SAP BTP

What's new in SAP Business Application Studio + Sneak Peek at SAP Build Code

13 February 2024

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Agenda

1. Highlights of SAP Business Application Studio in 2023
2. Sneak Peek into SAP Build Code
3. Demo
4. Customer Stories
5. What to expect in 2024
6. Q&A

SAP Business Application Studio: The high-productivity approach for professional developers

Scale your development and build smarter enterprise apps

- **Visual development environment**, tailored for efficient development of business applications for the Intelligent Enterprise
- Intuitive path **from visual tools to professional development tools**

- **Experience optimized** for the SAP developers (intent based)
- **Tight integration** with SAP services, technologies, and runtime systems
- Out of the box project templates, application samples & code snippets following **SAP best practices**

- **Maintenance free** pre-configured dev environments as a service, hosted securely on SAP BTP
- Powered by industry lead IDE **MS Code OSS** with **latest dev-tools innovations and community tools**
- **Flexible usage options (browser\desktop IDE)**

- An SAP product providing **SAP product support**
- Offers in product **support**, **guidance** and **troubleshooting** tools
- **Can be centrally managed** and governed by company admin

Detailed information refer to the Public Roadmap

Key product innovations – 2023

1. **SAP Build Code** was announced and pilot program was launched at TechEd 2023 with turnkey environment for BTP development augmented with in-product guided development. BAS is the **design time** of SAP Build Code

2. **Joule**, the generative AI co-pilot, in SAP Build Code for developing CAP models, APIs, creating sample data and application logic

3. Improved **performance**, **start-up time** and **stability.**

4. **Achieved feature parity** with SAP Web IDE. Web IDE to sunset with Neo.

5. Bringing SAP **technologies** (SAP HANA, ABAP, AI …), APIs (ORD, UCL, Events) and runtimes closer together, making it easier to follow SAP best practices

6. Bringing SAP **tools** together (Build Apps, Build Code, SBPA, Work Zone) for collaboration and reuse of project artifacts

7. Bringing **community innovations** (VS Code Hybrid, Python, Docker, ASDF, oAuth for GitHub etc.)

Recent innovations in SAP Business Application Studio

Core IDE : SAP Business Application Studio is powered by MS Code-OSS

Joule – Generative AI co-pilot*

Boost developer productivity

- High productivity experience for Full-Stack Apps
- High productivity experience for Fiori Apps
- Build machine learning models with Python
- VS Code extension for hybrid development

More tailored SAP scenarios

- Support for UI5 extensions
- SAP Hana Calculation views for CAP application development
- Simplified multi-tenant application development
- Hana XSA development with BAS
- Easy CAP application consumption in SAP Build Apps

Consume SAP APIs & Events via Service Center

- S/4 HANA and S/4 HANA Cloud events via Business Accelerator Hub
- API Hub Enterprise, Cloud for Customer, Unified Customer Landscape
- Live data preview

Support and Guidance

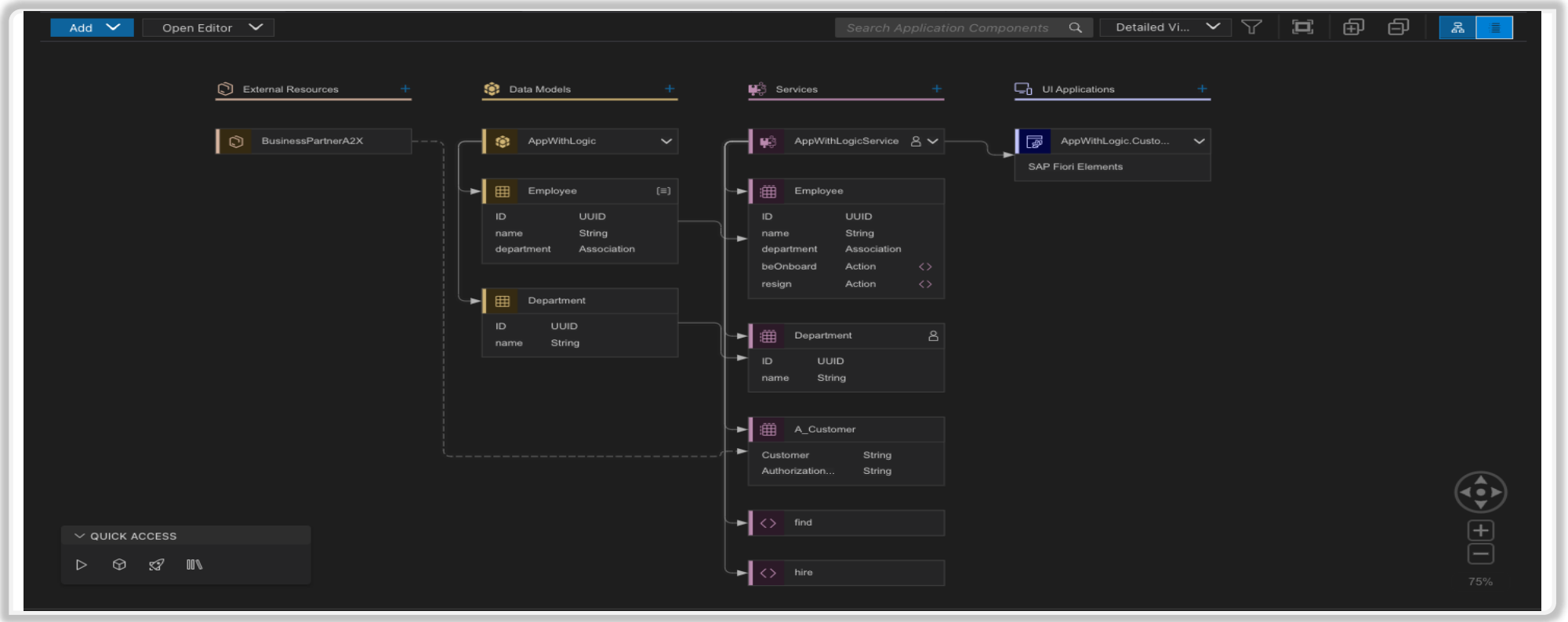
- Guided development based on SAP BTP Developer's Guide*
- Centralized validation support

Manage Application lifecycle

- Create and Configure SAP Continuous Integration and Delivery Jobs with SAP Fiori for ABAP Platform Pipeline
- Task Explorer - Project Build & Deploy Task
- One click preview and deployment
- Simplified Project Sharing, including new simplified GIT panel

