



SAP's Low-Code/No-Code Application Development Offering: SAP AppGyver and SAP Business Application Studio

Frequently Asked Questions
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General

What is Low-Code/No-Code (LCNC)?

Low-Code/No-Code (LCNC) is a software development approach providing the ability to build business applications without the need of pro-code development knowledge but by using low-code or even no-code capabilities instead.

LCNC helps professional and citizen developers build and deliver applications quickly.

- A professional developer is a person who has the ability and expertise to create, maintain as well as upgrade software created for commercial purposes through writing lines of code. Professional developers are often seeking to increase their productivity through low-code development tools.
- A citizen developer is a user who creates new business applications for consumption by themselves or others using development and runtime environments sanctioned by corporate IT. Citizen developers can leverage mostly visual development tools augmented with occasional scripting or snippets of code.

What is the SAP Low-Code/No-Code (LCNC) offering?

SAP's LCNC offering allows developers to develop software with graphical tools instead of writing code. It is comprised of several, integrated solutions such as SAP AppGyver and SAP Business Application Studio (for application development), as well as SAP Intelligent RPA and SAP Workflow Management (for process automation).

To learn more about SAP's LCNC offering, visit the Low-Code Application Development section on [SAP Business Application Studio's homepage](#) and the [SAP AppGyver homepage](#).

What are the benefits of SAP LCNC?

SAP LCNC application development provides one unified experience that allows every developer to build apps fast, no matter the skill-level, while enabling professional developers to participate and contribute as needed.

- Accelerated time to value, using support for best practices with industry- and LoB-specific prebuilt content
 - Enhanced ROI by maximizing existing investments using simplified integrations from SAP
 - Increased adoption of new processes and applications
 - Reduce total cost of development
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Why does SAP offer two tools for LCNC app development (SAP AppGyver and SAP Business Application Studio)?

Developers, citizen developers and other app creator personas need tools which cater to their skillsets, expectations, and desired outcomes. Therefore, SAP offers tools that meet the needs of each persona addressing its skillset. The no-code area is perfectly covered by SAP AppGyver with its inbuilt guidance and learning system, which lowers the entry barrier for the non-technical developer. Low-code, is covered by SAP Business Application Studio, which provides a simplified application development journey. This approach allows to champion change across the business, i.e., professional developers can support citizen developers whenever they are needed without changing the development environment..

Is SAP's LCNC offering available for partners/customers and production tenants?

Both SAP AppGyver and SAP Business Applications Studio are generally available for customers and partners as of September 2021.

Is SAP's LCNC offering available for test and evaluation?

- Business Application Studio (BAS) for low-code development is available for test and evaluation by leveraging SAP BTP Free-Tier.

Note that:

- BAS for low-code development is available in regions where the LCNC offering is available.
- SAP BTP Free-Tier is available for Factory accounts.

Is SAP Business Application Studio available for test and evaluation?

Is SAP AppGyver available for test and evaluation?

- SAP AppGyver is available for test and evaluation through the Community Edition.

Note that:

- SAP AppGyver Community Edition is accessed directly via appgyver.com.
 - Going forward, SAP AppGyver is also planned to be provided as a Free-Tier offering on SAP BTP.
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In which SAP BTP environment is the LCNC offering available?

SAP AppGyver and SAP Business Application Studio are available with the SAP Extension Suite, part of SAP BTP.

Which Infrastructure-as-a-Service (IaaS) providers are available?

SAP' LCNC offering is currently available in AWS Frankfurt (EU10) with planned expansion to additional regions and IaaS providers.

For an updated list of IaaS providers and regions, see SAP LCNC on SAP BTP's [service catalog](#), under the Pricing tab. In this tab you can find the availability of the LCNC offering with the various IaaS and regions per service plan.

Is SAP's LCNC offering available for local installation?

Both SAP AppGyver and SAP Business Application Studio are hosted environment (cloud) for productive use.

How enterprise ready are SAP AppGyver and SAP Business Application Studio?

Security:

- SAP AppGyver and SAP Business Application studio rely on SAP BTP infrastructure for authentication and secure connectivity to different systems, e.g. SAP Gateway or other components, e.g. user workspace. As part of the platform, the tools adhere to the SAP standard terms and conditions for cloud products related to data protection and privacy. SAP AppGyver and SAP Business Application can use any Identity provider (IdP) including customer defined IdPs and use the SAP Cloud Connector for secure connection to on-premise systems.
- SAP AppGyver and SAP Business Application rely on authorization checks done by other systems, e.g. SAP Gateway and user workspace.
- For more information refer to SAP Business Application Studio [Security Guide](#).

