Implementation Guide
SAP Fiori Technology
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CUSTOMER

SAP Fiori Implementation Guide

Planning and Installation of SAP Fiori Technology

Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
`EXAMPLE`	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
`Example`	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
`<Example>`	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
`EXAMPLE`	Keys on the keyboard, for example, `F2` or `ENTER`.

Document History

Version	Date	Change
1.0	2017-05-04	Initial version

Contents

1 Explore SAP Fiori Implementation

This document is intended for administrators and developers who plan to implement SAP Fiori in their SAP system landscape.

1.1 Explore SAP Fiori User Experience

User experience (UX) is about meeting the user's needs in the most effective and enjoyable way. The award-winning SAP Fiori proves that SAP understands the meaning of true innovation and how to create a delightful user experience. The SAP Fiori concept and design principles are key components in SAP's design-led development process, which ensures the delivery of UX innovations through all SAP products.

SAP's user experience (UX) strategy provides guidance to our customers and partners. It explains in which direction UI design is heading, how it will be applied to our main products, and the underlying UI technologies and tools.

SAP Fiori is the leading design for all SAP applications. SAP is evolving the SAP Fiori experience to all SAP solutions over time - providing a harmonized user experience across on premise and cloud solutions.

Apps applying SAP Fiori focus on the most critical and common activities and are designed around how people work:

- Role-based: Designed for you, your needs and how you work
- Responsive: Supports how and where you work, at any time
- Simple: Focuses on the important
- Coherent: Provides one fluid, seamless experience
- Delightful: Makes an emotional connection

For more information about SAP Fiori in general, see:

- SAP Fiori product page at http://www.sap.com/fiori
- SAP Fiori UX in SAP Enterprise Architecture Explorer
- Reimagine the SAP user experience with SAP Fiori on the SAP Technology Platform Home Page
- SAP Fiori Product Road Map on SAP Support Portal

1.2 Explore SAP Fiori 2.0

With SAP Fiori 2.0, SAP is taking the next significant step toward evolving user experience for business applications: an award-winning new design concept along with a delightful new visual theme, called Belize. SAP Fiori 2.0 is the user experience for SAP S/4HANA and other solutions.

For more information, see SAP Fiori 2.0 – What you need to know and SAP Fiori 2.0 Administration and Developer Guide.

1.3 Explore the SAP Fiori Implementation Options

You can implement SAP Fiori on premise or cloud-based, both having with different options, as follows.

1.3.1 SAP S/4HANA Cloud

SAP S/4HANA Cloud is available as software-as-a-service. Designed for in-memory computing, SAP S/4HANA Cloud acts as a digital core, connecting your enterprise with people, business networks, the Internet of Things, Big Data, and more.

SAP S/4HANA Cloud implements SAP Fiori. Before use, SAP Fiori UIs must be configuredyou. For more information, see the User Onboarding Guide on SAP S/4HANA Overview, cloud section and SAP S/4HANA Customer Adoption Journey Map.

1.3.2 SAP Fiori Cloud for SAP S/4HANA and SAP Fiori Cloud for SAP Business Suite

SAP Fiori Cloud runs on SAP Cloud Platform, while consuming the business data from on premise systems, such as your existing SAP Business Suite and SAP S/4HANA systems. The business data from the on premise SAP back ends are consumed through a secure channel of SAP HANA cloud connector.

SAP Fiori Cloud is delivered in two editions:

SAP Fiori Cloud demo – provides you the opportunity to explore, extend, and brand SAP Fiori for a selected number of applications across lines of business.

SAP Fiori Cloud – allows customers to run SAP Fiori in the cloud for productive use. It is delivered with a selected number of SAP Fiori apps across lines of business covering the most frequent and common use cases.

For more information, see SAP Fiori Cloud in SAP Enterprise Architecture Explorer and SAP Cloud Platform Documentation.

1.3.3 SAP Cloud Platform SDK for iOS

SAP Cloud Platform SDK for iOS enables new native business apps for customers to fully leverage the rich data in their enterprise systems and reinvent how work gets done on the go. These native apps provide secure access to SAP S/4HANA and other SAP and 3rd party solutions while taking full advantage of features in iPhone and iPad, like Touch ID, location services, and notifications.

1.3.4 SAP Fiori for SAP Business Suite (On Premise)

SAP Fiori apps are available for SAP Business Suite on-premise systems. SAP Fiori for SAP Business Suite typically requires an SAP Fiori front-end server (see Planning the SAP Fiori On- Premise Landscape), the deployment of SAP Fiori apps into the front-end server, and, depending on the SAP Fiori apps, the installation of back-end components.

