# DMS Migration & Upgrades

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## Migration from Single Server -> Flexible Server

We are working on a migration tool that provides online migration capability from single server to flexible server. We are planning to offer CLI mode of migration at GA of Flexible server, and portal experience landing later.

Note that not all types of databases are suitable to use the tool. To find out the database details, the following can be used as a questionnaire to probe and understand user data which could help with what kind of migration is best suited in their environment.

1. Single server supports 9.x, 10.x and 11.x. Flex server only support 11.x and 12.x. Are they willing to make the upgrade and migrate? If yes, we presume you have done all necessary testing for your application compatibility.
2. How big is/are the database(s) in this server? Also, how many DBs? Here is a query to fetch this information –

```
select schemaname as table_schema,
       relname as table_name,
       pg_size_pretty(pg_total_relation_size(relid)) as total_size,
       pg_size_pretty(pg_relation_size(relid)) as data_size,
       pg_size_pretty(pg_total_relation_size(relid) - pg_relation_size(relid))
        as external_size
from pg_catalog.pg_statio_user_tables
order by pg_total_relation_size(relid) desc,
         pg_relation_size(relid) desc;
```

3. Is the data distributed across tables in schemas within DBs in the server? Or is it mostly concentrated on one or two tables?
4. How many databases are on the source server?
5. What is the current load on the source server (Max/Min/Avg CPU usage etc)?
6. Is there a low load period during the week (like Sunday 1 am) when the migration can start?
7. Do they need an online migration solution? If yes, can they enable logical replication in their single server?
8. Will they encounter any logical replication restrictions documented here - such as no DDL support etc.
9. Do they have primary keys in all tables?
10. Do they have triggers, foreign keys, etc.?
11. What is the max downtime available per database?
12. Could you list the regions where they need to move databases?
13. What is the approximate rate of change on these databases?
14. Can they enable logical replication in all database servers? Will require reboot if not enabled.
15. If their database is small (say < 5GB) and can afford downtime to migrate the data and they don't want to deal with logical replication restriction, they can consider dump/restore method explained here.