Privacy

Your account in SAP BTP is strictly separated from other customers' accounts and other customers' data. Customers have every right on their data and coding, e.g. regarding intellectual property.

Your on-premise business data is not stored in SAP BTP unless you decide to store it outside the on-premise system. Your application coding is stored in the individual developer's workspace of SAP AppGyver, or SAP Business Application Studio, on the platform. If pushed to a Git repository it is stored in that Git repository.

Personal Data

The [Personal Data Processing Agreement for SAP Cloud Services](#) is general and applies to all cloud services from SAP.

In addition, refer to:

- SAP Business Application Studio [data privacy statement](#).
- SAP AppGyver's [Term of Service](#), section 15 "Customer Data and Processing of Personal Data".

Administration / Configuration:

Settings for the development environment can be easily maintained and controlled centrally from the SAP BTP cockpit.

Lifecycle Management:

SAP's LCNC offering supports the entire application lifecycle, from development and testing to deployment.

Installation/Supportability:

SAP LCNC's offering is hosted on SAP BTP provides a low TCO environment (zero installation and update).

Integration:

SAP's LCNC offering enables seamless integration with other SAP BTP capabilities like SAP Launchpad and SAP BTP Mobile Services. SAP's LCNC offering also securely connects to your SAPUI5 ABAP Repository to enable consumption of business data.

What offline features are included (i.e. when data connection is temporarily lost)?

You need to be online to be able to work with SAP's LCNC offering.

- SAP Business Application Studio
 - An auto-save feature is available. It allows a user to have the changes in all open documents saved automatically at preset intervals. This should be enabled in the preferences.
 - In addition, SAP Business Application Studio enables session restoration in case of session loss, session timeout and connectivity issues.
 - SAP AppGyver
 - Local caching of business data is supported. Broader, enterprise offline features are supported by Mobile Development Kit and SAP Mobile Services. Further integration between Mobile Services and SAP AppGyver is on the roadmap.
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Is it possible to import a project from SAP AppGyver to SAP Business Application Studio?

No.

Is it possible to import a project from SAP Business Application Studio to SAP AppGyver?

Which browser versions are supported by SAP's LCNC offering?

Check this [page](#) in SAP Business Application Studio documentation.

On-Boarding

How is SAP's LCNC offering enabled in the Global Account?

The easiest way to enable (subscribe) the Global Account to SAP's LCNC offering is to run the LCNC booster. [Boosters](#) are a set of guided interactive steps that enable you to select, configure, and consume services on SAP BTP to achieve a specific technical goal. You can access them directly from your desired global account in the SAP BTP cockpit, by choosing "Boosters" in the navigation menu.

Once the booster completes, users with the developer role will have access to the LCNC Lobby. From the Lobby, users will be able to manage their applications lifecycle.

Does the LCNC offering require a new subaccount?

Using the LCNC booster on SAP BTP will generate a new subaccount for the LCNC offering.

The LCNC offering can be manually enabled in an existing subaccount. For more information on how to enable services on SAP BTP refer to [SAP Business Technology Platform guide](#).

How do I access SAP Business Application Studio for low-code development?

SAP Business Application Studio for low-code development is only available through the lobby of LCNC.

SAP Business Application Studio for pro-code development is available directly from SAP BTP Cockpit.

Can I access the low-code dev space from the BAS dev space manager?

Yes, the low-code dev space appears in the BAS dev space manager. It is intended for supportability.

You can launch the dev space and continue developing the app. When accessing apps developed with low-code in SAP Business Application Studio from the BAS dev space manager, they will be opened in the SAP Business Application Studio professional experience, i.e. not in the low-code development for SAP Business Application Studio.

Note: Modifying an app that was developed with low-code from the standard Business Application Studio may result in inability to continue working on the project through SAP Business Application Studio for low-code development.

Functionality

General

Which development scenarios are supported?

The following are the main supported development scenarios (Low-code development for SAP Business Application Studio):

- Standalone, full-stack apps, including:
 - SAP HANA database (SAP HANA Cloud)
 - Exposing data from the database as OData services
 - (optional) Desktop apps using SAP Fiori elements
 - (optional) Mobile apps using multifactor UIs
- Extending SAP S/4HANA, including:
 - SAP HANA database (SAP HANA Cloud)
 - Exposing the data from both SAP S/4HANA and the database as OData services
 - (optional) Desktop apps using SAP Fiori elements
 - (optional) Mobile apps using multifactor UIs
- Build Extension to existing SAP Business Solutions
 - Build extension on top of customers' business solutions, such as SuccessFactors, CX or others by accessing provided APIs

For more information and additional scenarios, refer to SAP Business Application Studio documentation for [Development Scenarios](#) and [Additional Extensions](#).

