HOW-TO GUIDE | PUBLIC
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Custom Code Migration Guide for SAP S/4HANA 1809

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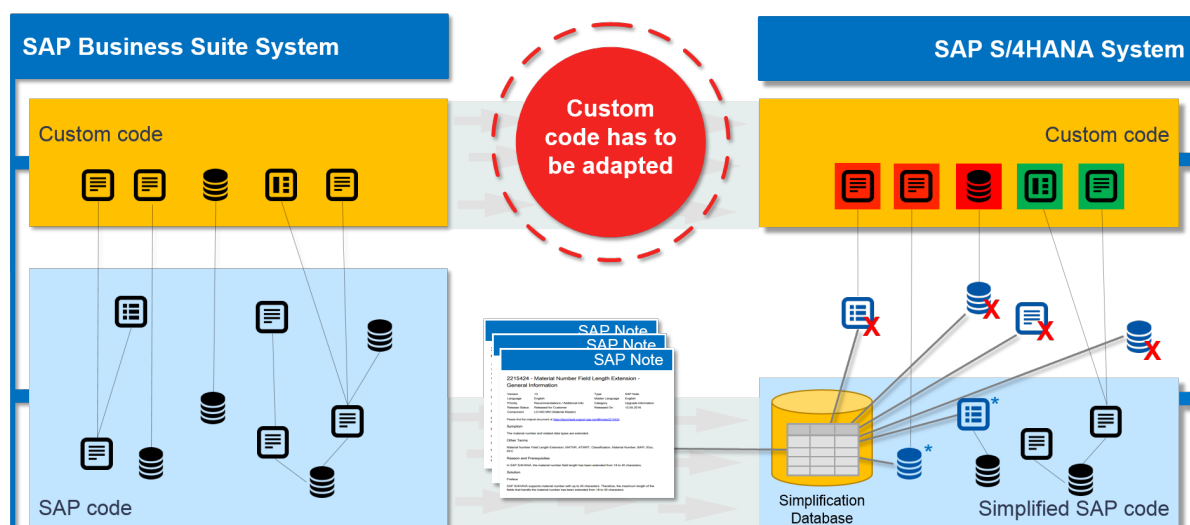
THE BEST RUN **SAP**

Content

1 Custom Code Migration Guide for SAP S/4HANA 1809

Custom Code Migration is part of the system conversion process from the classic *SAP Business Suite* running on any database to the SAP S/4HANA system. In the context of this system conversion, custom ABAP code needs to be adapted, since a lot of SAP code within SAP S/4HANA was simplified and in some cases changed in a non-compatible way.

Some of your custom code objects are not valid anymore and either do not perform as expected or produce syntax errors or dumps (red objects in the picture). You almost certainly have other objects that do perform as expected and do not need to be changed (green objects in the picture).

SAP provides tools, based on the Simplification Database, that detect any custom code that needs to be adapted to SAP S/4HANA. The Simplification Database is a database table in the SAP S/4HANA system that contains all Simplification Items that refer to SAP objects simplified in SAP S/4HANA. Each simplification item describes changed or removed SAP objects and refers to a dedicated SAP Note that describes the impact of the change and how the related custom code can be adapted.
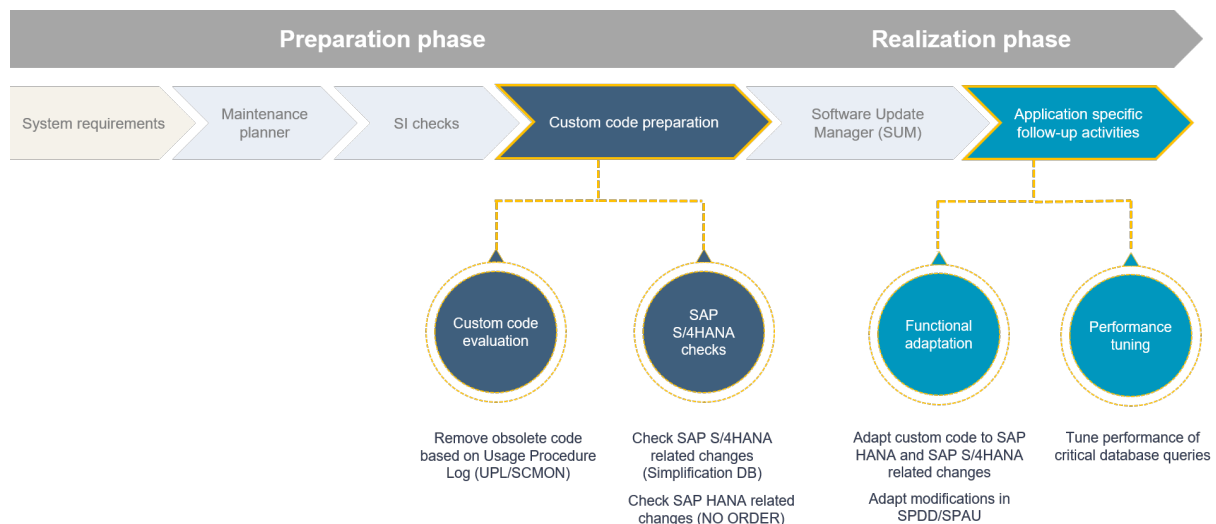
To analyze the required adaptations, you need to set up a system based on SAP NetWeaver AS for ABAP 7.52 that operates as a Central Check System. Using this Central Check System, you can perform remote custom code checks in ABAP Test Cockpit (ATC) for one or more systems in your landscape.