* Only with SAP Build Code

Storyboard



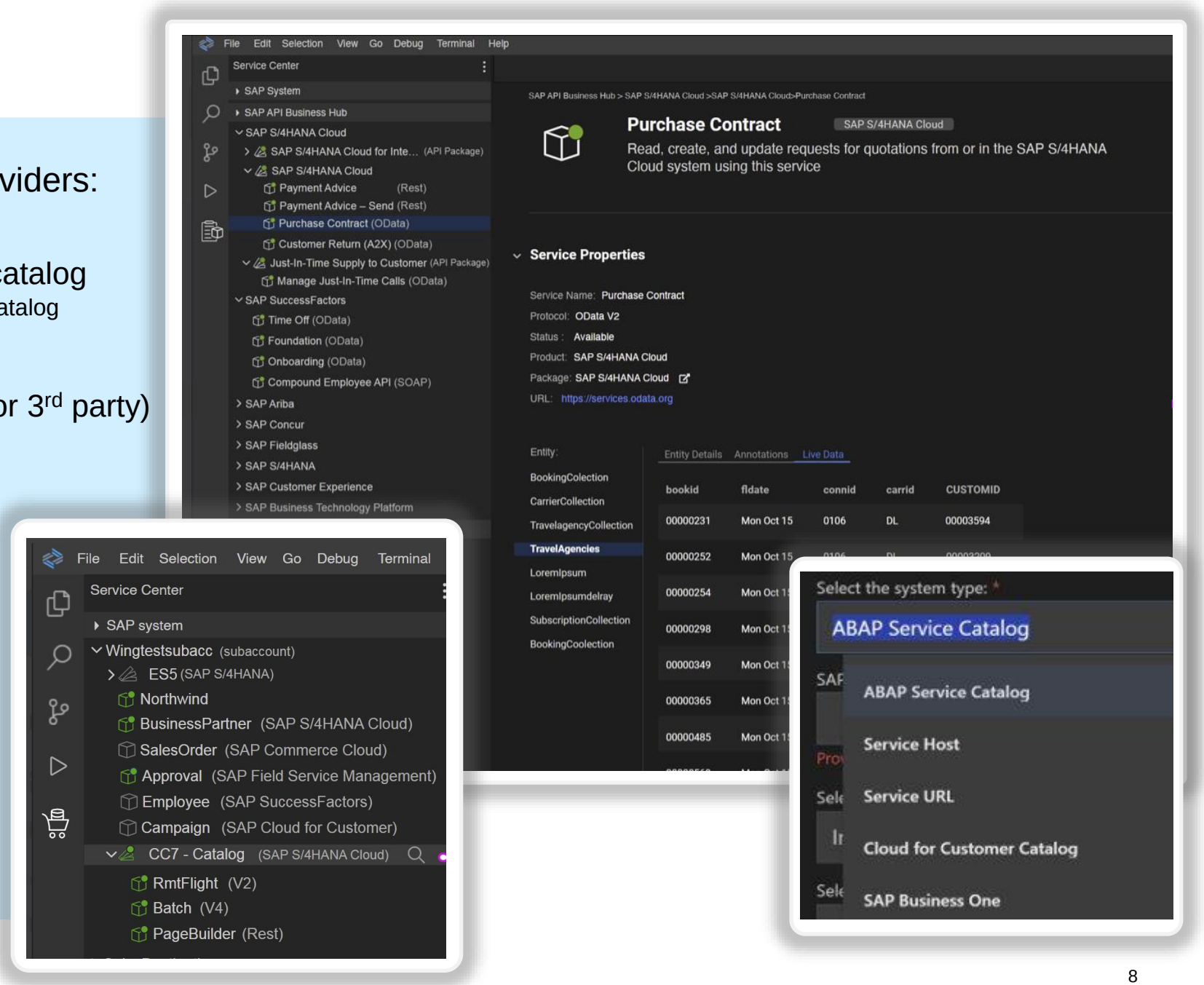
- The Storyboard provides a graphical representation of the application, its components and the connections between the different components.
- Provides an overview of the entire project, allows you to quickly understand the structure of the application
- Launch graphical editors directly from the storyboard

- The storyboard is available in:
  - ✓ Full stack applications developed with the productivity tools
  - ✓ SAP Fiori
  - ○ SAP Mobile Services applications – coming soon
  - ○ SAP HANA native applications – coming soon

Service Center

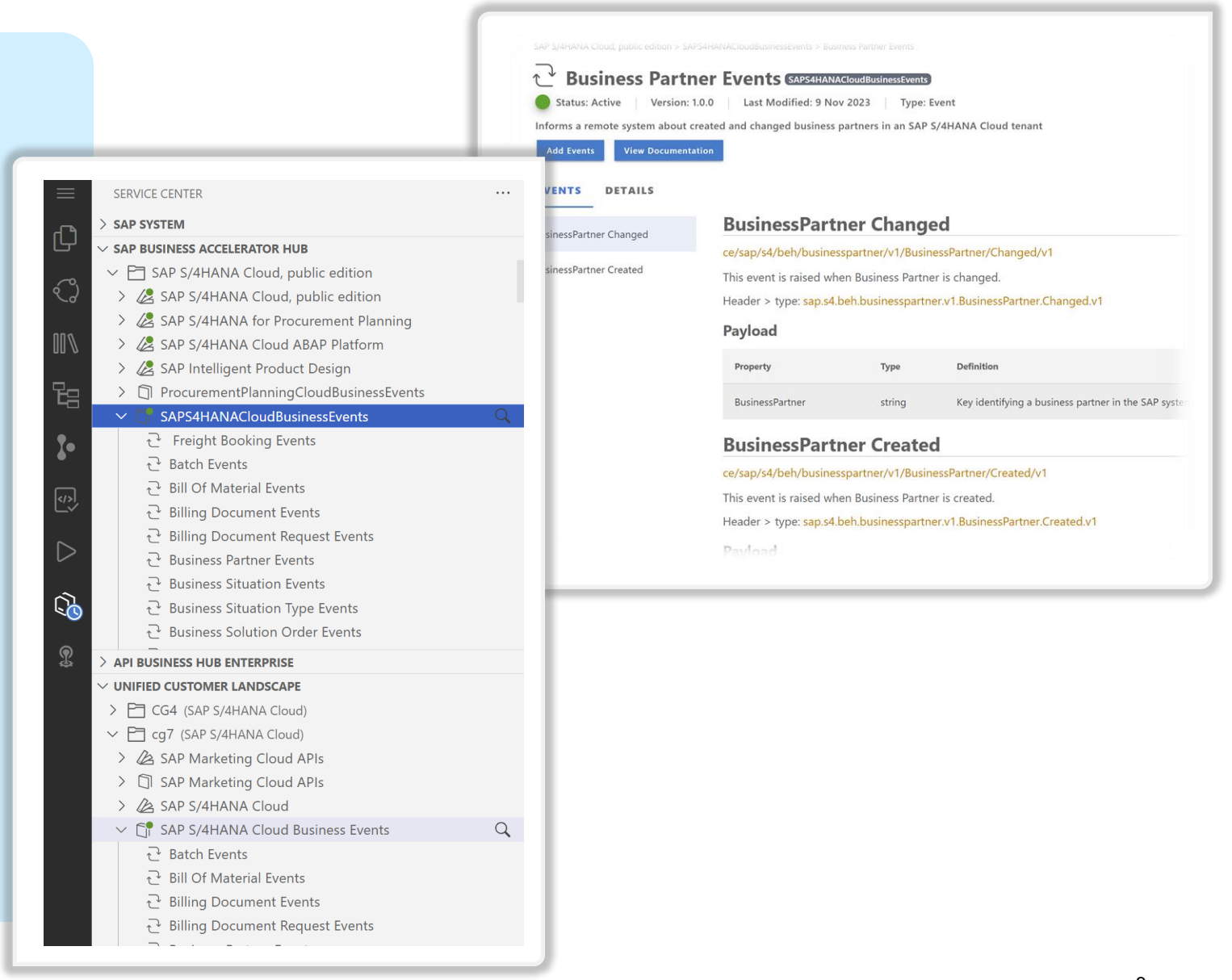
- Connectivity to various service providers:
  - SAP Systems
    - ABAP systems, includes service catalog
      - S/4 HANA, any system holding ABAP catalog
      - S/4 HANA Cloud
      - ABAP Cloud
    - Any OData service directly (SAP or 3rd party)
  - SAP Accelerator Hub
  - SAP API Hub Enterprise
  - SAP Unified Customer Landscape

- ✓ Search within the service center
- ✓ Preview service live data
- ✓ Create project using a service
- ✓ Add service to a project