For more information about the individual requirements and installation information of the SAP Fiori apps, see SAP Fiori apps reference library.

For more information about SAP Fiori apps, delivered as part of SAP Fiori front-end server, see SAP Fiori Apps for SAP NetWeaver. These apps are mainly used in the context of SAP S/4HANA.

1.3.5 SAP Fiori for SAP S/4 HANA (On Premise)

SAP S/4HANA is an in-memory ERP suite that is available in the cloud or on premise. SAP S/4HANA is the digital core of the SAP system landscape, built on SAP HANA.

SAP S/4 HANA uses SAP Fiori apps and the SAP Fiori theme for classic applications.

SAP Fiori for S/4HANA requires an SAP Fiori front-end server (see section Planning the SAP Fiori On- Premise Landscape) and the deployment of SAP Fiori apps into the front-end server. For more information, see UI Technology Guide for SAP S/4HANA and SAP Activate.

1.4 Explore SAP Fiori Apps

SAP Fiori apps are available for various lines of business, industries, and SAP products. They are available for on-premise or cloud deployments and many/several SAP roles. The SAP Fiori apps reference library allows to explore all available SAP Fiori apps and allows to search with specific search criteria for matching SAP Fiori apps.

1.4.1 Explore SAP Fiori Apps with Innovation Discovery

The Innovation Discovery service provides a simplified search for new functionality that is delivered by SAP or will be delivered soon. At a glance, it provides business information and initial technical information. In the “User Experience” section, you can search and filter for SAP Fiori apps. For more information, see the Innovation Discovery documentation.

1.4.2 Explore SAP Fiori Apps with SAP Fiori Apps Reference Library

The SAP Fiori apps reference library is a comprehensive library which enables you to explore, plan, and implement SAP Fiori. Key information includes aggregated installation and configuration information and versioning information per app or for a selection of apps.

The SAP Fiori apps reference library links to related sources, such as app documentation, Product Availability Matrix, and Maintenance Planner.

The SAP Fiori apps reference library comprises various types of apps and applications, which use different technologies and are implemented differently.

1.4.2.1 SAP Fiori Apps

The SAP Fiori apps reference library lists SAP Fiori apps and classic applications using SAP Fiori theme. SAP Fiori apps differ from classic applications, such as Web Dynpro and SAP GUI, in several ways:

SAP Fiori apps follow the SAP Fiori user experience design principles (role-based, adaptive, simple, coherent, and delightful). SAP Fiori apps are platform-independent web apps built with SAPUI5 and run on mobile and desktop devices. They run in the SAP Fiori launchpad using intent-based navigation, the back end connects by using OData services. SAP Fiori apps, which are released for mobile devices, can be consumed by using a mobile browser, using SAP Fiori Client, or as packaged apps using theHCP mobile service for SAP Fiori.

The front-end components of SAP Fiori apps are deployed on SAP Fiori front-end server (SAP FES) and support the principles of enterprise lifecycle management. SAP Fiori apps allow to create modification-free extensions for predefined extensibility use cases. For more information, see Qualities of SAP Fiori apps on SAP Enterprise Architecture Explorer.

1.4.2.2 Classic Applications for SAP Business Suite

The SAP Fiori reference library lists some classic applications that use the well-established Web Dynpro UI technology. Filter by application type “Web Dynpro”. They do not fulfill all of the criteria of SAP Fiori apps.

1.4.2.3 Classic Applications for SAP S/4HANA with SAP Fiori Theme

Classic applications, such as SAP GUI for HTML and Web Dynpro, use the Belize SAP Fiori theme. They are only available for SAP S/4HANA 1610 and higher (this is also planned for SAP GUI for Windows). They do not fulfill all the criteria of SAP Fiori apps. Lower versions than SAP S/4HANA 1610 and non-SAP S/4HANA systems will continue to run with previous themes such as the Corbu default theme. For more information, see SAP GUI for HTML using the Belize theme and SAP Web Dynpro UI Guideline FIORI – Rendering.

Similarly, SAP Screen Personas can be used on top of SAP Fiori-themed UIs (Web Dynpro, SAP GUI) to further simplify and enhance the user experience for customer-specific use cases. SAP Screen Persona UIs also only fulfill some of the criteria for SAP Fiori apps.

SAP Design Studio-based applications are build with SAP BusinessObjects Design Studio. They do not fulfill all the criteria of SAP Fiori apps.

1.4.2.4 Analytical SAP Fiori Apps for SAP Business Suite on SAP HANA

If SAP Business Suite runs on an SAP HANA database, you can also use the “factsheet” (also called “object page”) and “analytical app” (also called “Smart Business") app types. For more information, see the implementation information for SAP Fiori for SAP Business Suite.