2 Getting Started

This guide focuses on the custom code related process, from checking custom code remotely, then analyzing the findings, and finally adapting the custom code. Read this guide carefully to get instructions on how to adapt your custom code to SAP S/4HANA 1809.

2.1 Overview of the Conversion Process

SAP provides a process for the system conversion to SAP S/4HANA. The following figure gives you an overview of the tools, the phases, and the activities involved in the process.

The Custom Code Migration process describes the tools and necessary activities that help you to migrate custom code. The process consists of preparatory analysis (*Custom Code Analysis*) and the adaptation of the custom code (*Custom Code Adaptation*) after the technical conversion.

Custom Code Analysis

To prepare the system conversion, we recommend that you evaluate your custom code and remove any obsolete code as indicated in the Usage Procedure Log (UPL/SCMON). For more information, see ABAP Call Monitor (SCMON) – Analyze usage of your code .

In addition, your custom code needs to be checked with *ABAP Test Cockpit (ATC)* against the SAP S/4HANA simplifications in the *Simplification Database* and for any SAP HANA related changes. The result is a list of findings where your custom code does not comply with the scope and data structure of SAP S/4HANA. At this step you can estimate the required effort required to adapt custom code to migrate to SAP S/4HANA.

> **i Note**
>
> The only purpose of the Custom Code Analysis phase is to estimate the effort required for the Custom Code Adaptation for system conversion in your current SAP Business Suite landscape. This phase can be a long time before the actual system conversion to SAP S/4HANA.
>
> Nevertheless, in this phase you can also prepare your custom code for the future system conversion. For more information, see the blog What you can do today to prepare your custom code for SAP S/4HANA.
>
> Only after the system conversion to SAP S/4HANA was fulfilled can the functional adaptation be carried out locally on the SAP S/4HANA system.

Custom Code Adaptation

In the system conversion, you need to adapt any modifications related to ABAP Dictionary objects using transaction SPDD.

After you performed the system conversion to SAP S/4HANA with *Software Update Manager (SUM)*, you need to adapt any modifications related to repository objects using transaction SPAU.

After this, we recommend that you run *ABAP Test Cockpit (ATC)* with SAP S/4HANA checks in *ABAP Development Tools (ADT)*. The result is a list of ATC findings that are related to SAP S/4HANA simplifications and refer to SAP Notes which describe how to solve the issues. Based on these ATC findings, you can start adapting your custom code.

For more information on the overall system conversion process, see http://help.sap.com/s4hana_op_1809 ❙▶ *Product Documentation* ❯ *Conversion Guide* ❯.

> **i Note**
>
> If you upgrade from lower release of SAP S/4HANA to SAP S/4HANA 1809, you also need to adapt some of your custom code. For more information on the upgrade process, see http://help.sap.com/s4hana_op_1809 ❙▶ *Product Documentation* ❯ *Upgrade Guide* ❯.
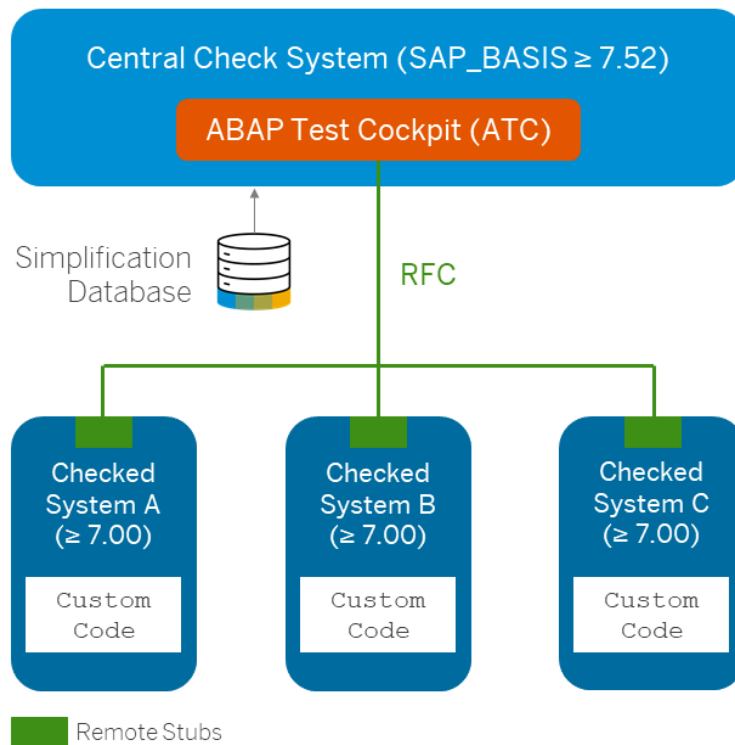
2.2 System Requirements