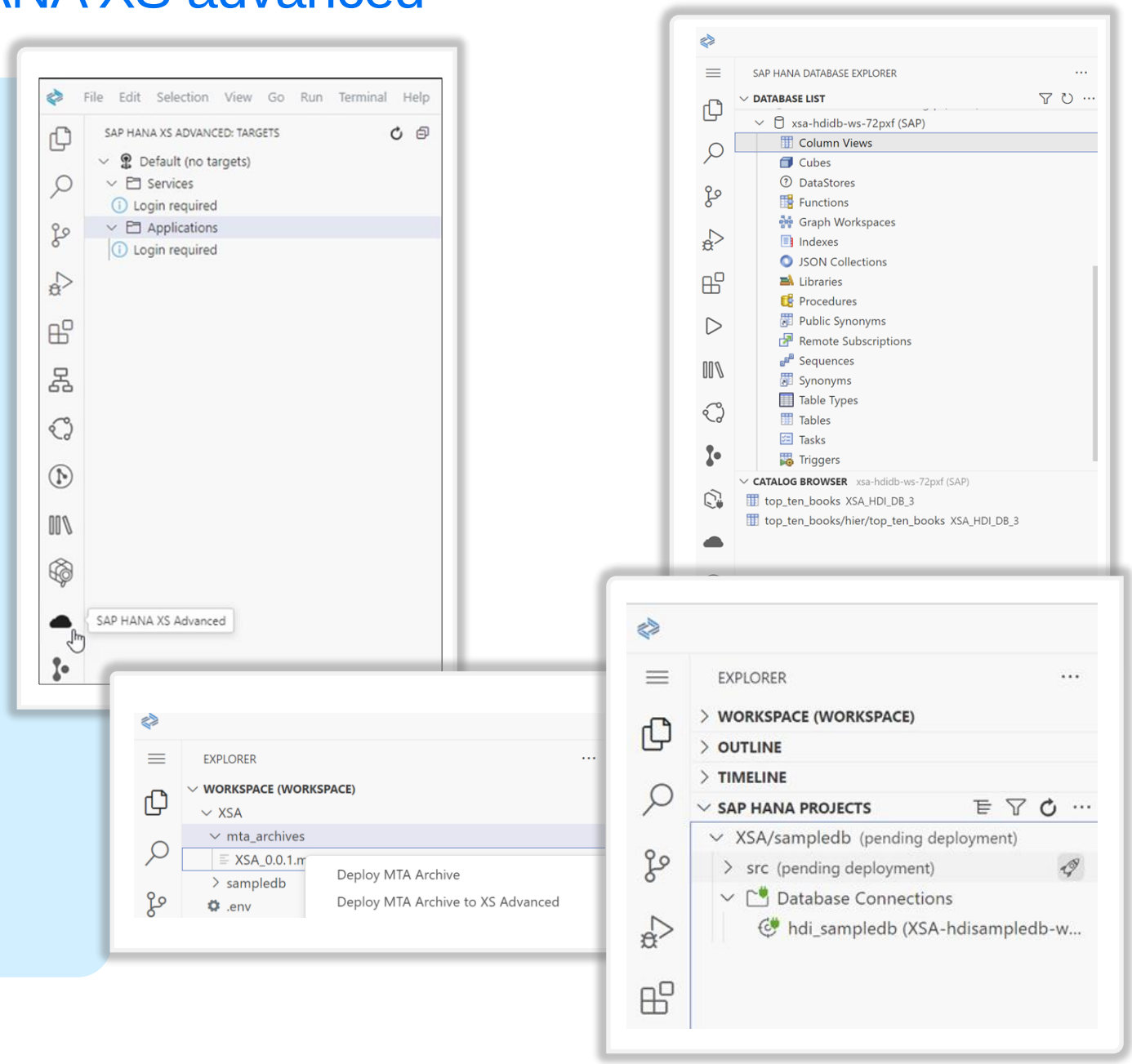
Business Events exploration and consumption – Service Center

- Explore S/4HANA Events from Business Accelerator Hub or UCL
- One click add Events to a CAP Project
- Display events added to CAP project via Storyboard
- Consume event using application logic editor
- Run locally with remote events via *run configuration*



Database development SAP HANA XS advanced

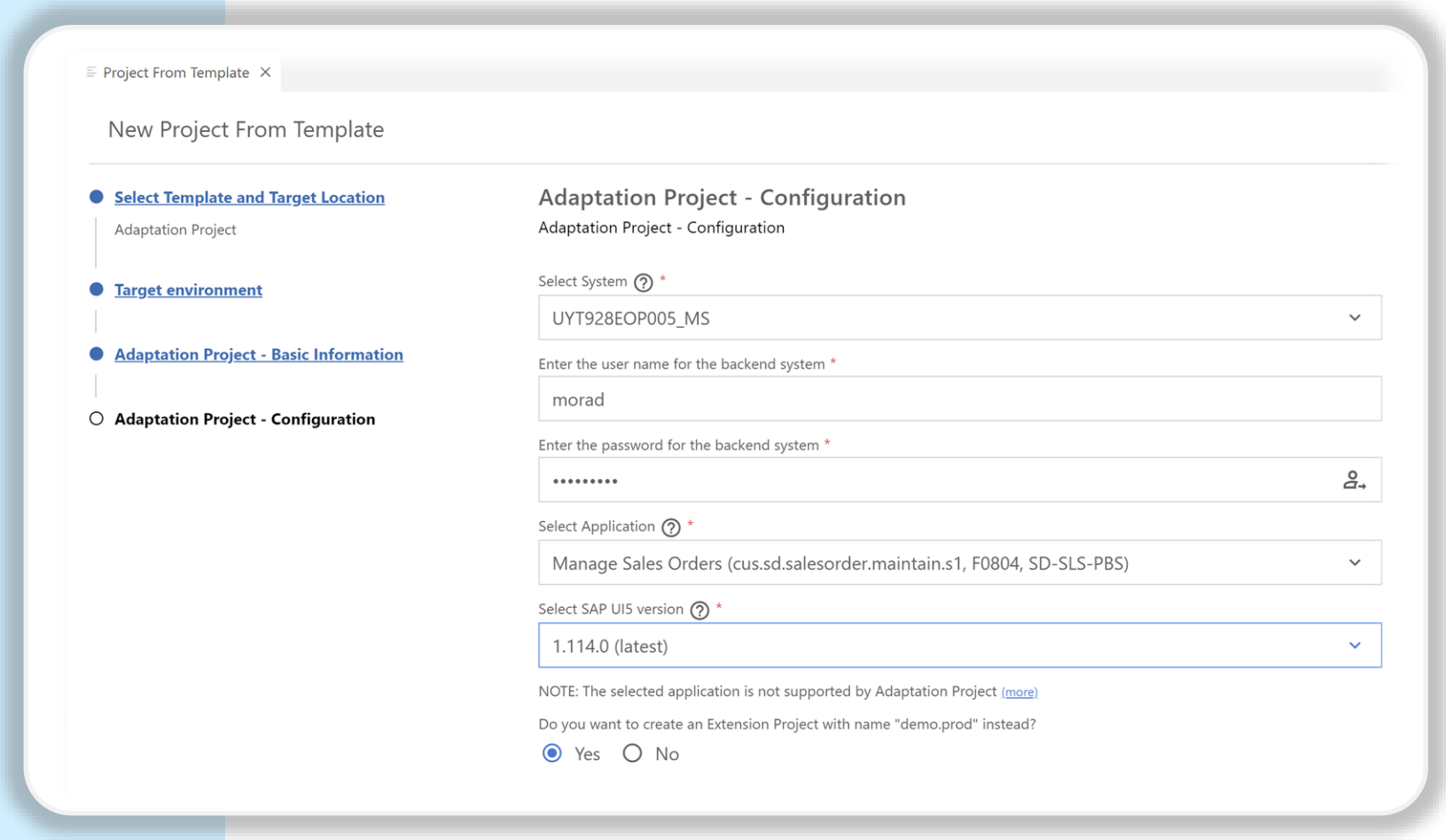
- Optional XS Advanced tools
- Explore XS Advanced runtime
- Create database artifacts
- Deploy database artifact to HDI container
- Database explorer with local data preview
- Deploy project to XS Advanced runtime



Support for SAPUI5 extensions – Adaptation & Extension projects

Feature parity achieved with SAP Web IDE

- Migration of SAPUI5 Extension Project from SAP Web IDE to SAP Business Application Studio
- SAPUI5 Adaptation Project supports handling of legacy applications and allows you to create SAPUI5 Extension Project.
- You will be able to preview, make changes and deploy the SAPUI5 Extension project, just as you do in SAP Web IDE.