For new installations, we recommend using SAP S/4HANA. In SAP S/4HANA, analytical SAP Fiori apps are typically embedded in transactional apps, which means they have the same requirements for implementation.

1.5 Explore SAP API Business Hub

SAP API Business Hub is a central catalog that brings together APIs from different SAP cloud products.

Currently, the SAP API Business Hub is a trial website intended solely for evaluation purposes. The information and services provided on this website should not be relied on for any productive use. To log on to SAP API Business Hub, you need to have a valid SCN user. To register, click here.

For example, the following services are available: SAP Mobile Services APIs, SAP Localization Hub, Tax service APIs, SAP Hybris APIs, and SAP S/4HANA Cloud APIs.

2 Planning SAP Fiori Implementation

2.1 Planning SAP Fiori Implementation on SAP Cloud Platform

For detailed setup and configuration information about SAP Fiori Cloud, see:

- SAP Fiori Cloud for SAP S4HANA - Quick Implementation Guide, (detailed documentation)
- SAP Fiori Cloud for SAP Business Suite - Quick Implementation Guide, (detailed documentation)

2.1.1 SAP Mobile Service for SAP Fiori on SAP Cloud Platform

SAP Mobile Service for SAP Fiori on SAP Cloud Platform provides more than accessing SAP Fiori apps from a Web browser with secure and seamless integration for mobile deployment scenarios. SAP Mobile Service for SAP Fiori is an application service that helps you optimize SAP Fiori for mobile performance with end-to-end solutions for packaging, customizing, securing, connecting, testing, distributing, and monitoring SAP Fiori apps.

- SAP Mobile Service for SAP Fiori enables users to securely access native device functions, receive push notifications, gain fast access to the app and its data locally.
- SAP Mobile Service for SAP Fiori delivers a simple way for administrators to manage, secure, enable, and test SAP Fiori apps and their lifecycle afterdeploying them, allowing for secure and seamless integration with complex SAP Fiori deployment scenarios.
- SAP Mobile Service for SAP Fiori delivers application and data security as well as secure access and authorization.

For more information, see the SAP HANA Cloud Platform, mobile service for SAP Fiori User Guide. For mobile in general, see SAP Cloud Platform Mobile.

2.2 Planning SAP Fiori for SAP S/4HANA Cloud with SAP Activate

SAP Activate is the combination of best practices, methodology, and guided configuration to help customers and partners implement the SAP S/4HANA suite. It is designed for IT and business professionals who are involved in the migration to or configuration, integration, or extension of SAP S/4HANA.

Integrated with SAP S/4HANA, SAP Activate delivers ready-to-run business processes for transactions and analytics. You can access SAP Activate by signing up for a free trial of SAP S/4HANA, available here.

SAP Activate best practices is available separately from SAP S/4HANA on SAP Best Practices for user experience in SAP S/4HANA.

The assisted implementation utility of SAP Activate – often referred to as guided configuration – is an integral part of the SAP S/4HANA product and is provided through the "Manage Your Solution" SAP Fiori app. For an overview of guided configuration, see SAP blog SAP S/4HANA – How to "Manage Your Solution" with SAP Activate.

2.3 Planning the SAP Fiori On-Premise Landscape

2.3.1 System Landscape Components for SAP Fiori (On Premise)

A typical SAP Fiori implementation contains the following system landscape components.

Front-End Server

To host and provide SAP Fiori app content to the client, you need to install and configure several UI components for your front-end server. SAP Gateway software is also required.

Back-End Server

The back-end server hosts the SAP business applications for which the SAP Fiori apps have been created. To access the corresponding business logic and business data (including users, roles, and authorizations), services for SAP Fiori apps must be deployed.

Database

For SAP Fiori apps in SAP S/4HANA, the front-end server requires an SAP database, the back end requires SAP HANA. Other SAP Fiori apps typically can use any database on the front-end server.

Client Device

SAP Fiori apps and the SAP Fiori launchpad run on various smartphones, tablets, laptops, or desktop computers that support HTML5 browsers. SAP Fiori Client is the recommended hybrid application runtime on mobile devices.

Reverse Proxy Server

For communication between client devices and your front-end server, we recommend installing a reverse proxy server, for example, SAP Web Dispatcher. Due to standard browser limitations, using a reverse proxy server is mandatory for some SAP Fiori apps.