To perform the Custom Code Analysis, you need to set up a centralized SAP NetWeaver AS for ABAP 7.52 system as the *Central Check System* within your SAP system landscape.

> **i Note**
>
> The Central Check System can be used to check one or more SAP Business Suite systems.

For remote access, the Central Check System needs RFC destinations for each relevant system that you want to check using ATC. When executed, the Central Check System accesses the *Checked System* using *Remote Stubs* and the RFC connection. These Remote Stubs are an interface between the Central Check System and the Checked System and return a model from custom code that needs to be checked.

Central Check System (SAP_BASIS ≥ 7.52)

ABAP Test Cockpit (ATC)

Simplification Database

RFC

Checked System A (≥ 7.00)

Custom Code

Checked System B (≥ 7.00)

Custom Code

Checked System C (≥ 7.00)

Custom Code

Remote Stubs

To analyze your custom code, you need to meet the following system requirements:

SAP System	Software Component
Central Check System	SAP_BASIS 7.52 or higher
Checked System	SAP_BASIS 7.00, 7.01, 7.02, 7.31, 7.40, 7.50, 7.51 or 7.52

To adapt your custom code, you need the ABAP Development Tools (ADT) in the latest client version too. See https://tools.hana.ondemand.com/ for more information.

→ Recommendation

We recommend that you use the ABAP Development Tools (ADT) since transaction SE80 in SAP GUI no longer supports all development objects (such as CDS Views) needed in SAP S/4HANA.

3 Optional: Custom Code Analysis During Preparation Phase

The Custom Code Analysis is performed before the technical conversion and is **optional**. In this phase, you can estimate the effort required to adapt the custom code to SAP S/4HANA simplifications.

> **i Note**
>
> The functional adaptation of custom code is done after the technical conversion. If you do not want to estimate the effort required in advance, continue with the .

3.1 Preparing the Checked System

To enable your Central Check System to check your custom code remotely, you need to configure your user and apply some required SAP Notes in your Checked System.

3.1.1 Configuring the User

The RFC user needs the following authorizations in the Checked System:

Name of Authoriza-tion Object	Activity	Type of RFC Object	Name of RFC Object	Description
S_RFC	16 (Execute)	FUGR	SABP_COMP_PROCS _E, SCA_REMOTE_DATA _ACCESS	Authorization for: • Configuring Object Providers • Running SAP S/4HANA checks
		FUNC	REPOSITORY_ENVI RONMENT_ALL, RFC_GET_NAMETAB, FUNCTION_EXISTS, RFCPING	
S_DEVELOP	03 (Display)	*	*	

3.1.2 Applying SAP Notes

Apply the following SAP Notes in the Checked System:

- 2485231 ☁ - Remote ATC Checks of Modifications and Enhancements
- 2270689 ☁ - RFC Extractor for performing static checks
- 2190065 ☁ - ATC/CI: Remote Code Analysis - Object Provider Stub
- 2196792 ☁ - RFC-Stub for CVA/SLIN-Remote

3.2 Preparing the Central Check System

To check custom code remotely in ABAP Test Cockpit (ATC), you need to install and configure an ATC Central Check System. This system checks one or more SAP systems in your landscape for SAP S/4HANA related changes.

3.2.1 Configuring the User

You need the following user to use transaction `ATC` to perform custom code checks:

User Role	Description
SAP_SATC_ADMIN	Authorization for setting up ABAP Test Cockpit (ATC) for central quality checking

In addition, you need the following authorization object:

Name of the Authorization Object	Name of the Authorization Field	Value of the Authorization Field	Description
S_YCM	SYCM_AREA	SDB	Authorization for importing the Simplification Database
	ACTVT	UL	

3.2.2 Applying SAP Notes

In the Central Check System, apply all the relevant SAP Notes that are mentioned in the following SAP Notes so that you can use the latest features:

- 2436688 ☁ - Recommended SAP Notes for using SAP S/4HANA custom code checks in ATC

- 2364916 - Recommended SAP Notes for using ATC to perform remote analysis

3.2.3 Configuring RFC Connections

Use transaction `SM59` to create RFC connections for each Checked System.