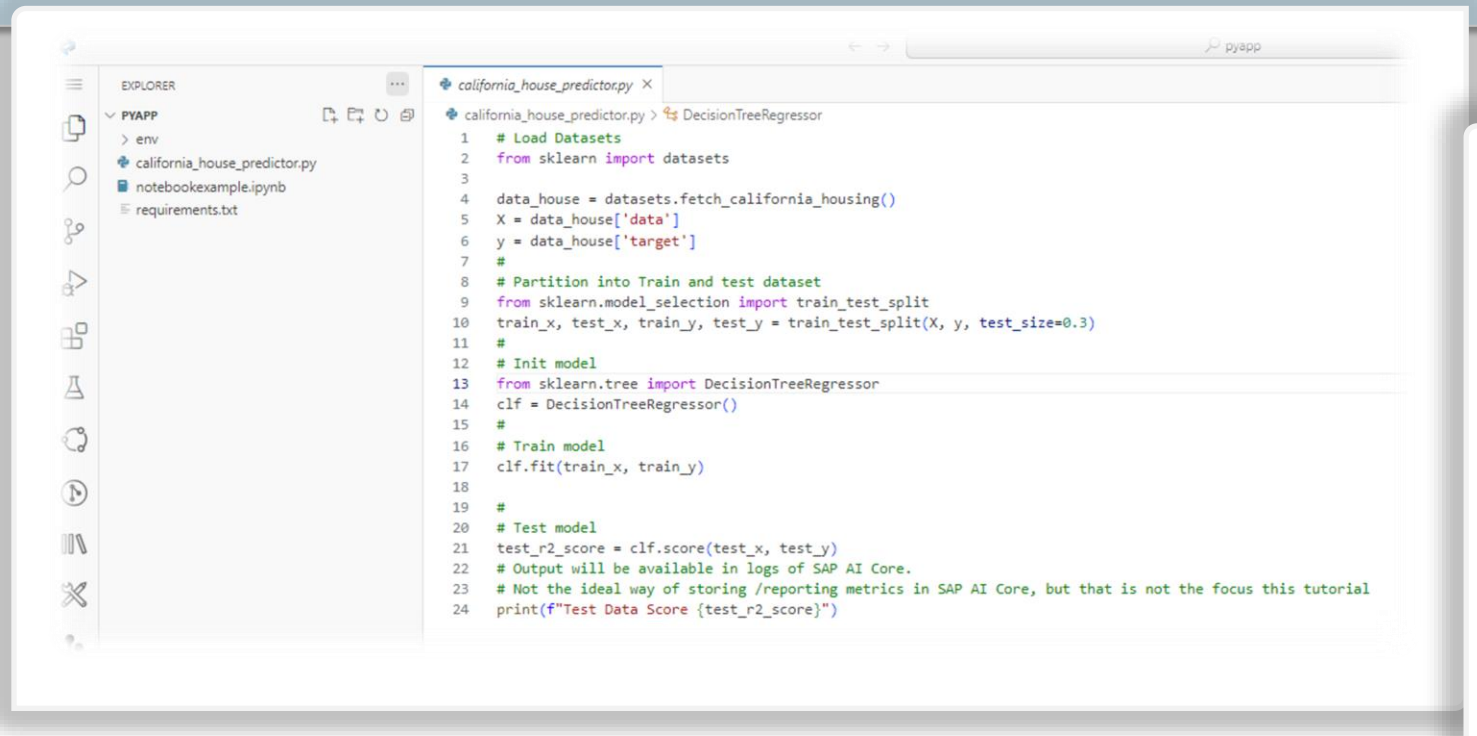


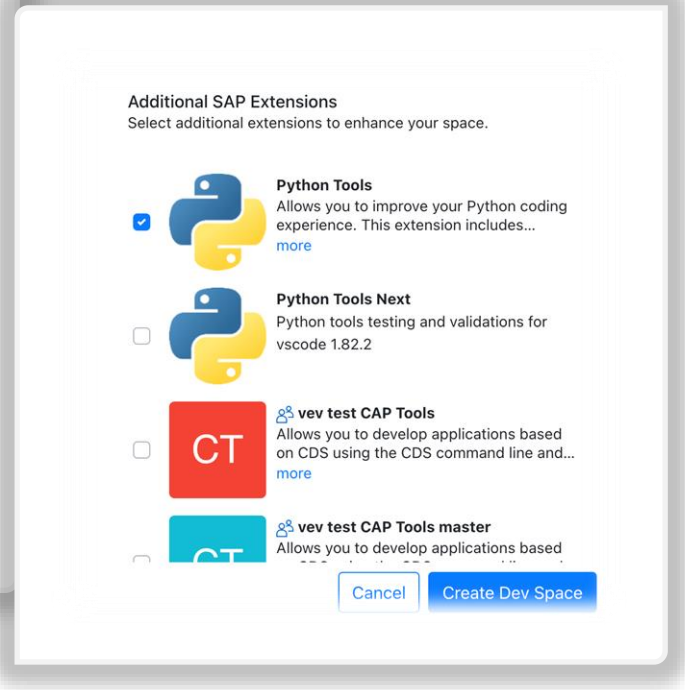
Support Python and docker build in BAS

Python tools - Allow data scientists to access SAP HANA data and build machine learning models.

Includes Python runtime and Python design-time support : IntelliSense, formatting, linting, and debugging support for Python files and Jupyter notebooks.

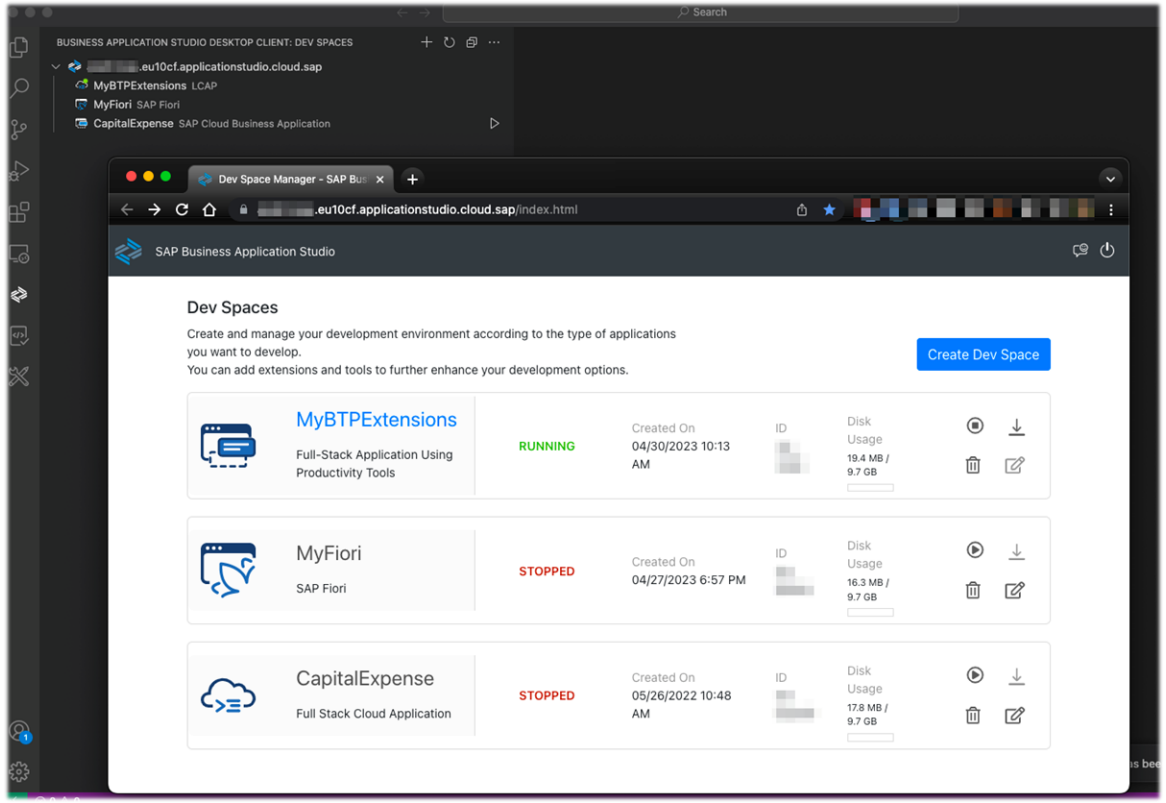
Docker Image Builder - Allows you to build docker images without a Docker engine. Supports build, login, and push commands.