2.3.2 Planning SAP Fiori Implementation with SAP Best Practices

With SAP Best Practices (also known as SAP Rapid Deployment Solutions, SAP RDS), SAP delivers standardized business practices, implementation methods, and accelerators for implementing SAP Fiori.

SAP provides this content free of charge as an added value for licensed customers, with the aim of driving down implementation costs, accelerating deployment, and adding benefit to their investment in SAP products.

The packaged solutions are published in SAP Best Practices Explorer with assets covering solution design, configuration, and software and delivery requirements. Note: To be able to download, you need an account for SAP Service Marketplace.

The SAP Fiori apps rapid-deployment solution offers overview and implementation information for different types of SAP Fiori apps and technology components of the SAP Fiori landscape. For more information, see "User Experience" in SAP Best Practices Explorer and the "Accelerator" Software and delivery requirements, which lists all prerequisites that are needed for deployment to start, including those for the system, content, tools, and project.

2.3.3 Planning an Installation or Update with SAP Maintenance Planner

SAP Solution Manager's cloud-based Maintenance Planner enables easy and efficient planning of all changes in your SAP system landscape. It is the successor of Maintenance Optimizer, Landscape Planner, and Landscape Management Database (LMDB) Product System Editor. It combines their functionalities and is mandatory for planning SAP S/4HANA and systems based on SAP NetWeaver 7.5 and higher. Maintenance Planner consolidates critical tasks such as definition of product maintenance dependencies, generation of a stack configuration file, and selection of archives in a single tool.

With Maintenance Planner, you can:

- Get an overview of the system landscape, including system dependencies, before planning a change.
- Determine the impact of a system change on your landscape, with features like product maintenance dependency.
- Download the stack XML that contains all the planned changes, and put the required files in a download basket.
- Use integrated processes for installing SAP Fiori apps and conversion to SAP S/4HANA.

For more information, see Maintenance Planner on SAP Support Portal.

2.3.3.1 Planning with SAP Fiori Apps Reference Library and Maintenance Planner

SAP Maintenance Planner is integrated with the SAP Fiori apps reference library. In the reference library, select SAP Fiori apps to view product features and implementation details. Switching on the aggregate mode will let you install multiple SAP Fiori apps with a single transaction. Click Aggregate to view the aggregated installation and configuration requirements.

Use the *Prepare Apps for planning with Maintenance Planner* button to group SAP Fiori apps that you want to install together on the same back-end system.

Once apps are grouped, navigate to Maintenance Planner directly from the implementation details tab page. In this scenario, all the selected apps can be installed in a single instance of Maintenance Planner, that is, on a single back-end system.

For more information about planning and installing SAP Fiori apps with Maintenance Planner, see SAP blog Simplified Installation of SAP Fiori Apps with Maintenance Planner.

2.3.3.2 Planning with Maintenance Planner Directly

The overall process of planning an installation or update is the following:

1. In Maintenance Planner, select an existing system (embedded deployment) or plan the installation of a new system (hub deployment).
2. Optional: Upload system data to the customer profile through SLD/LMDB to calculate further add-on installations, updates, upgrades, or conversion of existing systems.
3. Choose the target product version and the support package stack for each involved system.
4. Generate and download the consolidated stack.xml and archives (download basket) for the front-end server, optional together with the Software Logistics Toolset.
   SL Toolset contains Software Provisioning Manager (SWPM) and Software Update Manager (SUM).
5. Use the stack.xml for installation with SWPM or, for updates and add-on installations, (such as SAP Fiori front-end server on top of an existing AS ABAP) SUM.

To access Maintenance Planner directly, click here.

2.3.4 Landscape Planning for SAP Fiori Front-End Server (On Premise)

SAP Fiori front-end server is an add-on product for SAP NetWeaver Application Server (AS) ABAP and delivers the technology front-end software components required to run SAP Fiori appls with the required stack definition.

SAP Fiori front-end server allows various deployment options. In general, you have the following options to set up SAP Fiori front-end server to deploy the front-end server into an (existing) SAP landscape:

- Hub deployment: A dedicated AS ABAP-based front-end server is deployed "in front of" the SAP Business Suite or SAP S/4HANA back-end system. It decouples the front-end server life cycle from the back-end life cycle. This allows faster iterations for the UI, and thus, changes to the UI are possible without having development authorizations in the back end. Hub deployment is the single point of maintenance for UI issues, such as browser support and updated versions of SAPUI5 libraries and a central place for theming and branding SAP Fiori apps.
- Embedded deployment: The front-end server is deployed into the (existing) AS ABAP of an SAP Business Suite or SAP S/4HANA back-end system.

