Restore on-premises applications data

BlueXP backup and recovery

NetApp
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Restore Oracle database

You can restore Oracle database either to the original location or to the alternate location. For a RAC database, the data is restored to the on-premises node where the backup was created.

Only full database with control file restore is supported. If the archive logs are not present in the AFS, you should specify the location that contains the archive logs required for recovery.

> Single File Restore (SFR) is not supported.

Steps

1. In BlueXP UI, click **Protection** > **Backup and recovery** > **Applications**.
2. In the **Filter By** field, select the filter **Type** and from the drop-down select **Oracle**.
3. Click **View Details** corresponding to the database that you want to restore and click **Restore**.
4. In the Restore options page, specify the location where you want to restore the database files.

If you…	Do this…
Want to restore to the original location	1. Select **Restore to original location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Click **Next**. 4. Select **Database State** if you want to change the state of the database to the state required to perform restore and recovery operations. The various states of a database from higher to lower are open, mounted, started, and shutdown. ◦ If the database is in a higher state but the state must be changed to a lower state to perform a restore operation, you must select this check box. ◦ If the database is in a lower state but the state must be changed to a higher state to perform the restore operation, the database state is changed automatically even if you do not select the check box. ◦ If a database is in the open state, and for restore the database needs to be in the mounted state, then the database state is changed only if you select this check box. 5. Specify the recovery scope. ◦ Select **All Logs** if you want to recover to the last transaction. ◦ Select **Until SCN (System Change Number)** if you want to recover to a specific SCN. ◦ Select **Date and Time** if you want to recover to a specific data and time. You must specify the date and time of the database host's time zone. ◦ Select **No recovery** if you do not want to recover. 6. If the archive logs are not present in the active file system, you should specify the location that contains the archive logs required for recovery. 7. Select the check box if you want to open the database after recovery. In a RAC setup, only the RAC instance that is used for recovery is opened after recovery.

If you…	Do this…
Want to temporarily restore to another storage and then copy the restored files to the original location	1. Select **Restore to original location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Select **Change storage location**. If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume. 4. Click **Next**. 5. In the Storage mapping page, specify the alternate storage location details where the data restored from the object store will be stored temporarily. If you select an on-premises ONTAP system and if you haven not configured the cluster connection to the object storage, you are prompted for additional information regarding the object store. 6. Click **Next**. 7. Select **Database State** if you want to change the state of the database to the state required to perform restore and recovery operations. The various states of a database from higher to lower are open, mounted, started, and shutdown. ◦ If the database is in a higher state but the state must be changed to a lower state to perform a restore operation, you must select this check box. ◦ If the database is in a lower state but the state must be changed to a higher state to perform the restore operation, the database state is changed automatically even if you do not select the check box. ◦ If a database is in the open state, and for restore the database needs to be in the mounted state, then the database state is changed only if you select this check box. 8. Specify the recovery scope. ◦ Select **All Logs** if you want to recover to the last transaction. ◦ Select **Until SCN (System Change Number)** if you want to recover to a specific SCN. Select **Date and Time** if you want to recover

If you…	Do this…
Want to restore to an alternate location	1. Select **Restore to alternate location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. If you want to restore to alternate storage, perform the following: a. Select **Change storage location**. If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume. b. Click **Next**. c. In the Storage mapping page, specify the alternate storage location details where the data from the object store needs to be restored. 4. Click **Next**. 5. In the Destination host page, select the host on which the database will be mounted. a. (Optional) For NAS environment, specify the FQDN or IP address of the host to which the volumes restored from object store are to be exported. b. (Optional) For SAN environment, specify the initiators of the host to which LUNs of the volumes restored from object store are to be mapped. 6. Click **Next**.

5. Review the details and click **Restore**.

The **Restore to alternate location** option mounts the selected backup on the given host. You should manually bring up the database.

After mounting the backup, you cannot mount it again until it is unmounted. You can use the **Unmount** option from the UI to unmount the backup.

For information on how to bring up the Oracle database see, Knowledge base article.

Restore SQL Server database

You can restore SQL Server database either to the original location or to the alternate location.

Single File Restore (SFR), Recovery of log backups, and reseed of availability groups are not supported.

Steps

1. In BlueXP UI, click **Protection** > **Backup and recovery** > **Applications**.
2. In the **Filter By** field, select the filter **Type** and from the drop-down select **SQL**.
3. Click **View Details** to view all the available backups.
4. Select the backup and click **Restore**.
5. In the Restore options page, specify the location where you want to restore the database files.

If you…	Do this…
Want to restore to the original location	1. Select **Restore to original location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Click **Next**.
Want to temporarily restore to another storage and then copy the restored files to the original location	1. Select **Restore to original location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Select **Change storage location**. If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume. 4. Click **Next**. 5. In the Storage mapping page, specify the alternate storage location details where the data restored from the object store will be stored temporarily. 6. Click **Next**.