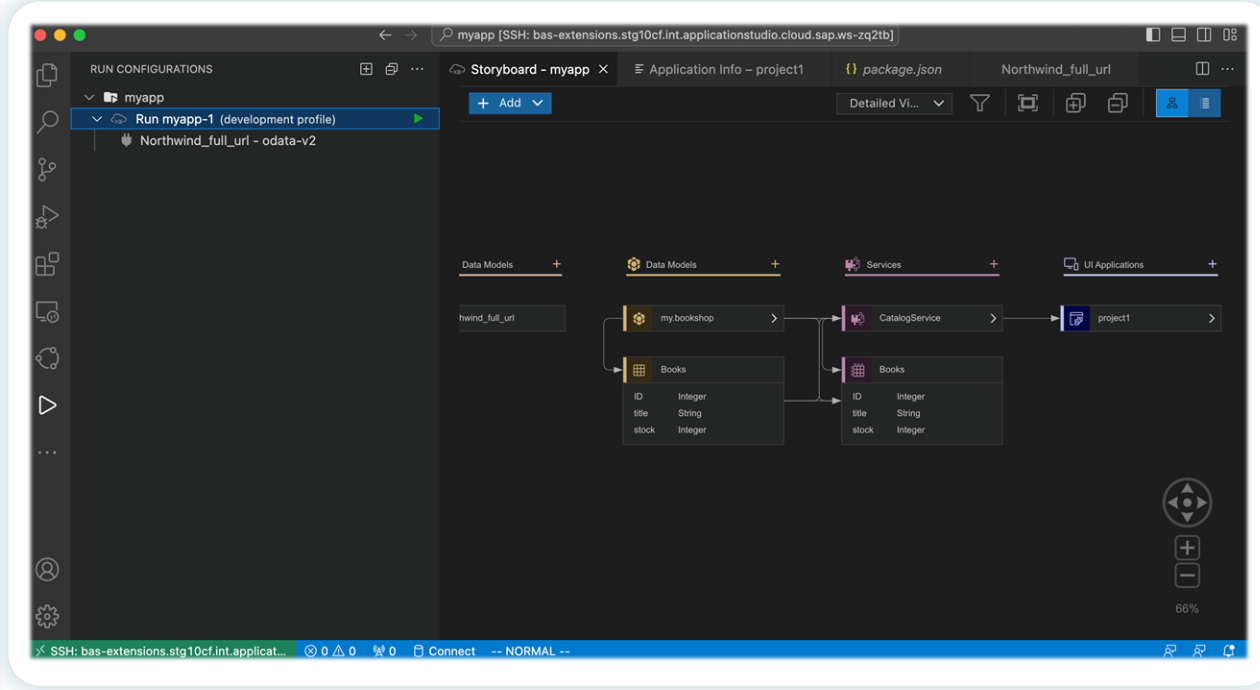




Visual Studio Code extension for SAP Business Application Studio

SAP Business Application Studio toolkit allows you to securely connect to your SAP Business Application Studio dev-spaces directly from Visual Studio Code desktop installed on your machine



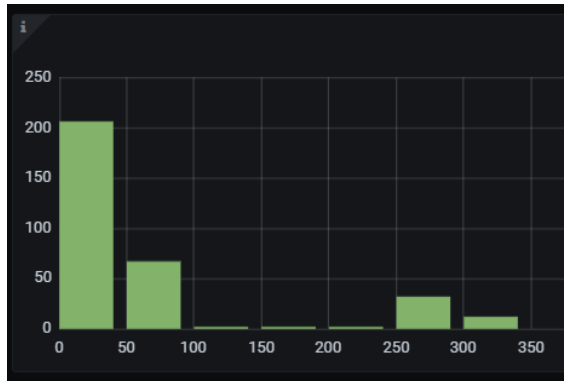


Improved start-up time, stability and session timeout experience

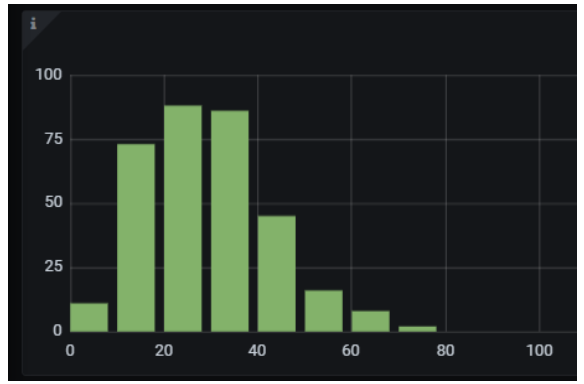
- Significantly reduced Dev Space startup time and improved stability by installing extensions on BAS build time instead of Dev Space start.
- After session timeout or network issue, refresh and stay in the IDE
- Start dev space from the loading page

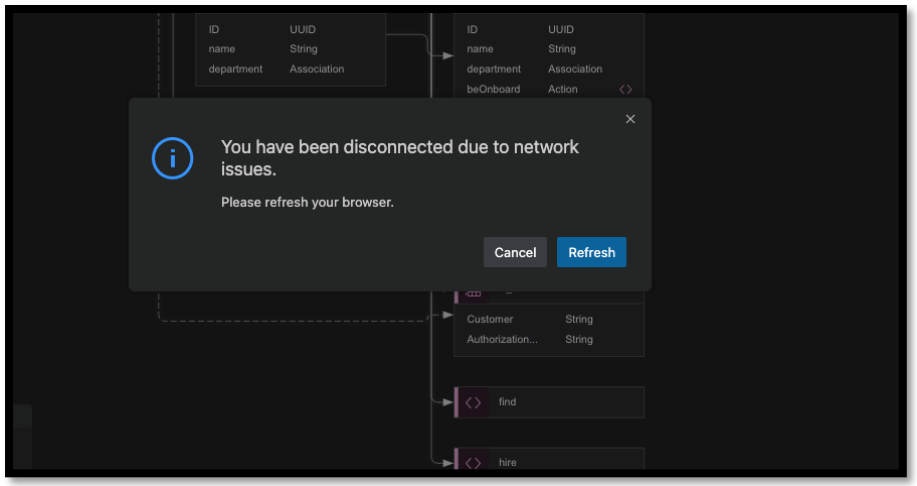
Distribution of ~170 dev spaces creation times on a week timeframe

