


Diese Bildschirmfolgen ergänzen die in Abschnitt 5.2.4 beschriebene Technologie „Native Storage Extension (NSE)“ an einem konkreten Beispiel.

1. Aktivierung des NSE Advisors, um potentielle Tabellen zu identifizieren, die für NSE in Frage kommen (über Link „Configure Recommendations in der Kachel „Native Storage Extension“ im HANA Cockpit

<  Native Storage Extension ▾ SHU@H4H (SYS...

Native Storage Extension Open Bu

Buffer Cache Tables in NSE NSE Advisor

| | | | | |
|-------------|--------|-----------|----------|----------|
| shu:30040 | DOKTL | SAPHANADB | 1.2 GB | 1.2 GB |
| shu:30040 | DD03L | SAPHANADB | 1.1 GB | 1.1 GB |
| shu:30040 | BALDAT | SAPHANADB | 702.9 MB | 662.2 MB |
| More | | | | |
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NSE Advisor

The SAP HANA Native Storage Extension (NSE) Advisor provides recommendations on load units for tables, partitions, or columns according to how frequently they are accessed.

Status On

Related Links

[View Recommendations](#)

[Configure Recommendations](#)

Configure Recommendations

General

Physical Design

Native Storage Extension

SQL

The SAP HANA Native Storage Extension (NSE) Advisor provides recommendations about load units for tables, partitions, or columns according to how frequently they are accessed.

Enable NSE Advisor:



Statistics Data

Configure for how long you would like to collect data and the minimum requirement for an object to be included. The data will be stored in the access statistics cache.

Collect statistics data for:

360 Minutes

Minimum row count for an object to be included:

10 Rows

Target Objects

Configure the percentage of objects being considered as hot or cold, according to the scan density.

Percentage of objects to be considered hot:

%

Percentage of objects to be considered cold:

50 %

Minimum object size:

0 MB

OK Cancel

2. Der NSE-Advisor deaktiviert sich automatisch, wenn die Laufzeit beendet ist (in meinem Beispiel 6 Stunden)

In der App „View Recommendations“ findet man anschließend im Bereich „Physical Design“ den Punkt „Update Load Unit“ mit entsprechenden Empfehlungen. Diese sind einzeln zu prüfen (i.d.R. beginnt man mit den größten Tabellen)

The screenshot shows the SAP Recommendations app interface. At the top, there is a navigation bar with the SAP logo, a dropdown menu for 'Recommendations', and the user 'SHU@H4H (SYSTEM)'. On the right side of the navigation bar are several icons: a list icon, a refresh icon, a back icon, a help icon, and a profile icon. Below the navigation bar is a search bar labeled 'Search Recommendations' with a magnifying glass icon. To the right of the search bar is a 'Configure' link. Below the search bar is a tab bar with three tabs: 'Ad hoc (1)', 'Physical Design (2)', and 'SQL'. The 'Physical Design (2)' tab is selected. Below the tab bar is a section titled 'Physical Design (2)'. Inside this section is a table with three columns: 'Recommendation', 'Description', and 'Impact'. The table contains two rows of recommendations.

| Recommendation | Description | Impact |
|----------------------------------|---|--------|
| Review table distribution status | A larger than usual transfer of network data is detected. | High |
| Update Load Unit | The current load units of tables, partitions, or columns are not optimal. | High |

Ein gutes Beispiel ist die Tabelle BALDAT. Hier werden die Details des Anwendungslogs gespeichert. Die Tabelle ist bei den meisten Kunden sehr groß. Auf die Daten wird schreibend sehr oft und lesend eher selten zugegriffen. Daher eignet sich diese Tabelle meist sehr gut für NSE.

