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Feature Scope Description SAP Mobile Services (Cloud Foundry)

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Content

1 Feature Scope (Cloud Foundry)

Summarizes the core features included for SAP Mobile Services running in a Cloud Foundry landscape.

Mobile Services supports development for multiple app types, namely: native apps, hybrid apps, and web apps. Define, manage, and monitor your apps through their entire life cycles.

App Catalog

Manage your apps during development, which allows you to easily test-drive apps with test users. Use over-the-air (OTA) distribution to bring new releases to testers, and when you're done with quality assurance, push releases to your enterprise mobility management (EMM) solution to bring them to your end users.

App Catalog Features

Feature	Description
Manage app versions	Manage Android and iOS apps and versions from various sources.
OTA downloads	Generate download links and QR-codes that can be sent to testers.
Cloud Build integration	Publish custom clients and apps built with Cloud Build.
External build tool integration	Use Service Keys to integrate external build tooling.
Upload apps	Manually upload apps from other sources.
Push to EMM	Upload apps from your app catalog to EMM for end user distribution.

Application Update

Manage each application through all phases of its life cycle.

Application Update Features

Feature	Description
Kapsel-based apps support	Manage and roll out updates for Kapsel-based applications.
Mobile Development Kit-based apps support	Manage and roll out updates for apps built with Mobile Development Kit.
Staging support	Developers can upload new versions but restrict distribution to a predefined list of test users, before publishing to production.

Feature	Description
Lifecycle events	Various events are exposed to the app developer to control the behavior of the app. This allows a developer to let the user delay an update or force an update of the app, for example.
Manual upload of app versions	Developers can manually upload new versions of their app using Mobile Services cockpit and APIs.
Command-line support	Various command-line tools help to automate app lifecycle management.
Exposed RESTful API	RESTful API for custom automation of app lifecycle management.

Application Links

Seamlessly deep link from web pages to app content, which eases the transition from easily accessible web content to truly native experiences.

Application Links Features

Feature	Description
Configure Universal Links	Enable Universal Links for your iOS apps by providing your team and bundle ID.
Configure app links	Enable app links for your Android apps by providing your association file.

Back-end Connectivity

Enable mobile apps to connect securely with data and systems through back-end connectivity, and to manage service versions, control system load, and protect data.

Back-end Connectivity Features

Feature	Description
Manage destinations	Securely connect your apps to business data via HTTP(S).
Authentication	Authenticate back-end access by means of Basic (including SCIM), App-to-App SSO, Forward Authentication, Cloud Connector SSO, OAuth2 SAML Bearer Assertion or Client Certificates.
Virus scanning	Scan incoming and outgoing traffic for harmful code and data.
URL rewriting	Automatically rewrite URLs, such as OData entity URIs or relative URLs used by apps.

Feature	Description
Control system load	Define limits for request size, concurrent connections, time-outs and requests-per-second that your back end should handle.
User name propagation	Additionally propagate the user name to back ends by means of headers.
Add custom headers to requests	Add additional headers to requests through Mobile Services, such as SAP Business Accelerator Hub API keys.
Optimized for OData	Auto-generate code in SAP BTP SDK for Android and iOS.
Add annotations to services	Add additional metadata to your OData, for example, to enable tools to automatically generate UIs.
Test destinations	Check service availability and browse OData back ends from the Mobile Services cockpit.

Client Resources

Enables mobile apps to offer on-device access to important business systems, and to attachments and other binaries across multiple mobile devices. Use this feature to provide your users with static content, machine learning models trained in the cloud, and themes for apps built with the Mobile Development Kit.

Client Resources Features

Feature	Description
Manage bundles	Upload and version, download or view files and file archives in the Mobile Services cockpit.
Distribute bundles	Download and apply bundles and new bundle versions to your apps using our SDKs.

Cloud Build

Provides the means to easily build clients using the latest SAP SDKs in the cloud, without having to install any developer tooling. This way, everyone can easily tweak app names and assets without the associated cost of maintaining code bases.

Cloud Build Features

Feature	Description
Build custom clients	Generate and build up-to-date Asset Manager, Mobile Cards, Mobile Development Kit Client and Customized Mobile Development Kit Clients with custom branding and settings.
Over-the-air app distribution	Use and share generated links and QR codes to install built apps on test devices.