What kind of deployment options are provided by SAP's LCNC offering?

SAP's LCNC offering comes with integrated deployment options for SAP BTP, Cloud Foundry environment.

SAP AppGyver

Functionality

What kind of no-code development capabilities come with SAP AppGyver?

- Building UIs with components in a drag-and-drop interface
- Building logic with flow functions in a drag-and-drop interface
- Extendable library of UI components
- Extendable library of flow functions (logic components)
- Built-in theme editor
- Logical formulas and formula functions
- Native previewing via the AppGyver Preview app
- Connecting to external data sources
- Build Service capability for iOS, Android and Web builds

Can you work with any programming language in SAP AppGyver?

There is [scoped support](#) for scripting logic nodes via JavaScript.

Can mobile applications created with SAP AppGyver have offline capabilities?

Yes

SAP Business Application Studio

General

What is the difference between SAP Business Application Studio professional experience and SAP Business Application Studio for low-code development?

Following are the main differences:

	SAP Business Application Studio professional experience	SAP Business Application Studio for Low-code development
Deployment target	<ul style="list-style-type: none"> On premise ABAP SAP BTP, Cloud Foundry environment SAP BTP, ABAP environment SAP S/4HANA Cloud 	<ul style="list-style-type: none"> SAP BTP, Cloud Foundry environment
Solution	Pre-packaged isolated environments/Dev-spaces (“virtual machine on the cloud”) with tools and runtimes, tailored per business scenario which provide more control over the environment and code.	Single pre-packaged isolated environment/dev-space (“virtual machine on the cloud”) with tools and runtimes, supporting development of full-stack applications.
Experience	Embraces VS Code experience, providing desktop like experience in the cloud including local test, run & debug, terminal (CLI) access, and superior code editors.	Most of the development is expected to be done using visual tools with the ability to access code editors when needed.
Support for various personas	<ul style="list-style-type: none"> Better support for cloud and full stack developers with superior for Java and node.js coding Web/mobile developers Additional personas can be supported with a suited experience per persona 	<ul style="list-style-type: none"> Citizen Developer is the main target persona.

Is it possible to work on the same project from SAP Business Application Studio for Low-code development and SAP Business Application Studio professional experience?

Yes, this is possible. A developer can access a project developed with SAP Business Application Studio for Low-code development through the SAP Business Application Studio dev space manager.

Note: Modifying an app developed using Business Application Studio professional experience may result in inability to continue working on the project through the SAP Business Application Studio for Low-code development.

Do I have to connect SAP Business Application Studio to my systems?

No. SAP Business Application Studio supports a mock service that enables the decoupling of the front-end application development from the server. In addition, it enables application testing without backend connectivity. The mock service supports user provided mock data.

For testing the finalized application, we recommend connecting to your backend system via SAP BTP Connectivity / Cloud Connector.

Functionality

What kind of visual development capabilities come with SAP Business Application Studio for Low-code development?

SAP Business Application Studio for Low-code development offers various visual tools for application development:

- Project home: Create / view / edit / delete project artifacts: database tables, data services, UI, and sample data
 - Adding external OData data sources from BAS Service Center
 - Wizards for creating desktop and multifactor UIs
 - Storyboard: Graphical view of the project that presents the dependency among the projects' artifacts
 - Project Explorer view provides tree view of the artifacts in a compact manner
 - CDS modeler for databases
 - CDS modeler for data services
 - Page editor for desktop UIs
 - MDK editor for multifactor UIs
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What kind of low-code app development capabilities come with SAP Business Application Studio?

- Graphical data modeling
 - Graphical service definition
 - Providing/managing sample data
 - Building UX for cross-channel consumption (mobile, web, others)
 - One-click test and deployment
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How does team development and version management work in SAP Business Application Studio?

Version management is based on git.

SAP Fiori development

Is it possible to develop applications for on-prem ABAP systems?

It is recommended to use the SAP Business Application Studio professional experience (not the SAP Business Application Studio for Low-code development) to develop apps for on-prem ABAP systems.

Many customers are using SAP Business Application Studio to develop SAP Fiori Apps for SAP on-premise. The main benefits are wizards and templates to jumpstart the application development, code and graphical editors suited for SAPUI5, connecting to SAP on-premise and cloud for consuming data coming from an OData service, testing tools, build and deploy. In addition, they include tools for adapting (extending) SAP Fiori applications.