> **i Note**
>
> The RFC connection must be usable without a logon dialog.

3.2.4 Importing the Simplification Database

To check your custom code against the SAP S/4HANA simplifications, you need to import the Simplification Database into the Central Check System.

3.2.4.1 Downloading the Simplification Database

SAP provides content for the Simplification Database of an SAP product as a ZIP file in SAP Service Marketplace (SMP). The content of the Simplification Database can be downloaded as a ZIP file. This ZIP file then has to be uploaded to the central check system.

Procedure

1. Open the SAP Software Download Center.
2. Choose *Software Downloads* and search for **CCMSIDB**.
3. Choose the relevant ZIP file and choose *Download Basket*.

   > **i Note**
   >
   > To find the most recent content of the Simplification Database provided for SAP S/4HANA, see also SAP Note 2241080.

Results

The ZIP file is downloaded and saved on your selected drive. It contains the content of the Simplification Database.
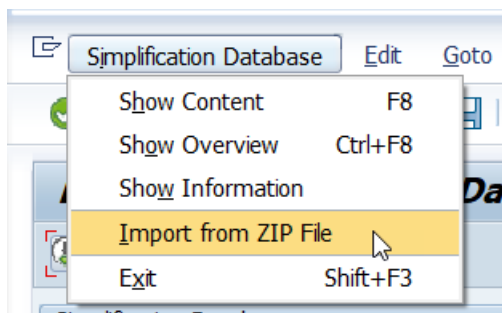
3.2.4.2 Importing the Simplification Database

To add the content of the Simplification Database to your system for further analysis, you need to upload the downloaded ZIP file to the Central Check System.

Procedure

1. Log on to the Central Check System.
2. Run transaction SYCM.

   The *Display Simplification Database Content* view is opened.

3. Choose ▌▶ *Simplification Database* ❯ *Import from ZIP File* ❯ from the menu bar.

4. Choose the ZIP file with the downloaded Simplification Database from your drive and confirm with *Open*.

Results

The Simplification Database is uploaded to the Central Check System and is now available for analysis in transaction SYCM.

3.2.4.3 Displaying the Content of the Simplification Database

You can display the content of the Simplification Database to get an overview of all changes or specific changes and the corresponding SAP objects that are simplified in SAP S/4HANA.

Procedure

To get a list of all Simplification Items, choose Ctrl + F8 or the *Overview* button.

> ### i Note
>
> To limit the number of Simplification Items displayed, enter the relevant filter criteria in transaction *SYCM* and choose Execute.
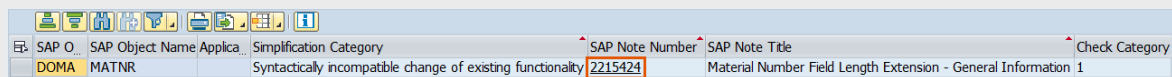
Results

The *Simplification Database Content* view is opened. From here you can order the displayed list, for example by their *SAP Object Type*, the assigned *Simplification Category*, or the relevant *SAP Note Number*.

From the overview, you can display the list of objects contained in a Simplification Item.

> ### ⁂ Note
>
> To find out whether a certain object is related to a Simplification Item, enter the name of the object (for example **MATNR**) in the *Object Name* field and execute (F8). Then you can navigate to the corresponding SAP Note to get more information.
>
> | SAP O... | SAP Object Name | Applica... | Simplification Category | SAP Note Number | SAP Note Title | Check Category |
> |---|---|---|---|---|---|---|
> | DOMA | MATNR | | Syntactically incompatible change of existing functionality | 2215424 | Material Number Field Length Extension - General Information | 1 |

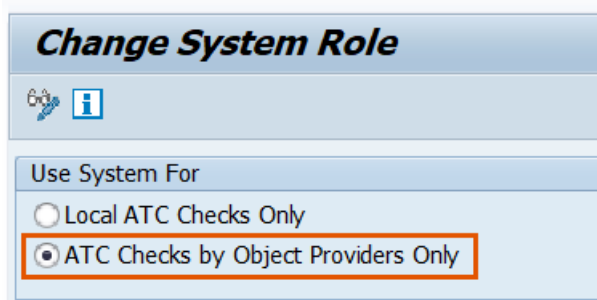## 3.2.5 Setting the Role as Central Check System

The system role needs to be specified as Central Check System for remote SAP S/4HANA checks.