Feature	Description
Manage signing profiles	Generate or upload Android and iOS signing profiles for distribution signing.
Purge old artifacts	Automatically remove old build logs and binaries that are no longer required.
Package hybrid apps	Package UI5 app assets from SAP Web IDE into Cordova containers for offline enablement.

Discovery Service

Enables you to use what users know or can access more easily, such as their email domain or an onboarding code, to connect to the right system landscape when first using the app, without requiring custom code lines per environment.

Discovery Service Features

Feature	Description
Claim domains for onboarding	Use the Mobile Services cockpit to claim your domain for onboarding.
Generate onboarding codes	Generate onboarding codes for your users.
Publish app configurations	Enable individual applications for runtime discovery.
Configure custom discovery	Customize configuration returned to apps by Discovery Service.

Feature Restrictions

Use Feature Restriction policies to ship early features without having to immediately enable them, to enable specific sets of features per landscape or customer, or simply to turn off certain features in apps using SAP SDKs.

Feature Restrictions Features

Feature	Description
Restrict features in Kapsel-based apps	Disable camera, bar code scanner, contacts, file, location, calendar, printer or push in your apps.
Manage feature flags	Create custom feature flags and use them to control arbitrary features in your apps.

Fiori

Equips designers and developers with a set of tools and guidelines to create apps for any platform, providing a consistent, innovative experience for both creators and users. The SAP Fiori for Android and iOS design languages take the strengths of the Fiori user interface and the mobile operating systems to quickly deliver enterprise applications. Additionally, apps built with the Mobile Development Kit come with native Fiori controls by default, without any additional effort required.

Fiori Features

Feature	Description
Design consistent user experiences	Use stencils to sketch Fiori user interfaces.
Explore and configure Fiori controls	Use the Fiori Mentor app to tweak Fiori control settings, side-by-side with the code your app needs.
Implement native Fiori for your app	Use the SAP BTP SDK for Android or iOS to add native Fiori controls to your apps.
Out-of-the-box native Fiori with Mobile Development Kit	Apps built with the Mobile Development kit use native Fiori controls by default.

Logging

Enables you to gain insights into live apps that are rolled out to a large number of users. Use our SDKs to gather logs on client devices, to add contextual information and to automatically or manually upload them to Mobile Services for further inspection. Leverage the Mobile Services cockpit to gain an integrated insight into your user base, regardless of the platform on which the issue originally occurred, and to access raw log data for further analysis in dedicated tools.

Logging Features

Feature	Description
Gather client logs	The SAP BTP SDK and Mobile Development Kit by default log certain actions, which can be made visible by means of configuration. In addition, they allow you to log custom messages on different levels of severity. Both standard SDK and custom logs can be uploaded to Mobile Services for remote inspection and analysis.
Gather server logs	Mobile Services has a wide range of logging options that can be configured on the component level. Use the web interface to set log levels per component.
View technical and event logs	Both uploaded client and server-side logs can be inspected in a dedicated web interface that offers an array of filters to bring order to the variety of logs gathered. In addition, event logs are provided, which aggregate complex business operations that would otherwise result in an abundance of separate service calls and hence technical log entries.
Download gathered logs	For further analysis with specialized tools, Mobile Services lets you download arbitrary subsets of gathered logs to your computer.

Feature	Description
Archive logs	In order to focus on recent events, Mobile Services automatically archives logs that exceed a certain threshold. Use the dedicated log settings to configure what kind of logs should be archived, and when.
Auditing	Traceability of changes in an enterprise world is key, which is why Mobile Services by default tracks changes to all settings and exposes an activity log that can be filtered in a number of ways. An export option is available for further processing.

Offline

Design applications to run in offline-mode, enabling users to download business information and data periodically when network connections are available, and make changes when connections are not available. When offline, switch to the local data source, which is kept current via OData synchronization features and open standards.