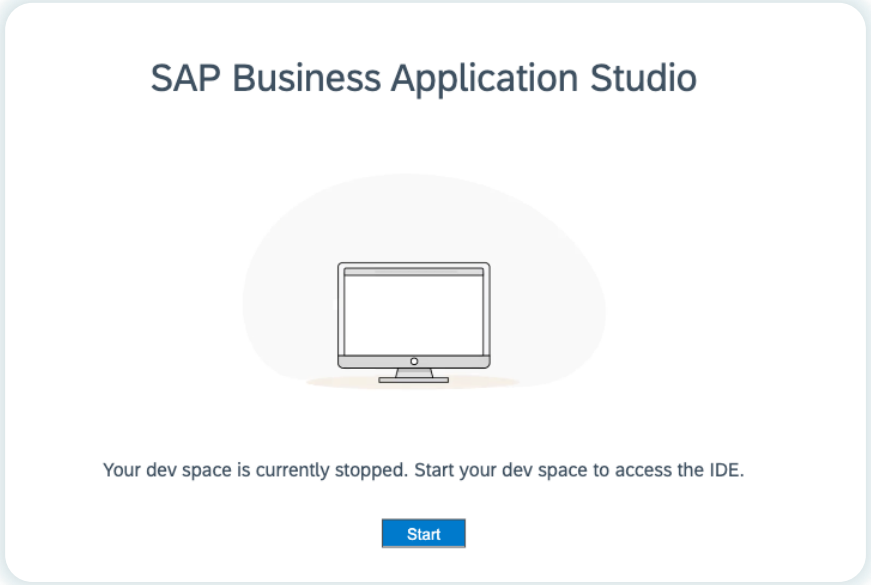
Before



After







Multiple Runtime Support

BAS is using ASDF (Multiple Runtime Version Manager) for managing and installing runtimes and versions

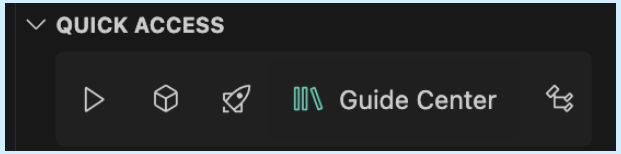
- Option to use other runtime versions with ASDF framework
- Install from command palette or the terminal
- Default BAS installation includes one Node.js and one Java version (the LTS)

Advantages:

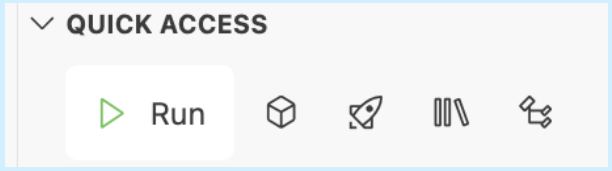
- Ability to select any version
- Setting **project-specific runtime version** – set runtime version within the source control to align between developers, BAS and local development
- Not limited to versions delivered by SAP Business Application Studio
- Can install multiple versions per runtime type

Enhanced developer experience – Quick Access bar

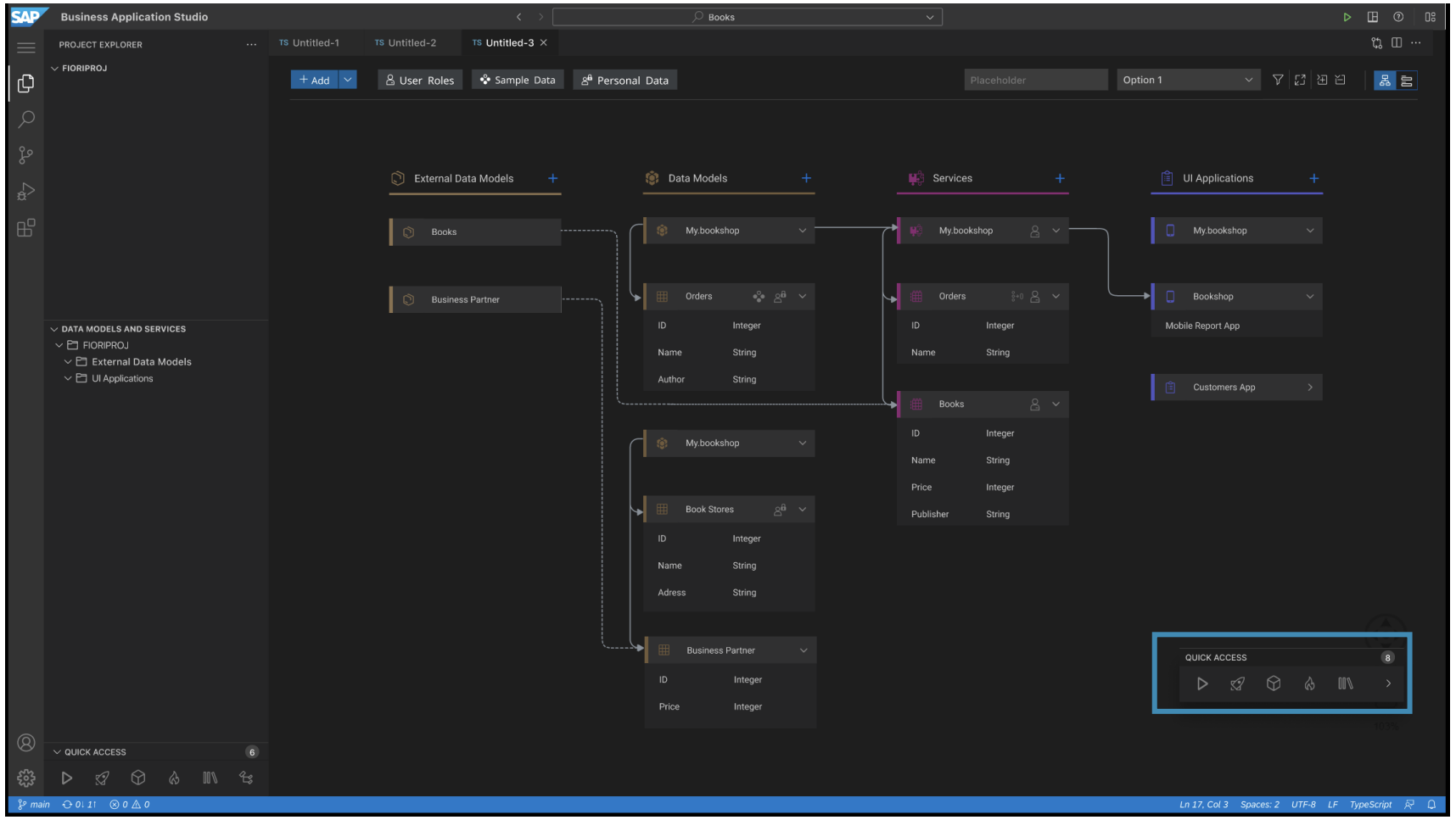
‘Quick Access’ bar offers developers with easy access for triggering common tasks. This view will be available almost from everywhere and can be used at any time.



Quick Access bar – one click for common actions



Quick Access bar in the Storyboard



What new feature do you most want for SAP Business Application Studio?