Procedure

1. Run transaction `ATC`.

   The *ABAP Test Cockpit Overview* screen appears.
2. In the navigation pane, expand the node ▌ *ATC Administration* ❯ *Setup* ▌ and double-click *System Role*.
3. Switch to change mode (F6).
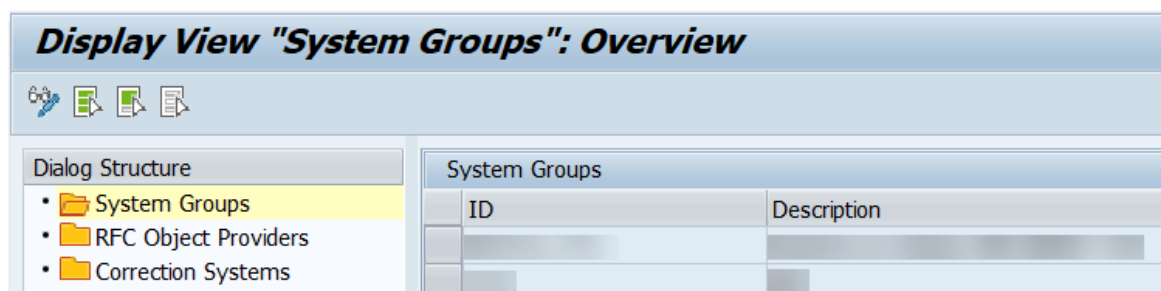4. On the *Change System Role* screen, choose *ATC Checks by Object Providers Only*.

5. Save the new settings and return to the *ABAP Test Cockpit Overview* screen.

3.2.6 Creating System Groups

A system group contains multiple SAP systems. Every Object Provider must be assigned to a system group and therefore you need to create a system group before you configure an Object Provider.

Procedure

1. In the navigation pane in transaction `ATC`, expand the node ▌ *ATC Administration* ❭ *Setup* ▐ and double-click *Object Providers*.
2. Double-click the item *System Groups* for selection.

3. Switch to change mode (`F6`).
4. Choose the *New Entries* button in the toolbar.
5. Enter an *ID* and short *Description* for the new system group you want to add.
6. Save the new entry.

3.2.7 Configuring Object Providers

An Object Provider defines the RFC connection to be used for analysis in a remote SAP system. While a check run is being executed, the ATC framework uses this RFC connection to the Checked System to extract a model from the custom code.

Procedure

1. In the *RFC Object Providers* view, double-click the item *RFC Object Providers* for selection.

2. Switch to change mode (F6).

3. Choose the *New Entries* button in the toolbar.

4. Specify the following entries for the Object Provider you want to create:

Fields	Description
`<ID>`	ID that specifies the Object Provider **i Note** This ID is used when configuring an ATC run series.
`<Description>`	Short text that specifies the Object Provider
`<System Group>`	The system group to which the Object Provider belongs
`<SAP System>`	ID of the remote system, to which you want to connect using the Object Provider
`<RFC Destination>`	Valid RFC destination for RFC connection to the Checked System **i Note** This RFC connection must be usable without a logon dialog.

5. Save the new entry.

3.3 Running Remote SAP S/4HANA Checks

In the Central Check System, you can perform SAP S/4HANA checks to analyze development objects in a Checked System remotely. In this step, you can estimate the effort required to adapt your ABAP source code to SAP S/4HANA-related changes.

3.3.1 Configuring a Remote ATC Run Series

Procedure

1. In the navigation pane in transaction `ATC`, expand the nodes ▶ *ATC Administration* ❯ *Runs* ❯ and double-click *Schedule Runs*.

   The screen that appears displays a list of existing run series.
2. Choose the *Create* button in the toolbar.
3. Enter the name for the series you want to create and confirm.
4. Specify the following entries for the run series you want to create:

Field	Description
`<Description>`	Enter a short description for the ATC run series you want to configure.
	→ Tip
	You can use the template provided by the *Description* field. When you execute the run series, the built-in variables are filled with data for the system, the day of the week, the calendar week, and for the year. However, you can also add further texts to these variables, rearrange them, or replace the built-in variables with your own text.
`<Check Variant>`	Enter the check variant `S4HANA_READINESS_1809`
	i Note
	This product-specific global check variant checks only the simplifications relating to SAP S/4HANA 1809.
`<Object Provider>`	Enter the ID of the relevant object provider that represents the remote system you want to check.

Field	Description
`<Objects to Check>`	Specify the set of development objects you want to check in the Checked System.
	On the *Checkable Namespaces* tab, the option *By Query* lets you specify objects by name (for example, by package name), by transport layer, or by component. The option *By Object Set* lets you specify an object set you defined in Code Inspector in the Checked System.
	→ Tip You can use the value help to choose the packages or the object set in the remote system.
	On the *Modified Objects* tab, you can specify the modified source code objects you want to check.