Offline Features

Feature	Description
CRUD	OData offline supports full create, read, update and delete (CRUD) operations while the user is offline.
View offline configuration settings	View offline configuration settings in the Mobile Services cockpit.
View usage statistics for offline OData applications	Administrators can view request and response-time usage statistics for offline OData applications in the Mobile Services cockpit. Statistics are gathered for offline data store operations such as build, refresh (download) and flush (upload).
Offline data security	The local data storage used for offline access is encrypted on the device. When the Offline Store Upload API is implemented, users can securely upload local database files to the server.
OData v2 data sources	Offline OData supports access to OData services following the v2 specifications, with additional v4 metadata annotations.
OData v4 lambda operator	Offline store supports OData v4 lambda operators any and all.
Conflict detection	The use of ETags allows conflict detection, enabling developers to notice data modifications on the same entity and react accordingly in their app.

Feature	Description
Handling of failed requests	Allows developers to write robust apps that can recover from business logic errors that happened while offline.
Media resources	OData Offline supports handling of media resources provided by the back-end service.
Repeatable requests	To ensure data consistency, we support the prevention of repeatable requests in Offline OData.
Upload of local store	For root cause analysis, developers can extend their apps to upload the local data store to Mobile Services.
CLI tools	Local tooling for troubleshooting offline scenarios.
Event Log	Local-only entity set to view the log of past system offline system events.
Progress API	Enables developers to inform users about ongoing data synchronization.
Request Queue Optimization	Built-in heuristics that reduce the number of requests that get sent to the back end.
Transaction Builder	Allows grouping of CUD operations into transactions (OData change sets).
Undo changes	Undo local modifications of entities before uploading to the back end.
Complex objects graphs	Allows the local creation of complex entity relations while being offline.

Onboarding

Provides a smooth user onboarding process that enables users to become effective using your software without any external effort. Mobile Services and its associated tools provide several means to achieve efficient onboarding, which includes making it easier for users to find your apps, to help them connect to the right systems, and to understand how to use them.

Onboarding Features

Feature	Description
Fiori everywhere	Make it easier for users to understand your app by implementing common Fiori patterns.
Consistent onboarding experience	Use Fiori Flows for a native Fiori onboarding experience across apps.

Feature	Description
Manage terms and consent	Use Fiori Flows to communicate usage terms and to ask for user consent.
Auto-configure apps	Use Discovery Service to enable apps to auto-configure themselves.
Seamless transition between web and mobile	Use application links to guide users from web pages to native experiences.

Push

Proactively notify your mobile users of important events using a variety of scenarios. The primary advantage of the Mobile Services implementation of push is that mobile solution developers do not need to implement specific code for APNS (Apple Push Notification Services) or FCM (Firebase Cloud Messaging). Instead, Mobile Services exposes a consistent API to the event source (back end). Mobile Services also provides predefined push configurations to allow SAP-delivered applications, available via public app stores, to deliver notifications (for example, SAP CoPilot). The back-end-facing API of the push feature offers different ways to reach segments of your user base and abstract from native push providers, and exposes various platform-specific features as well.

Push Features

Feature	Description
Push Notification	For mobile applications, the platform manages the certificates, tokens, and push notifications for individual applications. When changes occur, the back end can send push notifications to mobile applications on devices that are push-enabled.
Push Desk Notification	Administrators can send push notifications to all users of a push-enabled application from the Mobile Services cockpit. You can check all registered users and devices and select an individual user to whom to send a push message. This functionality is mostly used to test the end-to-end setup and configuration of the push functionality.
Predefined Push Configuration	You can enable or disable preconfigured push settings for SAP-delivered applications. When enabled, the default push configuration that comes with the Apple App Store and Google Play version of the app is used. When disabled, you can configure push settings manually.
Push Statistics	Provides statistics about push notifications being sent out to mobile apps.
Capabilities-based Push Support	This feature adds an abstraction layer to identify different recipient apps on the user's device. It basically holds information about which app to notify about a certain event.

Security

Enables you to provides secure propagation of mobile users' identities to back-end systems. Supports a range of popular application authentication protocols and maps them to back-end systems. Additionally, Mobile Services and its related tools provide a variety of means to secure data at rest and in motion.

