE_FORMAT="%Y%m%d"
BACKUP_DIR="backup_$(date +${DATE_FORMAT})"
# to check path GSUTIL_PATH: which gsutil
GSUTIL_PATH="/PATH FOR /gsutil"

# Log start time
echo "Backup started at $(date)" >> /root/backup.log

# Copy objects from source bucket to backup bucket
${GSUTIL_PATH} -m cp -r "${SOURCE_BUCKET}" "${BACKUP_BUCKET}/${BACKUP_DIR}" >> /root/backup.log 2>&1

# Log end time
echo "Backup completed at $(date)" >> /root/backup.log
```

Step5 – Give execution permissions to the backup.sh file:

- `chmod +x /root/backup.sh`

Step6 – Using below command open Crontab and Schedule the cron.

- `crontab -e`

**Paste the below cron syntan at the end of the crontab:**

```
*/2 * * * * /root/backup.sh >> /root/backup.log 2>&1
```

- Save and exit the crontab editor:

Depending on the editor you're using, follow the instructions to save the file and exit.

- By following these steps, you will set up a cron job that runs your backup.sh script every 2 minutes. Make sure that gsutil is installed and properly configured on your system with the necessary permissions to access the Google Cloud Storage buckets.

Step7 – Verify the Cron Job:

List the cron jobs to verify that your job has been added correctly:

- `crontab -l`

Step8 – Check the log file after a few minutes:

- `cat /root/backup.log`