For more information, see this [video](#) and [blog](#) on SAP Fiori development for on-premise ABAP system with SAP Business Application Studio.

Can I create adaptation projects (formerly known as SAP Fiori extension projects)?

It is recommended to use SAP Business Application Studio (not SAP Business Application Studio for low-code development) that supports SAPUI5 adaptation projects, which is part of [SAPUI5 Flexibility](#). It is supported for both freestyle applications and SAP Fiori elements applications.

SAPUI5 flexibility offers capabilities for developers, key users and end users to adapt SAPUI5 applications. This includes the creation of [adaptation projects](#) in SAP Business Application Studio. The prerequisites are given in [Create an Adaptation Project](#), the technical prerequisites for the respective apps are described in [SAPUI5 Flexibility: Enable Your App for UI Adaptation](#). Very few standard apps from SAP are missing these prerequisites and SAP is working on providing these. Until then you can continue to use an [extension project](#) in SAP Web IDE, personal edition or in your productive SAP Web IDE Full-Stack.

For more information, please refer to the following [blog](#).

Licensing

How does licensing work for SAP's LCNC offering?

The following commercial models are available: CPEA (Cloud Platform Enterprise Agreement) and PAYG (Pay-As-You-Go). More information on these models is available [here](#).

For test and evaluation – see the General section of this document.

Are there dedicated licenses for partners?

Yes. Partner licenses are available for SAP Business Application Studio and SAP AppGyver.

How is usage calculated?

License usage is calculated per SAP BTP Global Account based on unique developers in a calendar month. License usage is calculated separately for each of the components of LCNC.

For SAP Business Application Studio, it's based on users. A user is a developer who accessed SAP Business Application Studio at least once within a calendar month.

For SAP AppGyver, it's based on active users. An active user is a developer who either accessed SAP AppGyver or has at least one project in SAP AppGyver within a calendar month.

What plans are available?

- SAP Business Application Studio
 - The plan allows unlimited number of developers.
 - Each developer is counted towards the license consumption.
 - There is no minimal purchase.
 - Every developer gets:
 - Up to 10 dev spaces. When Low-code development for SAP Business Application Studio is used one of the dev spaces is dedicated for Low-code development for SAP Business Application Studio use.
 - Up to two active dev spaces (from the 10 dev spaces).

- SAP AppGyver has one plan – Standard plan.
 - The plan allows unlimited number of developers.
 - Each developer is counted towards the license consumption.
 - There is no minimal purchase.

How can I get one of those packages?

CPEA: Contact your SAP Account Executive. Make sure that the CPEA agreement is assigned to the relevant Global Account.

PAYG: Sign a Pay-As-You-Go agreement in [SAP Store](#).

SAP partners can purchase partner development licenses via [Manage My Services](#) app (self-service).

- Prerequisite service applies (SAP Cloud Platform, Cloud Foundry based Partner development instance)

Can I add consumption license (CPEA / PAYG) to an existing Global Account that only has subscription licenses?

Yes. This will make the Global Account “hybrid”, i.e. supporting use of products and services in both subscription and consumption models.

I have subscription licenses to SAP Business Application Studio. Do I need to purchase additional licenses to use Business Application Studio for Low-code development?

The rule is that subscription licenses are used first. Therefore, there is no need to purchase additional licenses if the number of unique developers within a Global Account in a calendar month does not exceed the number of subscription licenses.

Only if the number of unique developers within a Global Account in a calendar month exceeds the number of subscription licenses, the additional licenses will be charged according to the consumption model.

Examples:

- There are 20 subscription licenses for "standard" plan and in a specific calendar month, less than or equal to 20 unique users across all subaccounts within the same GA accessed the product in the "standard" plan. In this case only the subscription licenses are used and there will be no additional charges.
- There are 20 subscription licenses for "standard" plan and in a specific calendar month, 27 unique users across all subaccounts within the same GA accessed the product in the "standard" plan. In this case there will be an additional charge for 7 users in "standard" plan.

If I enable a subscription for SAP’s LCNC offering and use only one of the services, will I be considered as a user for all LCNC services?

No.

The number unique users for each service (software component) of LCNC is counted, licensed, and charged separately.

Find Out More

SAP Business Application Studio Homepage: <https://community.sap.com/topics/business-application-studio>

SAP AppGyver Homepage: <https://appgyver.com/>