https://www.menti.com/al3q9xmkfmgw

Sneak Peek at SAP Build Code

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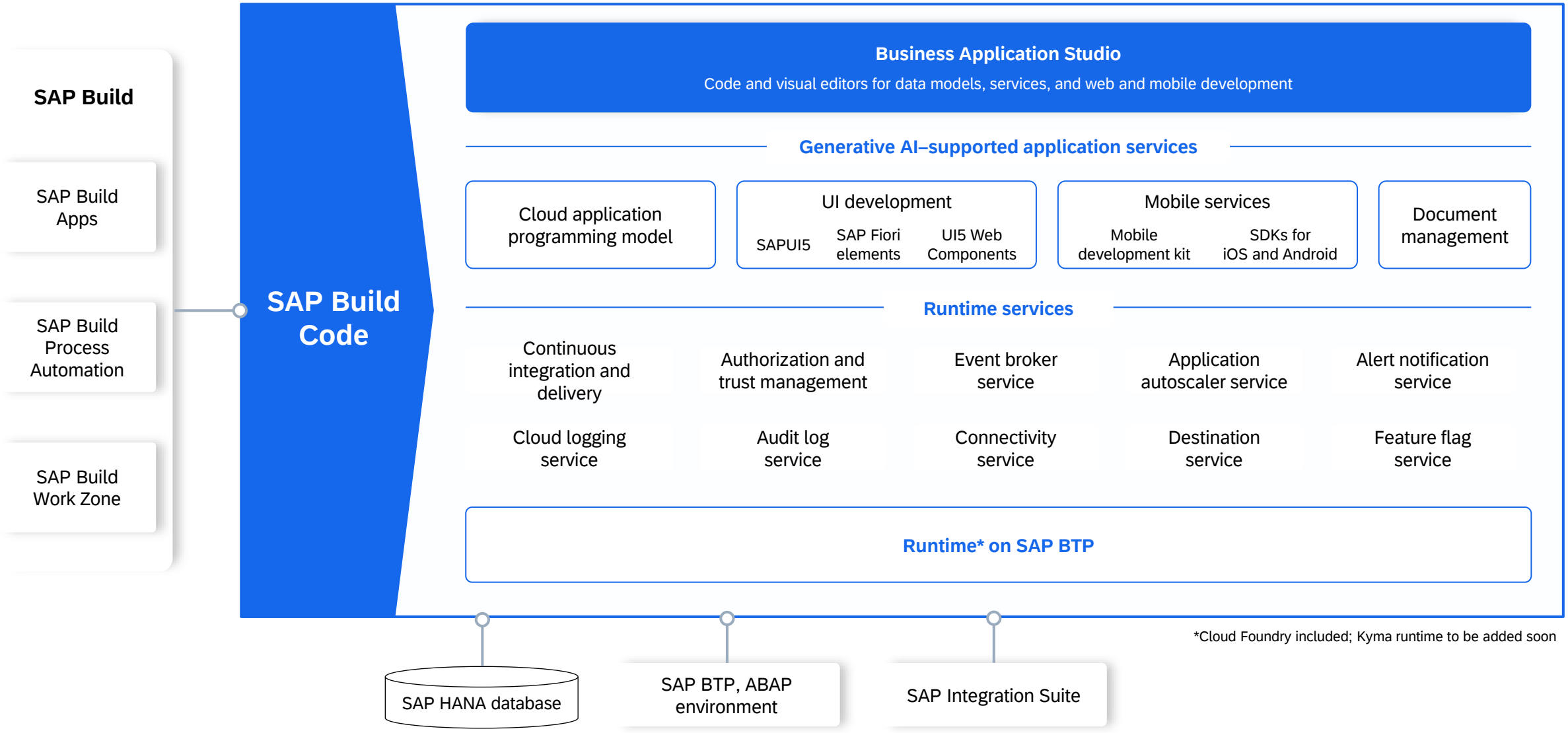
SAP Build Code and SAP Business Application Studio

SAP Build Code provides a turn-key environment for coding, testing, integrations, and application lifecycle management. It combines the essential services on SAP Business Technology Platform (including BAS) needed to **develop**, **run**, and **operate** SAP BTP applications.

SAP Business Application Studio is the integrated development environment in SAP Build Code (It is also possible to use SAP Business Application Studio as a standalone offering)

SAP Build Code: What you need to follow, best practices of SAP



*Cloud Foundry included; Kyma runtime to be added soon

SAP Build Code

Major Milestones

Nov 2023

Announcement & Pilot

Announcing SAP Build Code with the Pilot program for select customers and partners

Q1 2024

General Availability

General Availability of SAP Build Code for all customers and partners

Q2 2024 & Beyond

Grow

Evolve towards providing best-in-class experience for professional developers with more generative AI use cases and increased developer productivity with SAP-recommended best practices

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Demo time

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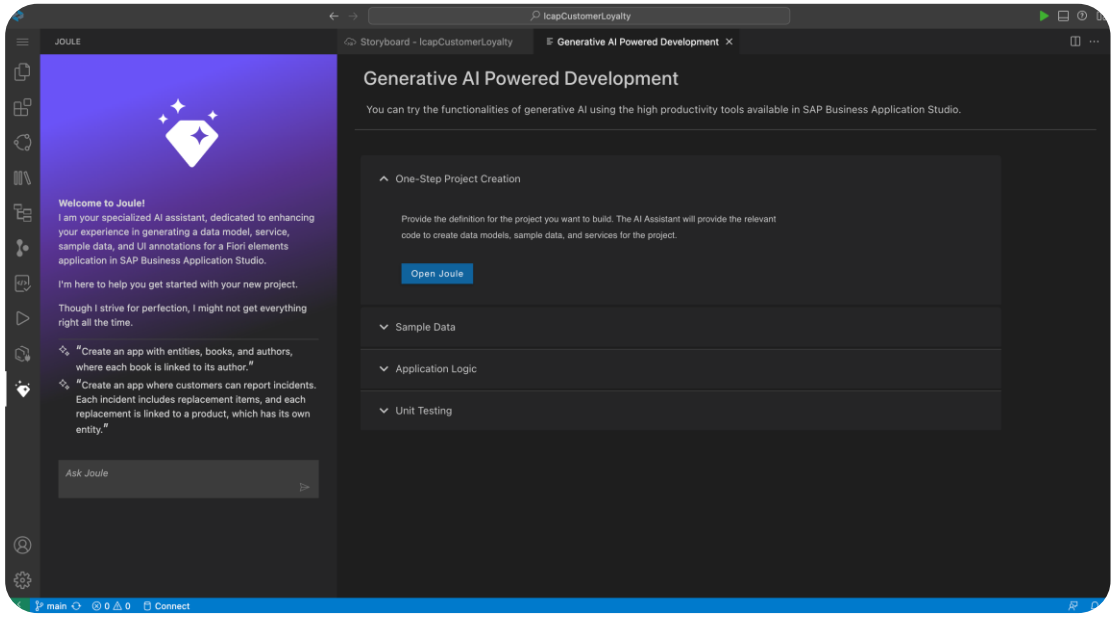
Joule in Application Development: Boost developer productivity

GPT-based CAP model, data, service and application logic generation

Developer



Challenge

- Writing code in a new language can be hard. It can also be challenging for a new developer
- Test data creation is tedious. One must always ensure that data fits the model and is up to date.

Solution

- **Integrated in SAP Business Application Studio & CAP**
- Create all necessary CDS files which define the entities, relations and service projections according to your prompt
- Generation of business logic in services, generate sample data
- Even existing models can be changed, just by providing descriptions
- Supports developers to generate unit tests for business in services