Security Features

Feature	Description
Authenticate users	Authenticate using popular protocols such as OAuth, SAML or Basic authentication.
Propagate user identities	Forward user authentication by means of Basic, Application-to-Application SSO, Forward Authentication, Cloud Connector SSO or OAuth2 SAML Bearer Assertion.
Virus Scanning	Scan inbound and outbound traffic for harmful code and data.
Role-based access	Secure your applications by creating roles and assigning them to users.
User blocking	Prevent specific users from further using existing apps or from accessing new ones.
User locking	Prevent users from using apps that haven't connected to Mobile Services for a certain period of time.
Data wiping	Request deletion of client-side data of clients that haven't connected for a certain period of time.
Automatic user removal	Force re-registration of clients that haven't connected for a certain period of time.
Cross-site request forgery (CSRF) protection	Protect users from CSRF attacks.
Encrypted client data	Protect data in apps by means of passcodes and biometrics.
Multi-landscape support	Build pure cloud solutions or connect to on-premise back ends in hybrid cloud scenarios.

Storage Service

A flexible, scoped key-value store that is used in a number of Mobile Services features, and that can be used in applications to store various developer-defined information.

- Application-level storage can be used to apply shared configuration to all app installations, such as general policies.
- The finer-grained user-level storage can hold user preferences, draft objects and other data that should be available across devices.
- Device-level storage can be used for information pertaining to the device or installation.

The application configuration data is stored based on user or device preference. The storage service stores flexible data structure and supports application-level, user-level, and device-level storage. Mobile Services offers authorization and authentication schemes that secure the data..

Storage Service Features

Feature	Description
Key-value store	Flexibly store various information in the cloud.
Scoped access	Use application-wide scope to configure all installations, or use user-level and device-level storage for more specific information.

Tracing

The Network Trace feature allows developers, supporters and administrator to inspect the network traffic flowing between apps and Mobile Services, and between Mobile Services and other connected services. It is a powerful tool to localize issues, and includes an export function to easily replay requests in isolation.

Tracing Features

Feature	Description
Capture HTTP traffic	Make recordings of incoming and outgoing requests between Mobile Services, apps and other services.
Fine-grained recordings	Limit recordings to specific users, content types, targets (apps or other services).
Capture different scopes	Choose to capture only request headers or both headers and message body.
HTTP Archive (HAR) exports	Download recordings as HAR files to view them locally or in dedicated tooling.

Translation Hub

Streamline translation routines and tap into new markets by localizing products. Translate texts using APIs or integrated translation workflow scenarios that access a multilingual database and machine translation capabilities. Meet the demands of your industry- or company-specific terminology needs by uploading and using your own language data, whether you are using HTML-based apps, mobile apps or traditional ABAP user interfaces. You can find more information on Translation Hub on the Capabilities site.

Translation Hub Features

Feature	Description
Connect mobile projects to SAP Translation Hub	Use existing SAP Translation Hub deployments and projects to translate project resources.
Integrated with local tooling	Use the SAP BTP SDK for Android Wizard or the iOS Assistant to access Translation Hub from your workstation.

Usage

The Mobile Services Client Usage and User Feedback service, powered by SAP Analytics Cloud, provides insights into user behavior which are required to evolve your apps in a meaningful way. On top of the collected usage date from your apps Mobile Services provides you with a set of prepared reports which helps you to identify improvement areas of your apps as well as measuring the success of your apps. These insights allow you to streamline development resources to areas of improvement and provide data-driven decisions for further investment or disinvestment.

Usage Features

Feature	Description
Collect usage data	Collect standard and custom data on user behavior through SAP Mobile Cards, SAP Mobile Development Kit, and the SAP BTP SDK for Android and iOS.
Gather user feedback	Receive user ratings and comments through SAP Mobile Development Kit and theSAP BTP SDK for Android and iOS.
Server data reports	Analyze server performance data to optimize app operations.
Integrated with SAP Analytics Cloud	Analyze usage and feedback data in powerful reports built on top of SAP Analytics Cloud.
Network policy	Restrict upload based on network conditions to minimize impact on cellular data.

User Information

Allows developers to query Mobile Services for information about the currently logged-in user in order to display personalized data. Additionally, when used in conjunction with Access Control policies, developers can access user role information in order to deliver role-based experiences and control access to app features. If a user does not have the required role and tries to register for an application, the access control policy returns a 403 error message.

User Information Features

Feature	Description
Read user information	Access information such as the actual user name and email address through the Cross-domain Identity Management (SCIM) protocol.
Build role-based apps	Leverage roles defined for users to build role-based screens.
Multiple authentication schemas	Expose user information in apps using SAML or OAuth authentication.

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