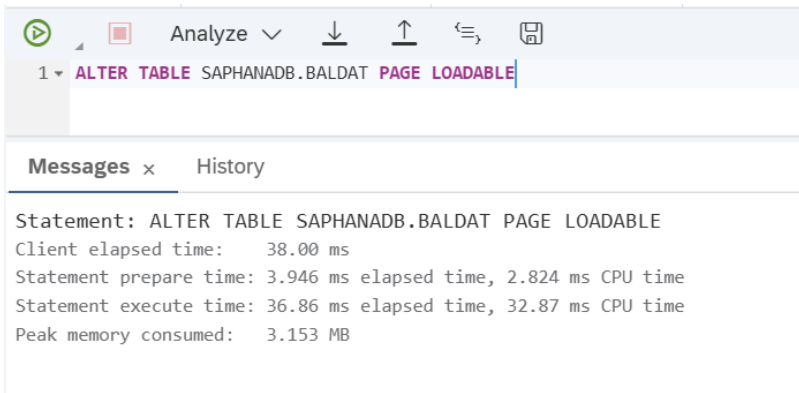
The screenshot displays the SAP Recommendations interface. On the left, a sidebar shows two recommendation categories: 'Ad hoc (1)' and 'Physical Design (2)'. The 'Physical Design (2)' section is active, showing a recommendation to 'Review table distribution status' and 'Update Load Unit'. The 'Update Load Unit' recommendation is highlighted, showing a description: 'The current load units of tables, partitions, or columns are not optimal.' and an impact of 'High'.

The main content area is titled 'Update Load Unit' and shows an impact of 'High'. It includes an 'Overview' tab and a 'Recommended Actions' section with a button 'Go to Load Unit Configurations'. Below this is a 'Related Objects' table.

| Host | Port | Schema ... | Table ... ▾ | Column ... | Part Id | Load Unit | Granularity | Confidence | Memo... ⓘ | Main Phy... |
|------|-------|------------|-------------|------------|---------|-----------|-------------|------------|-----------|-------------|
| shu | 30040 | SAPHANA... | BALDAT | CLUSTD | 0 | PAGE | COLUMN | 79 | 644596795 | 646778880 |
| shu | 30040 | SAPHANA... | BALDAT | SRTF2 | 0 | PAGE | COLUMN | 20 | 1042980 | 1335296 |
| shu | 30040 | SAPHANA... | BALDAT | BLOCK | 0 | PAGE | COLUMN | 20 | 775981 | 1343488 |

Der NSE Advisor ist nur bedingt **aussagekräftig**, da er meist nur einige Stunden oder Tage **berücksichtigt**. Es empfiehlt sich bei jedem Kunden die Situation und Gegebenheiten genau anzuschauen.

3. Möchte man wie in meinem Beispiel die Tabelle BALDAT umstellen, führt man das entsprechende SQL-Statement in einem SQL-Editor aus:



The screenshot shows a SQL editor window. At the top is a toolbar with icons for execution (a green play button), a red stop button, and buttons for 'Analyze', 'Download', 'Upload', 'Undo/Redo', and 'Save'. Below the toolbar, a single line of SQL code is entered: `1 ALTER TABLE SAPHANADB.BALDAT PAGE LOADABLE`. The code is highlighted in purple. Below the editor, there is a panel with two tabs: 'Messages' (selected) and 'History'. The 'Messages' tab displays the execution results for the statement: `Statement: ALTER TABLE SAPHANADB.BALDAT PAGE LOADABLE`. Below this, four performance metrics are listed: `Client elapsed time: 38.00 ms`, `Statement prepare time: 3.946 ms elapsed time, 2.824 ms CPU time`, `Statement execute time: 36.86 ms elapsed time, 32.87 ms CPU time`, and `Peak memory consumed: 3.153 MB`.

```
1 ALTER TABLE SAPHANADB.BALDAT PAGE LOADABLE
```