5. Save the configuration.

3.3.2 Scheduling a Remote ATC Run Series

Procedure

1. In the list of run series, select the run series in question and click the *Schedule* button in the toolbar.
2. In the dialog that appears, adapt the settings for the *Life Span* of the series and for *Execution* to your needs. Otherwise, leave these settings unchanged.

   i Note

   The *Life Span* defines how long (in days) the ATC result is kept in the system. After this, the ATC result is automatically deleted in the system.

3. Choose *Execute* (F8).

   i Note

   You can use the option *Execute in Background* (F9) to schedule a run series at regular intervals.

3.3.3 Monitoring an ATC Run Series

In this step, you can monitor the status of the remote ATC run series.

Procedure

1. In the navigation pane in transaction `ATC`, expand the nodes ▶ *ATC Administration* ❯ *Runs* ◢ and double-click *Monitor and Control Runs*.
2. Leave the run series field empty and execute (F8).

    The *ATC Run Monitor* view is displayed. The view shows the status of check runs as running, finished, or failed.

3.3.4 Analyzing ATC Run Results

Procedure

1. In the navigation pane in transaction `ATC`, expand the nodes ▶ *ATC Administration* ❯ *Runs* ◢ and double-click *Manage Results*.
2. Leave the run series field empty and choose Execute (F8).

    > **i** Note
    >
    > By default, the ATC run results of the last 10 days are displayed. If you want to see theATC run results from a different period of time, change the settings in *Schedule Data*.

    The *ATC Manage Results* view is displayed. The view shows a list of ATC run results from your requested period of time.
3. In the *ATC Manage Results* view, select a run series and choose *Display* to inspect the results.

    A list of all ATC findings is displayed in transaction `SE80`.
4. Choose *Statistics View*.
5. Choose *Choose Statistic* to group the ATC findings (for example, by SAP Note Number).

The ATC findings are grouped by the selected statistics.

6. Double-click a statistics group to display the list of ATC findings assigned to the selected statistics.

7. Double-click an ATC finding to open detailed information. Here you can find the SAP Note number referring to a dedicated SAP Note and the referenced object.

	Prio	Check Title	Check Message	Object Name	Obj.	E.	Contact	Package	1st Found	Obj. Resp.	Changed By	Note Number	Short Text	Comp.	RObT	Referenced Object
	1	S/4HANA: Search...	DB Operation SELEC...	Z_LE_ADJUS...	PROG			Z_LE_R...	16.07.2018			2220005	S/4 HANA: Data...	SD-B...	TABL	KONV
	1	S/4HANA: Search...	DB Operation SELEC...	Z_LE_LIST_C...	PROG			Z_LE_R...	16.07.2018			2198647	S/4 HANA: DAT...	SD-B...	TABL	VBUK
	1	S/4HANA: Search...	DB Operation UPDA...	Z_LE_ADJUS...	PROG			Z_LE_R...	16.07.2018			2220005	S/4 HANA: Data...	SD-B...	TABL	KONV

8. Click the object name to navigate to the source code to see where the incompatible code occurs.

4 Custom Code Adaptation After System Conversion

After Software Update Manager (SUM) has performed the technical conversion, you can start adapting your custom code.

> **i** Note
>
> This phase is separated chronologically from the Custom Code Analysis and can be performed much later (even years) after the first analysis took place.

4.1 Running Transactions SPDD and SPAU

SAP provides the adjustment tools `SPDD` and `SPAU`, which enable you to reimplement any modifications related to ABAP Dictionary objects and development objects (such as programs, function modules, screens, interfaces, and documentation) in system upgrades.

To adapt these modifications, see http://help.sap.com/s4hana_op_1809 ▶ *Product Assistance* ▶ *English* ▶ *Enterprise Technology* ▶ *ABAP Platform* ▶ *Developing on the ABAP Platform* ▶ *Development Concepts and Tools* ▶ *Application Development on AS ABAP* ▶ *Customer-Specific ABAP Development* ▶ *Changing the SAP Standard (BC)* ▶ *Installing Upgrades, Support Packages, and Enhancement Packages* ▶ and SAP Note 2168190 📌 for more information.

> **i** Note
>
> Transaction `SPDD` is performed during the system conversion whereas all other adaptations take place after the conversion.

4.2 Running Local SAP S/4HANA Checks

To check for ATC findings in the converted system, you need to configure a local ATC run series that checks the requested development objects.

4.2.1 Importing the Simplification Database

To detect custom code which needs to be adapted to SAP S/4HANA, SAP provides tools based on the Simplification Database.

Procedure

Import the Simplification Database. For more information, see Importing the Simplification Database [page 10].

4.2.2 Configuring Local ATC Run Series

Procedure

1. Log on to your converted system.
2. Run transaction **ATC**.

    The *ABAP Test Cockpit Overview* screen appears.
3. In the navigation pane, expand the nodes ▌ *ATC Administration* 〉 *Runs* ▌ and double-click the *Schedule Runs* entry.