Each option has both advantages and drawbacks. It is therefore up to the customers to decide which deployment option for SAP Fiori front-end server suits best their IT and business needs.

In general, hub deployment is the recommended option, especially in multiple back-end scenarios.

For more information, including mobile and multiple back-end scenarios, see Landscape Deployment Recommendations for SAP Fiori Front-End Server and the SAP Gateway deployment options in a nutshell blog.

2.3.5 Planning SAP Fiori Front-End Server

SAP Fiori front-end server runs on SAP NetWeaver AS for ABAP and delivers the front-end components required to run SAP Fiori apps in the right stack definition. These components are:

- SAP NetWeaver Application Server ABAP – alternative versions as prerequisite

- User Interface Technology – including the SAPUI5 library and SAP Fiori launchpad
- SAP Gateway Foundation – for communication between front end and back end
- Optional: SAP Fiori app implementation foundation (SAPUIFT) – administrative tools for configuration tasks
- Optional: UI for Basis Applications – "SAP Fiori Apps for SAP NetWeaver on HANA"

The complete stack constitutes a "front -end server". For more information, see SAP Fiori implementation information.

SAP Fiori apps are delivered separately as Add-on products for SAP Business Suite or SAP S/4HANA (on premise). Front-end parts must be installed on top of the front-end server.

The SAP Fiori front-end server version defines the version of User Interface Technology (SAP UI):

- SAP Fiori front-end server 2.0 always contains SAP UI 7.50.
- SAP Fiori front-end server 3.0 always contains SAP UI 7.51.

The SAP Gateway Foundation version is always the same version as the underlying SAP NetWeaver AS ABAP. Typically the different Gateway Foundation component versions are interoperable, as long as they have the same equivalent SP.

For each SAP Fiori front-end server version, you can choose among several AS ABAP versions:

- SAP Fiori front-end server 2.0 allows AS ABAP 7.31, 7.40 and 7.50.
- SAP Fiori front-end server 3.0 allows AS ABAP 7.40, 7.50 and 7.51.

This is necessary to update older SAP NetWeaver AS ABAP versions with newer versions of SAP UI, without updating the underlying SAP NetWeaver AS ABAP. This is mainly helpful during maintenance and in the embedded deployment scenario.

However, lower SAP NetWeaver AS ABAP and SAP Gateway Foundation versions may not provide the full functionality of the latest version for SAP Fiori (see release notes of SAP Gateway Foundation versions).

Recommendation

Typically, for a new hub deployment,we recommend using the latest AS ABAP version.

The optional "UI for Basis Applications" component, named "SAP Fiori Apps for SAP NetWeaver" is the SAP Fiori front-end component for the back-end server AS ABAP. It is released for AS ABAP on SAP HANA database only, and is available from AS ABAP 7.50 (back-end version) and higher. It is not backward-compatible, which means that for each AS ABAP version there is a corresponding front-end version.

Note

Early SAP Fiori app versions allow the use of the user interface add-on for SAP NetWeaver, based on SAP NetWeaver AS ABAP 7.31. The UI add-on is available in version 1.0 and 2.0. A higher version of UI add-on is not planned. User interface add-on 1.0 can be upgraded to SAP Fiori front-end server 2.0, user interface add-on 2.0 can be migrated to SAP FES 2.0.

For SAP NetWeaver AS ABAP 7.40and higher, the AS ABAP includes the UI add-on components. Some of the older SAP Fiori apps allow the usage of SAP NetWeaver AS ABAP 7.40 without SAP FES 2.0 as a prerequisite. SAP NetWeaver AS ABAP can be migrated to SAP Fiori front-end server 2.0 or upgraded to SAP Fiori front-end server 3.0.

Recommendation

We recommend replacing such setups with SAP Fiori front-end server.

2.3.6 Optional: SAP Web Dispatcher

You may also consider to install SAP Web Dispatcher as a reverse proxy or load balancer in front of SAP Fiori front-end server.

2.3.7 Optional: SAP Enterprise Portal with SAP Fiori Front-End Server (On Premise)

SAP Enterprise Portal can be deployed in a system landscape as a central hub integrated with a central SAP Fiori front-end server:

- SAP Enterprise Portal is adopted as independent application to integrate SAP Fiori content and portal content of SAP Business Suite, and to provide end-user access for SAP and non-SAP back-end applications (one stop shop for SAP Fiori and portal content).
- SAP Enterprise Portal is centrally deployed as a separate system.
- SAP Fiori launchpad is deployed in the SAP Enterprise Portal system (FLP on EP).

For more information, see SAP Enterprise Architecture Explorer - SAP EP as central hub with central Fiori FES.