If you…	Do this…
Want to restore to an alternate location	1. Select **Restore to alternate location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Click **Next**. 4. In the Destination host page, select a host name, provide a database name (optional), select an instance, and specify the restore paths. The file extension provided in the alternate path must be same as the file extension of the original database file. 5. Click **Next**.
Want to temporarily restore to another storage and then copy the restored files to the alternate location	1. Select **Restore to alternate location**. 2. If the snapshot is in archival storage, select the priority to restore your data from the archival storage. 3. Select **Change storage location**. If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume. 4. Click **Next**. 5. In the Storage mapping page, specify the alternate storage location details where the data restored from the object store will be stored temporarily. 6. Click **Next**. 7. In the Destination host page, select a host name, provide a database name (optional), select an instance, and specify the restore paths. The file extension provided in the alternate path must be same as the file extension of the original database file. 8. Click **Next**.

6. In the **Pre-operations** select, select one of the following options:
   - Select **Overwrite the database with same name during restore** to restore the database with the same name.
   - Select **Retain SQL database replication settings** to restore the database and retain the existing replication settings.
7. In the **Post-operations** section, to specify the database state for restoring additional transactional logs, select one of the following options:
   - Select **Operational, but unavailable** if you are restoring all of the necessary backups now.

     This is the default behavior, which leaves the database ready for use by rolling back the uncommitted transactions. You cannot restore additional transaction logs until you create a backup.

   - Select **Non-operational, but available** to leave the database non-operational without rolling back the uncommitted transactions.

     Additional transaction logs can be restored. You cannot use the database until it is recovered.

   - Select **Read-only mode, and available** to leave the database in read-only mode.

     This option undoes uncommitted transactions, but saves the undone actions in a standby file so that recovery effects can be reverted.

     If the Undo directory option is enabled, more transaction logs are restored. If the restore operation for the transaction log is unsuccessful, the changes can be rolled back. The SQL Server documentation contains more information.
8. Click **Next**.
9. Review the details and click **Restore**.

Restore SAP HANA database

You can restore SAP HANA database to any host.

Steps

1. In BlueXP UI, click **Protection** > **Backup and recovery** > **Applications**.
2. In the **Filter By** field, select the filter **Type** and from the drop-down select **HANA**.
3. Click **View Details** corresponding to the database that you want to restore and click **Restore**.
4. In the Restore options page, specify one of the following:
   a. For NAS environment, specify the FQDN or IP address of the host to which the volumes restored from object store are to be exported.
   b. For SAN environment, specify the initiators of the host to which LUNs of the volumes restored from object store are to be mapped.
5. If the snapshot is in archival storage, select the priority to restore your data from the archival storage.
6. If there is not enough space on the source storage or the source storage is down, select **Change storage location**.

   If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume.

7. Click **Next**.
8. In the Storage mapping page, specify the alternate storage location details where the data restored from the object store will be stored.
9. Click **Next**.
10. Review the details and click **Restore**.

This operation does only the storage export of the selected backup on the given host. You should manually mount the filesystem and bring up the database. After utilizing the volume, the storage Administrator can delete the volume from the ONTAP cluster.

For information on how to bring up the SAP HANA database see, TR-4667: Overview of SAP system copy workflow with SnapCenter and TR-4667: Overview of SAP system clone workflow with SnapCenter.

Restore MongoDB, MySQL, and PostgreSQL databases

You can restore MongoDB, MySQL, and PostgreSQL databases to any host.

Steps

1. In BlueXP UI, click **Protection** > **Backup and recovery** > **Applications**.
2. In the **Filter By** field, select the filter **Type** and from the drop-down select **MongoDB**, **MySQL**, or **PostgreSQL**.
3. Click **View Details** corresponding to the database that you want to restore and click **Restore**.
4. In the Restore options page, specify one of the following:
   a. For NAS environment, specify the FQDN or IP address of the host to which the volumes restored from object store are to be exported.
   b. For SAN environment, specify the initiators of the host to which LUNs of the volumes restored from object store are to be mapped.
5. If the snapshot is in archival storage, select the priority to restore your data from the archival storage.
6. If there is not enough space on the source storage or the source storage is down, select **Change storage location**.

   If you select **Change storage location**, you can append a suffix to the destination volume. If you have not selected the checkbox, then by default **_restore** is appended to the destination volume.

7. Click **Next**.
8. In the Storage mapping page, specify the alternate storage location details where the data restored from the object store will be stored.
9. Click **Next**.
10. Review the details and click **Restore**.

This operation does only the storage export of the selected backup on the given host. You should manually mount the filesystem and bring up the database. After utilizing the volume, the storage Administrator can delete the volume from the ONTAP cluster.