Messages x History

Statement: ALTER TABLE SAPHANADB.BALDAT PAGE LOADABLE

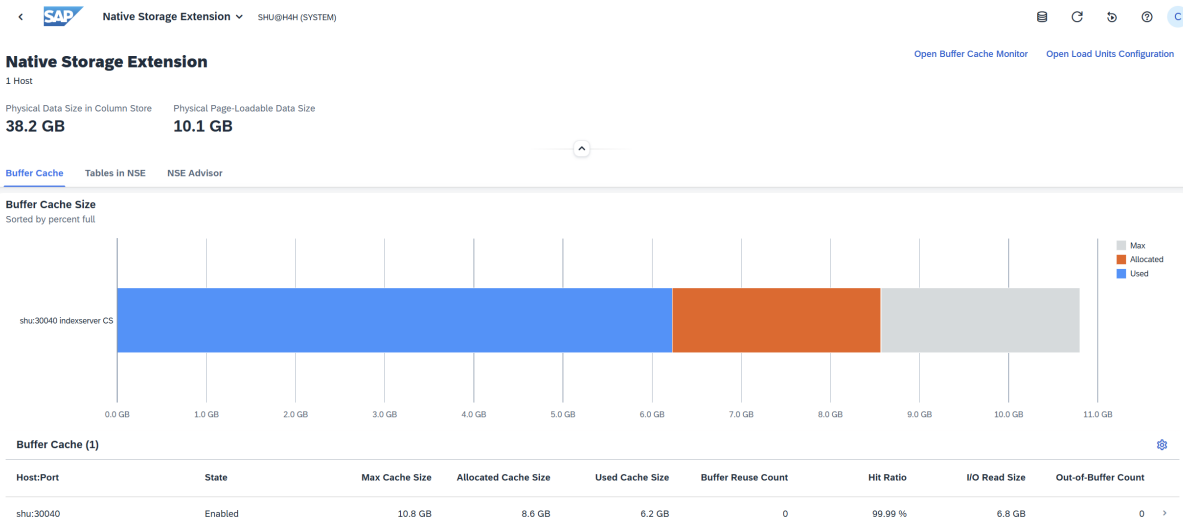
Client elapsed time: 38.00 ms

Statement prepare time: 3.946 ms elapsed time, 2.824 ms CPU time

Statement execute time: 36.86 ms elapsed time, 32.87 ms CPU time

Peak memory consumed: 3.153 MB

4. In den Statistiken sieht man die Nutzung des Buffer Caches:



Die Tabelle BALDAT, mit einer Größe von 671 MB belegt nun nur noch 49 MB im Hauptspeicher.:

Native Storage Extension

[Open Buffer Cache Monitor](#) [Open Load Units Configuration](#)

[Buffer Cache](#) [Tables in NSE](#) [NSE Advisor](#)

| | | | | | | | | | |
|-----------|---------|---------|--------|--------|---|---------|--------|---|---|
| shu:30040 | Enabled | 10.8 GB | 8.6 GB | 6.2 GB | 0 | 99.99 % | 6.8 GB | 0 | > |
|-----------|---------|---------|--------|--------|---|---------|--------|---|---|

Tables in NSE

Top 20 Tables



| Host:Port | Table | Schema | Current Total Memory Size | Current In-Buffer Cache Size | Page-Loadable Disk Size | Total Physical Disk Size | |
|-----------|---------------|-----------|---------------------------|------------------------------|-------------------------|--------------------------|---|
| shu:30040 | RSAU_BUF_DATA | SAPHANADB | 1.4 GB | 1.3 GB | 1.3 GB | 1.4 GB | > |
| shu:30040 | SMIMCONT1 | SAPHANADB | 41.3 MB | 36.1 MB | 1.3 GB | 1.3 GB | > |
| shu:30040 | DOKTL | SAPHANADB | 1.2 GB | 1.2 GB | 1.2 GB | 1.2 GB | > |
| shu:30040 | DD03L | SAPHANADB | 1.1 GB | 1.1 GB | 1.1 GB | 1.1 GB | > |
| shu:30040 | BALDAT | SAPHANADB | 48.8 MB | 5.0 MB | 671.2 MB | 671.3 MB | > |