2.3.8 Optional: SAP Business Client 6.0 and SAP Fiori Front-End Server (On Premise)

With SAP Business Client 6.0 you can launch SAP GUI for Windows transactions directly from the SAP Fiori launchpad. SAP Business Client offers an integration of the SAP Fiori launchpad to allow a unified SAP Fiori user experience:

- SAP Fiori launchpad as start page, connecting directly to the ABAP front-end server
- Launch SAP GUI transactions using embedded SAP GUI for Windows
- Business role configuration purely SAP Fiori launchpad-based

For more information, see SAP Business Client for Desktop - SAP BC.

2.3.9 Optional: SAP Mobile Platform and SAP Fiori Front-End Server (On Premise)

SAP Mobile Platform (on premise) allows to rapidly deliver secure, highly scalable consumer and business apps to any iOS, Android, or Windows device.

Enterprise requirements addressed by SAP Mobile Platform include:

- Enterprise authentication (single- or multi-factor), single sign-on, network edge security, SSL, reverse proxy, remote access
- User/device registration, onboarding
- Application lifecycle management

- Horizontal scalability, high availability, usage statistics
- Administrator client application policies, including access to device features (camera, geolocation, etc.)
- Offline enablement for SAP Fiori packaged apps

For more information, see SAP Fiori Implementation Information, *Integration of SAP Mobile Platform into SAP Fiori Landscape* section.

2.4 Planning SAP Fiori App Implementation

After you have successfully installed and completed all configuration steps for SAP Fiori Ffront-end server, you install SAP Fiori apps on top of the front-end server, and, depending on the app, on the back-end server.

The procedure is:

1. Access the SAP Fiori apps reference library. It provides implementation information for each app: http://www.sap.com/fiori-apps-library
2. Select an SAP Fiori app.
3. Go to the *Implementation Information* tab for the SAP Fiori app.
4. Check *Important SAP Notes*, which contain prerequisites for the installation.
5. *Installation* contains the necessary front-end and back-end components.
6. *Configuration* contains the necessary configuration information for the SAP Fiori app, like the application URL, OData service, and SAP Fiori launchpad configuration information.
7. *Extensibility* contains the extension points for SAPUI5 views and controllers and back-end OData Business Add-Ins, following the extension concept for SAP Fiori apps.
8. *Support* contains the application component for creating support tickets in the right context.

2.5 Additional Planning Information for SAP Fiori Implementation

2.5.1 Product Availability Matrix (PAM)

The Product Availability Matrix (PAM) is the single point of release information for SAP Fiori front-end server and its contained components, such as end-of-maintenance dates, upgrade paths, landscapes, related product versions and technical release information (e.g., operating systems).

For the supported browsers, the exact SAPUI5 library version is relevant. SAPUI5 library is contained in the User Interface Technology software component, which is part of SAP NetWeaver AS ABAP. For information for SAP UI 7.51, for example, see PAM of SAP NetWeaver AS ABAP 7.51 under Essential Information.

2.5.2 Sizing

System and software requirements vary per specific customer scenario – for details, see the SAP Fiori Sizing Guide (http://service.sap.com/sizing ‡ *Sizing Guidelines* ‡ *Others* ‡ *SAP Fiori Frontend Server Sizing for SAP S/4HANA*).

Use Quick Sizer to get information, guidelines, and tools for sizing your front-end server. Quick Sizer calculates CPU, disk, memory, and I/O resource categories based on throughput numbers and the number of users working with the different SAP solutions in a hardware- and database-independent format.

2.5.3 Custom Themes for SAP Fiori

SAP Fiori supports to create and use different visual designs - called themes - that can be used alternatively to the SAP-delivered themes.

The UI theme designer allows you to create custom themes based on SAP-delivered theme templates. You can create a custom theme with your color scheme or with your company's logo to build your corporate identity. For more information, see the UI theme designer documentation and UI theme designer on SAP Community.

2.6 Adapting the User Interface at Runtime

With UI adaptation at runtime (RTA), you can change the user interface of SAP Fiori apps directly in the SAP Fiori launchpad, intuitively and without having to write new code. Adaption of SAP Fiori apps at runtime is modification-free, for example, by adding, removing, or moving fields and groups. Fields can only be added if they have been made available for this app. If you need additional fields, you must extend the SAP Fiori app first.

RTA comes with a built-in safety net. It informs you whenever you're about to do something that's worth double-checking, for example, removing mandatory fields from the UI. You can also undo your changes and even discard them all and reset the UI to the default app.

