SAP® MaxDB™ Expert Session

SAP® MaxDB™ Data Integrity I – Automated and Manual Checks

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News - General Remarks

- Some functionality might have been changed or expanded over the years.
- Recommendations might have changed.

⇒ For each expert session an update with the most important changes is published.

- Check the additional remarks after having heard or read the expert session.
- Feedback to the responsible author is welcome if you recognize outdated information within the session.
Agenda

1. 'Check Data' Variants
2. DB_Online – Check Data on Snapshot
3. Further References
## 'Check Data' Variants

<table>
<thead>
<tr>
<th align="left">Database State</th>
<th align="left">Available Checks</th>
</tr>
</thead>
<tbody>
<tr>
<td align="left"><strong>DB_Online</strong></td>
<td align="left">Check Data</td>
</tr>
<tr>
<td align="left"></td>
<td align="left">Check Table</td>
</tr>
<tr>
<td align="left"></td>
<td align="left">Check Index (since SAP MaxDB 7.8)</td>
</tr>
<tr>
<td align="left"></td>
<td align="left">Check Data on Snapshot (since SAP MaxDB 7.9)</td>
</tr>
<tr>
<td align="left"></td>
<td align="left">Check Catalog (for internal use by SAP MaxDB support)</td>
</tr>
<tr>
<td align="left"><strong>DB_Admin</strong></td>
<td align="left">Check Data (also deletes unreferenced page entries)</td>
</tr>
</tbody>
</table>

‘Check … [extended]’ -> keyword currently obsolete

This option was implemented to test a new ‘Ascending-Key-Order Check’ which has become part of any default check since SAP MaxDB 7.6.01.00 and 7.7.01.04.
### DB_Online – Check Data on Snapshot

<table>
<thead>
<tr>
<th>Database State</th>
<th>Check Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB_Online</td>
<td>Checks all data using Snapshot technology (since SAP MaxDB 7.9)</td>
</tr>
<tr>
<td></td>
<td>• Tables &amp; Indexes</td>
</tr>
<tr>
<td></td>
<td>• LOBs (Binary Large Object Files e.g. a .picture'-type file)</td>
</tr>
<tr>
<td></td>
<td>• History Data</td>
</tr>
<tr>
<td></td>
<td>• Internal structures like e.g. Catalog entries, Filedirectory Pages</td>
</tr>
</tbody>
</table>

#### Usage

```sql
...db_execute check data on snapshot
```

#### Pros

- Verifies all objects and removes unreferenced pages
- No table locking issues, because working on Snapshot.
- Runs with low I/O priority in background to minimize performance impact.

#### Cons

- Long runtime
- Might need considerable free disk space, if existing data is frequently changed while Snapshot is active.
Further References

If you have SAP OSS access, do not miss these notes:

- SAP note 940420 ‘FAQ: Database structure check (verify)
- SAP note 846890 ‘FAQ: SAP MaxDB Administration’
- SAP note 1423732 ‘FAQ: SAP MaxDB Snapshots’
- SAP note 1837280 ‘SAP MaxDB: CHECK DATA runtime optimization’
Thank you

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