    The screen that appears displays a list of existing run series.
4. Choose the *Create* button in the toolbar.
5. Enter a name for the new series and confirm.
6. Specify the following entries for the new run series:

Field	Description
`<Description>`	Enter a short description for the ATC run series you want to configure. **→ Tip** You can use the template provided by the *Description* field. When you execute the run series, the built-in variables are filled with data for the system, the day of the week, the calendar week, and the year. However, you can also add further texts to these variables, rearrange them, or replace the built-in variables with your own text.
`<Check Variant>`	Enter the check variant `S4HANA_READINESS`. **i Note** This check variant provides checks for SAP S/4HANA readiness (for example, searches for DB operations or field length extensions).
`<Objects to Check>`	Specify the set of development objects you want to check. On the *Checkable Namespaces* tab, the option *By Query* lets you specify objects by name (such as by package name), by transport layer, or by component. The option *By Object Set* lets you specify an object set that you have defined in Code Inspector in the Checked System. **→ Tip** You can use the value help to choose the packages or the object set in the remote system. On the *Modified Objects* tab, you can specify the modified source code objects you want to check.

7. Save the configuration.

4.2.3 Scheduling Local ATC Run Series

Procedure

1. In the list of run series, select the run series in question and click the *Schedule* button in the toolbar.
2. In the dialog that appears, choose *Set to Active Result*.

3. Adapt the settings for the *Life Span* of the series and for *Execution* to your needs. Otherwise, leave these settings unchanged.

> i Note
>
> The *Life Span* defines how long (in days) the ATC result is kept in the system. After this, the ATC result is automatically deleted in the system.

4. Choose *Execute in Background* (F9) to schedule the run series in regular time intervals.

> → Recommendation
>
> We recommend that youto schedule the local ATC run series in regular time intervals since new ATC findings could emerge during custom code adaptation.

4.3 Adapting Custom Code in ADT

After a local ATC run series has checked the requested development objects, you can start adapting the custom code by fixing the ATC findings of the ATC run result with ABAP Development Tools (ADT).

4.3.1 Displaying Active Results

Prerequisites

You installed the latest version of ABAP Development Tools (ADT) in Eclipse. In Eclipse, you created an *ABAP Project* which is connected to your converted SAP S/4HANA system. For more information, see the *Help Contents* in ADT.

Procedure

1. In ADT, log on to your converted system.
2. Open the *ATC Result Browser* view and select your converted system.

3. Select the *Active Result* to display the list of ATC findings.

> **i Note**
>
> By default, all ATC findings are filtered by your user name and only ATC findings belonging to your user are displayed. To display the ATC findings of all users, open the context menu of the *ABAP Project* in the *ATC Result Browser* view, choose *Change User Filter*, and enter * as the user name.

4. Choose ▌ *Group By* ❯ *Check* ▌ to display the ATC findings sorted by the different checks of the check variant `S4HANA_READINESS`.

5. Select the check group *S/4HANA: Search for S/4 related syntax errors* and choose *Recheck* in the context menu.

4.3.2 Fixing ATC Findings

Procedure

1. Open the *ATC Problems* view.

   The view shows a *Worklist* of ATC findings resulting from the recheck on the check group *S/4HANA: Search for S/4 related syntax errors*.

2. Select an ATC finding to display further information about what and where the statements with problems are and what you can do to fix the ATC finding.

3. Double-click an ATC finding to jump to the source code at the position where the ATC found a statement with a problem.

4. Fix each ATC finding in the *Worklist* as described in the *Details* view and the assigned SAP Note.

   > **i Note**
   >
   > You can also fix ATC findings by using Quick Fixes. See Applying Quick Fixes [page 24] for more information.

4.3.2.1   Applying Quick Fixes

Quick Fixes enable you to resolve errors and warnings in the ABAP source code using the functions provided in the *Quick Fix* popup.

Procedure

> **i Note**
>
> ATC findings that can be fixed with a Quick Fix are displayed with a lightbulb icon .

1. Select an ATC finding with a lightbulb icon in the *ATC Problems* view.

2. Right-click the ATC finding and choose *Quick Fix* (Ctrl + 1).

The *Quick Fix* view opens.