RTA is only available in SAP Fiori launchpad. The SAP Fiori app must be enabled for RTA, users must have authorization role SAP_UI_FLEX_KEY_USER, ICF service /sap/bc/ui2/flp must be activated, and FioriLaunchpad.html page must be used.

In the UI adaptation mode, you can only change UI elements that are highlighted when you hover over them or that you can select.

2.7 Planning Extensions for SAP Fiori Apps

The SAP Fiori extensibility concept allows to enhance SAP Fiori apps modification-free – both on premise and in the cloud edition. The SAP Fiori apps extension model does not support upgrade adjustments of modified objects (e.g., known from SAP GUI and SPAU).

You can extend an existing SAP Fiori application that resides in the SAPUI5 ABAP repository (on premise) or on SAP Cloud Platform without importing it to SAP Web IDE or you can create new extensions in SAPUI5 applications.

You can create modification-free extensions to:

- Replace an existing view with a new view in an existing project.
- Add logic to an existing view using an extension point that is defined in the original project.
- Change control visibility.
- Extend an existing controller with new logic.
- Implement a UI controller hook with new logic.
- Customize the strings of the original application.
- Replace the OData service of the original application.

At the end of all the steps to create a custom application that extends an SAP-delivered standard application, the SAP Fiori end user gets to see a custom tile on the SAP Fiori launchpad.

For more information, see Extend and develop SAP Fiori apps (SAP Best Practices) and *SAP Fiori: Extensibility* in SAP Fiori Implementation Information.

3 Installing SAP Fiori Technology (On Premise)

To run SAP Fiori apps, you need to set up an SAP Fiori system landscape. SAP Fiori apps require front-end components to host the web-based user interface and the connection to the back end and back-end components to provide the business data.

In an on-premise scenario, the front-end components typically run on SAP Fiori front-end server, based on an SAP NetWeaver Application Server ABAP. After the installation, configuration of the SAP Fiori front-end server is required.

3.1 SAP Fiori Front-End Server

SAP Fiori front-end server delivers the front-end components required to run SAP Fiori apps in the right stack definition. For general information for implementing and configuring SAP Fiori front-end server, see SAP Fiori Implementation Information, SAP Fiori apps rapid-deployment solution and the SAP Fiori front-end server SAP Community.

3.1.1 SAP Fiori Front-End Server 2.0

SAP Fiori front-end server 2.0 is available for three SAP NetWeaver Application Server ABAP versions: AS ABAP 7.50, AS ABAP 7.40, or AS ABAP 7.31. The instance for AS ABAP 7.31 is not recommended if higher versions of AS ABAP are feasible. SAP Fiori front-end server 2.0 contains:

- Software component version USER INTERFACE TECHNOLOGY 7.50 (or UI Add-on 2.0 for SAP NetWeaver 7.31)
- Software component version SAP NW GATEWAY FOUNDATION 7.40 or 7.50 (depending on AS ABAP) or SAP Gateway 2.0 for instance SAP NetWeaver 7.31
- SAP Fiori app implementation foundation (software component version SAPUIFT 100)
- Software component version UI FOR BASIS APPLICATIONS 100 (UI only for AS ABAP 7.50)

For more information about SAP Fiori front-end server 2.0, see SAP Note 2219596.

3.1.2 SAP Fiori Front-End Server 3.0

SAP Fiori front-end server 3.0 is available for three different SAP NetWeaver Application Server ABAP versions: AS ABAP 7.51, AS ABAP 7.50, or AS ABAP 7.40. It contains:

- Always software component version USER INTERFACE TECHNOLOGY 7.51
- Software component version SAP NW GATEWAY FOUNDATION 7.40, 7.50, or 7.51 (depending on AS ABAP)

- SAP Fiori app implementation foundation (software component version SAPUIFT 100)
- Software component version UI FOR BASIS APPLICATIONS 200 (UI only for AS ABAP 7.51)

For more information about SAP Fiori front-end server 3.0, see SAP Note 2355644.

For more information for AS ABAP version 7.51, see the following documentation: SAPUI5, SAP Fiori Launchpad, SAP Gateway Foundation (SAP_GWFND), and SAP Fiori Apps for SAP NetWeaver.

> **Note**
>
> SAP Fiori front-end server 3.0 provides the technology for SAP Fiori 2.0. SAP Fiori 2.0 includes a new visual theme called Belize.

3.2 Install or Update SAP Fiori Front-End Server

For installing or updating SAP Fiori front-end server you need to download the Software Logistics Toolset (SL Toolset) first. Installation requires the Software Provisioning Manager of SL Toolset.