Outcomes

Up to 30%
time reduction to generate data models and services

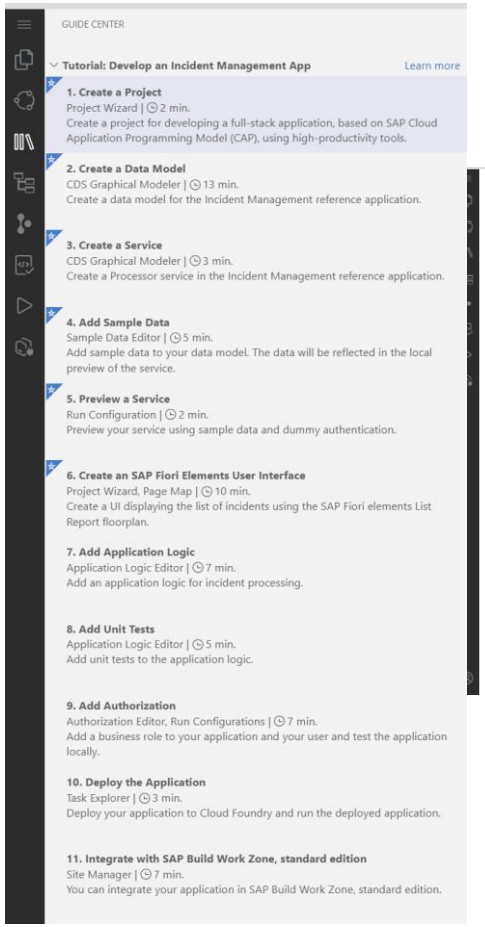
Improve
Developer experience

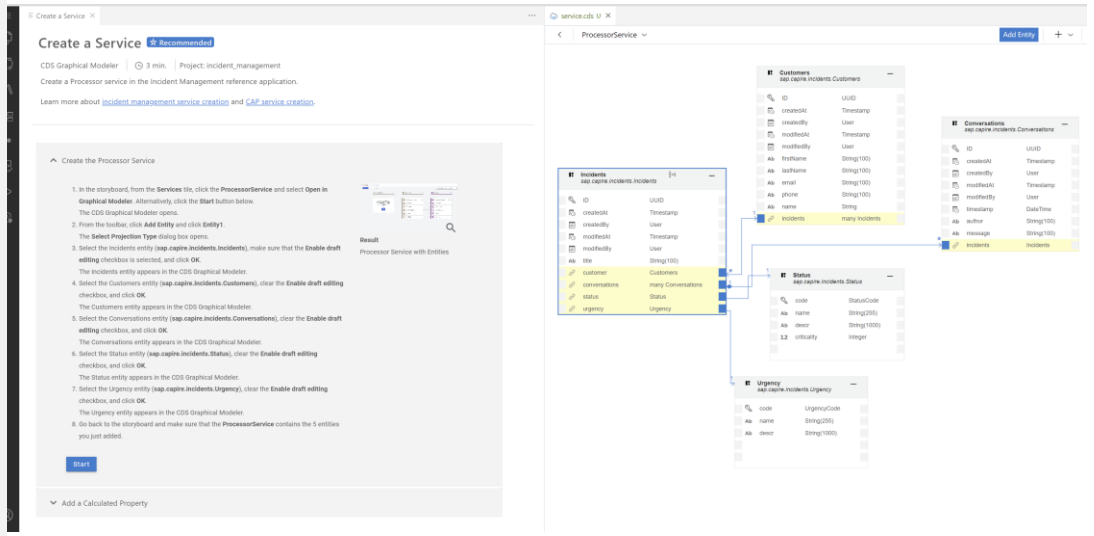
Empower
Users to answer their technical and business questions

BTP Developer's Guide in BAS Guide Center

Embedded tutorial for best practice content & tools

- Based on Incident Management **best practice** app
- Helps developers to **follow** SAP best practices while using **BAS productivity tools**
- A comprehensive overview with **estimated time** of each step
- Start each step with harmonized **navigation to development tool**
- Step completion verification using clear **target picture**
- **Side by side** tutorial and tools editor
- More information link to documentation





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Customer Stories

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THE BEST RUN SAP

Delighting customers and increasing sustainability

Jumbo Supermarkten

Challenge

Jumbo uses an excel-based tool called Production Advice List (PAL) to manage the forecasting for freshly made baked goods, convenience items, and prepared meals. In its first iteration, the tool relied solely on historical information, excel files and manual downloads of data. Therefore, it frequently under or over forecasted items; resulting in customer dissatisfaction, employee dissatisfaction and food waste.

Solution

Jumbo wanted to move from their legacy excel solution to a predictive forecasting software tool and introduce an employee interface app. The solution, an SAP Fiori app built on the SAP Business Technology Platform (BTP) along with the SAP HANA Cloud database and the SAP Launchpad service, uses SAP's Unified Demand Forecast (UDF) as the main 'engine'. This is a module that uses machine learning (ML) to predict the volumes to be sold based on weather, date, holidays and time of day. It also uses historical sales data of 2 years, which further increases accuracy.

Outcome

The new PAL balances availability and wastage of prepared items. It also supports employees with preparation advice such as baking recipes, cutting and plate occupation.

Customers receive the products they want at the height of freshness. Employee satisfaction increased due to better availability and increased efficiencies. Plus, sustainability increases as the environment benefits through lower food wastage.

1% Expected increase in turnover (time from food prep to sale)

10% Expected reduction in waste

73% Employees indicate PAL 2.0 has made their job in the store easier

Benefits and Outcomes 2 of 2

People Related – Personal Perspective

When it comes to implementing a new predictive model, one of the first hurdles is gaining employee confidence in the output. While the algorithms are supported by sophisticated machine learning, users will not trust the results until they can see the data match sales.

On the first day of implementation, Jumbo's Pelt, Belgium location woke up to a surprise. The new PAL 2.0 system said to make 225 croissants that day, while the legacy system said 145. 50% more croissants was a shocker, especially when they were going to be open limited hours that day.

Turns out, it was a holiday in Belgium whereby fresh croissants are a special treat. The PAL 2.0 system factored in the holiday while the legacy system did not. That day they sold 245 croissants, with zero wastage. A successful day for the store, customers, and PAL 2.0!

The stores love using the new system, including the iPad, over the old, Excel and paper-based system. It makes working on the floor and helping customers much easier. Overall, the employees see the tool as a huge added value.

For me as a team lead, it saves time because no PAL list has to be created on Monday. The people on the floor can now easily access all the data themselves.

Our customer and employee satisfaction has increased tremendously since implementation. No more empty shelves and no more emergency food prep.

Store Manager, Pelt

Business Application Studio
References and Customer Stories

Feel free to reach out to us! We are always looking for new Business Application Studio references and new customer stories.
SAP supports to promote and leverage your **Success Stories**!
Contact us via BuildCode@sap.com

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What to expect in 2024

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2024 Business Application Studio roadmap

Changes in Roadmap possible

Q1 / 2024

SAP Build Code GA

Generative AI – Joule **
1. GA of Joule in SAP Build Code

Developer productivity
1. **High-productivity experience for pro-code developers creating Mobile applications**
2. Allow easy navigation and tools for ABAP Cloud projects
3. Guided development for UI applications

Project lifecycle and IT governance
1. Manage project source code in Lobby via source control

Q2 / 2024

Generative AI – Joule **
1. AI Tools for Fiori applications

Developer productivity

1. **Allow any node.js CAP application to use productivity tools.**
2. **Notification center to inform developers of recent updates and news.**
3. Service Center for HANA native artifacts
4. **Tools for supporting UI5 Freestyle applications.**

Fusion use cases
1. Develop UI5 apps for task UIs for SPA

Q3 / 2024

Generative AI **
1. AI Tools for Mobile applications

Developer productivity
1. Service Center tool for consumption of REST services
2. **High-productivity experience for pro-code developers creating HANA applications**
3. Tools for supporting SAP Full Stack applications extensions (CAP)
4. Guided development for mobile applications
5. **Build Code for CAP Java**
6. Support machine types selection for extended resources

Fusion use cases
1. Application development tools for ABAP use cases
2. Trigger SBPA process from Full Stack Application/CAP Service

Q4 / 2024

Generative AI **
1. AI Tools for HANA applications

Developer productivity
1. Support to visualize large CDS models.
2. High productivity experience for pro-developers creating SME applications
3. Guided development for HANA applications
4. **Integration with Work Zone Standard and Advanced.**
5. Support for deployment to HTML5 runtime without CF

Project lifecycle and IT governance
1. Allow customers to offer custom dev-spaces
2. Allow admins to govern selection of machine types and custom dev-spaces

** - Only for SAP Build Code

Learning Journey

Develop Full-Stack Applications Using Productivity Tools in SAP Business Application Studio

- **Level**: Beginner/Intermediate
- **Duration**: approx. 1 day
- **Overview**: This Learning Journey introduces you to build and deploy business applications in SAP Business Application Studio using the high productivity tools.

Video

Scan QR code!

Learning Objectives: After completing this learning journey, you will be able to build cloud applications in SAP Business Application Studio based on a variety of SAP Technologies including SAP Cloud Application Programming Model, SAP Fiori, and SAP Mobile Development Kit. You will learn how to use the high productivity tools in SAP Business Application Studio. You will also be able to deploy an application manually and automatically using a continuous integration and delivery pipeline.

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Q&A

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