3. Select the displayed Quick Fix and choose *Finish*.

> → Recommendation
>
> If there is more than one Quick Fix available for an ATC finding, we recommend that you select the first Quick Fix displayed.
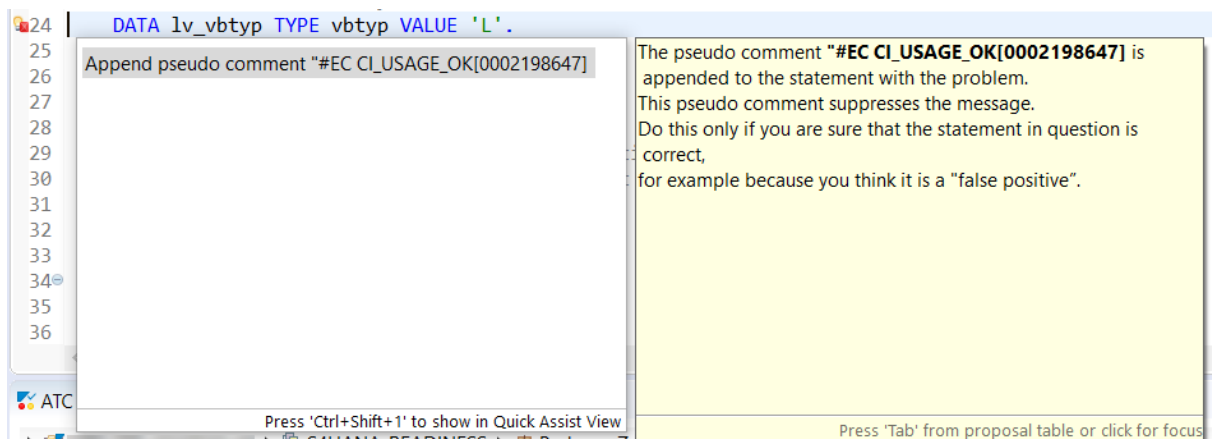
4.3.2.2 Using Pseudo Comments

Pseudo comments are one way of suppressing ATC findings. Sometimes it is the case that certain ATC findings cannot be fixed (so-called *false positives*). In this case and especially in the context of the Custom Code Adaptation to SAP S/4HANA, we recommend that you use pseudo comments to suppress the specific ATC finding.

Procedure

> i Note
>
> If SAP S/4HANA-related pseudo comments are available for an ATC finding, they can easily be applied as a Quick Fix.

Apply the quick fix. For more information, see Applying Quick Fixes [page 24].

The pseudo comment is appended at the end of the code line in question.

4.3.3 Rechecking the Active Result

Once you have fixed the ATC findings of the check group *S/4HANA: Search for S/4 related syntax errors*, you need to recheck the active result and fix all other ATC findings.

Procedure

1. Open the *ATC Result Browser* view.
2. Right-click *Active Result* and choose *Recheck*.
3. Open the *ATC Problems* view.

   The view shows a *Worklist* of ATC findings resulting from the recheck on the active result.
4. Fix the ATC findings in the *Worklist*.
5. Recheck the *Active Result* in *ATC Result Browser* view again to validate that the ATC findings are fixed.

   > **i Note**
   >
   > Repeat the steps 4 and 5 if there are still ATC findings in the *Worklist* after the recheck.

4.4 Rerunning Local SAP S/4HANA Checks

Rerun the local ATC run series once all the ATC findings are fixed, since new ATC findings could have emerged during the adaptation of your custom code.

5   What's Next?

There are a few more things you can do after the Custom Code Migration:

- **Testing applications:** Test your applications to check whether your programs run on SAP S/4HANA.

  > **i Note**
  >
  > ATC is not able to find all potential issues (for example, dynamic coding is not covered by static code checks).

- **Regular ATC checks with S4HANA_READINESS:** Add the SAP S/4HANA checks with check variant S4HANA_READINESS to your regular ATC checks.
- **Runtime Checks:** Switch on the Runtime Check Monitor in the new productive system and correct the additional findings found by the runtime check.
- **Performance optimizations:** Switch on SQL Monitor in the productive system. Sort the SQL Monitor results by *execution time* and optimize the top 10-20 SQLs in your custom code which affect relevant business processes. After performance optimizations reach the productive system, this process needs to be repeated 2-3 times to achieve the best results.
- **Optimizing your code for SAP HANA:** After the successful migration, you can now start to think about optimizing your business processes by using code push down techniques of SAP HANA, like the Core Data Services (CDS) and ABAP-managed database procedures (AMDP) implemented by the native HANA language SQL script.

6   Glossary

The following terms are used within the context of this Custom Code Migration guide:

Term	Definition
ABAP Test Cockpit (ATC)	Tool for performing static and dynamic quality checking of ABAP code and associated repository objects both remotely and locally
ATC Finding	Message with supporting information and functionality that alerts a developer to a problem with ABAP code or some other object in ABAP Repository
Central Check System	SAP NetWeaver AS for ABAP 7.52 system that checks custom code in one or multiple SAP systems remotely
Checked System	System with custom code that gets checked remotely by the Central Check System
Simplification Database	Database table in the SAP S/4HANA system that contains all the Simplification Items referring to SAP objects simplified in SAP S/4HANA

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