For more information about installation in general, see http://service.sap.com/instguides and the SAP NetWeaver Guide Finder. For more information about SAP NetWeaver AS ABAP, see http://help.sap.com/nw_platform.

3.2.1 Software Logistics Toolset (SL Toolset)

The SL Toolset (https://support.sap.com/sltoolset) contains the Software Provisioning Manager (SWPM) for installing a new AS ABAP and Software Update Manager (SUM) for installing the SAP Fiori front-end server add-on, or updating an existing SAP Fiori front-end server system.

We recommend that you always download the latest versions of the SL tools with the latest available SPS, as they contain the latest corrections and are updated regularly. Please note that you can only download the SL tools, but not the SL Toolset as such.

3.2.2 Installation with Software Provisioning Manager and Installation Guides

Software Provisioning Manager 1.0 is the successor of the product- and release-specific delivery of provisioning tools. It provides the latest SAPinst version with software provisioning services for several products and releases for all platforms.

Software Provisioning Manager covers the use cases system installation, system copy, migration, and renaming and is thus the tool for installing the required AS ABAP for SAP Fiori front-end server.

For the installation guides for the different AS ABAP databases and operating system platforms, see https://support.sap.com/sltoolset ‡ *System Provisioning* ‡ *Installation Option*.

3.2.3 Add-On Installation with Software Update Manager and Guides

The Software Update Manager is a multi-purpose tool that supports various processes, such as performing a release upgrade, installing enhancement packages, applying support package stacks, installing add-ons such as SAP Fiori front-end server, or updating single components.

Overview on SUM procedure:

1. Plan your maintenance activity (Maintenance Planner).
2. Download the SUM and the documentation from http://support.sap.com/sltoolset.
3. Extract the archive to a folder on the primary application server (central instance) of your SAP system.
4. Update SAP Host Agent to the latest patch level and configure SAP Host Agent (see guide).
5. Connect from your local PC via browser.
6. Configure the SUM, especially point to the stack.xml as a result of the Maintenance Planner activities.
7. Execute the maintenance on your system.

   Note

   Before the upgrade, installation of additional SAP Notes listed in the CHECKS.LOG file might be required.

Documentation about installing SAP Fiori front-end server as add-on to an existing AS ABAP or updating or upgrading SAP Fiori front-end server is available in the Software Update Manager Guide: https://support.sap.com/sltoolset ‡ *System Maintenance* ‡ *Software Update Manager (SUM) 1.0*.

3.2.4 SAP Add-On Installation Tool (SAINT)

SAP Add-On Installation Tool (transaction SAINT) is the previous add-on installation process for AS ABAP. It does not support stack.xml definition and dependencies. Technically, it is possible to import add-ons such as SAP Fiori front-end server with SAP Add-On Installation Tool (transaction SAINT), however it is not recommended without deep knowledge about the dependencies of the front-end server components.

For more information, see http://help.sap.com/spmanager ‡ *SAP Add-On Installation Tool*.

3.2.5 Optional: SAP Web Dispatcher

You may also consider to install SAP Web Dispatcher as a reverse proxy or load balancer in front of SAP Fiori front-end server. For more information about SAP Web Dispatcher installation, see SAP Note 908097.

3.3 Additional Implementation Information

For information about products that run on SAP Fiori front-end server, see www.sap.com/fiori and SAP Fiori apps reference library.

3.4 Administration and Configuration

Before installing individual apps in your SAP Fiori system landscape, the AS ABAP and the components of SAP Fiori front-end server must be configured. Which tasks are relevant depends on your system landscape and the app types that you want to implement. For more information, see SAP Fiori Implementation Information ‡ *Configuration* and SAP Fiori apps rapid-deployment solution in SAP Best Practices Explorer.

3.5 Maintain and Update SAP Fiori Implementation

For information about update and upgrade of SAPUI5, SAP UI, SAP NetWeaver AS ABAP in SAP Fiori front-end server, see SAP Note 2217489.

4 Appendix

4.1 UI Theme Designer - Theming of SAP Fiori Applications

The UI theme designer is SAP's browser-based tool for cross-theming scenarios. For example, you can change the color scheme, or add your company's logo. For more information, see UI Theme Designer in SAP Enterprise Architecture Explorer.

4.2 Design Fiori Applications with SAP Cloud Platform Build

SAP Cloud Platform Build allows you to collaboratively develop prototypes with your project team, engage end users for feedback, or jumpstart your designs with one of many prototype examples from the gallery – all while learning the design process.

For more information, see Create Enterprise Apps Your Users Love with SAP Cloud Platform Build.

5 Appendix: Important Disclaimers and Legal Information

Coding Samples

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

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