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PRODUCT REVIEW

AURAQUANTIC: FROM TRADITIONAL BPM TO LOW-CODE AND PROCESS AUTOMATION INNOVATOR

AURAQUANTIC

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About This Report

Regarded as one of the technologies to watch for by many pundits and software market research firms, low-code development platforms have steadily gained attention and adoption over the past five years and have no plans of letting go of this momentum.

Organizations want to achieve business agility, flexibility, and adaptability to provide all business departments with the tools they need to perform their operations as efficiently as possible. This means having or developing the right software tools for achieving these business benefits. Low-code development and process automation holds a crucial key for accomplishing this goal.

With more than 20 years of experience, AuraQuantic—formerly called AuraPortal—has evolved alongside traditional business process management (BPM) software needs. The company has now transformed its main offering into a new platform that enables low-code development and process automation for companies that need to continuously improve and transform their business operations and practices.

AuraQuantic's new digital platform combines a set of features aiming to facilitate, accelerate, and enhance the development and automation of a fully fledged process-ready application.

This brief report offers relevant insights into AuraQuantic's current features for the development of low-code applications, along with informative research analyst commentary on the use of this platform for organizational success.

Introduction

For the past couple of decades, many organizations have relied on developing software and new applications for enabling optimal operational efficiency and business success. This goal appears to be even more important in today's fast-moving and new business environment.

Facing ever-changing and evermore challenging business demands, organizations must rely increasingly on more effective technology, both hardware and software, from new and better equipment to fast-evolving software technologies, to run their operations at utmost capacity. This includes ways to enable companies to develop not only high-quality software applications but also more flexible and adaptable tools at a faster pace.

These technologies include the so-called low-code application development platforms, which aim to make the software development process more efficient, agile, secure, and faster within organizations.

As a result, an increasing number of software providers coming from different types of software and industry orientations keep incorporating low-code development offerings within their arsenals. One of these software providers is AuraQuantic.

A longtime business process management (BPM) software provider, AuraQuantic has evolved to become a provider of process automation and low-code development solutions, offering customers new and modern ways to address their current and upcoming software development and business process demands.

In this brief report, we take a closer look at AuraQuantic's approach for the provisioning of low-code development and process automation software capabilities for permitting more efficient process execution and automation within modern business operations.

About Low-Code Development

Simply put, a low-code development platform provides an environment to enable the design, development, and deployment of new applications with the use of little or even no programming code. Instead, both developers and non-developers alike can use a set of visual tools to create new applications.

This approach contrasts the development of the so-called low-level cryptic assembly languages and high-level languages such as C, Java, and Python. These languages not only require a high level of coding expertise to be able to develop applications but also entail a time-consuming process. Low-code platforms and low-code solutions aim to significantly simplify and accelerate the application development process so that it is possible to develop flexible applications easier and faster.

The main goal of low-code development platforms and solutions is to strip from the software development process the implicit complexities inherent with working with common programming languages, such as C and Python, including the hefty learning curve of learning the language and the time-consuming process of generating the code.

Low-code solutions aim to enable application development by employing, instead of code, a visual-design approach where users and developers assemble and order application elements (such as forms, data fields, charts, and others) to build a new application using as little code as possible—facilitating the widespread availability of software development within an organization.

About AuraQuantic

The company was founded in 2002 under the name AuraPortal as a traditional business process management (BPM) solution provider. After nearly 20 years in the market and a continuously evolving path, AuraQuantic today is a modern provider of digital process and automation solutions, with more than 9.5 million users and more than 1,000,000 deployments of its software offerings.

With a mix of experienced executives and expert technical savvy engineers, AuraQuantic has been able to grow and expand into an organization of approximately 25 million Euros in annual revenues. It has more than 100 employees and a presence in more than 50 countries thanks to a vast partner network and strategic partnerships with key software companies such as Microsoft.

About AuraQuantic's Digital Process Automation Platform

AuraQuantic's digital process automation (DPA) platform is the company's flagship offering. It consists of a fully fledged digital process automation and low-code development solution.

According to the vendor, the solution has been built on a solid BPM foundation and evolved via the continuous incorporation of new technologies into a platform that helps companies not only design and execute business processes but also create and automate fully fledged process-oriented and more "intelligent" applications within the use of a single platform.

AuraQuantic's platform incorporates many functional elements within its arsenal, including:

- Process automation
- Low-code development
- Dynamic case management
- Analytics and smart decision
- Business rules and data
- Artificial intelligence
- Connectivity

For this report, we explore in further detail the relevant aspects of AuraQuantic's DPA platform regarding its capabilities for process automation and low-code development.

To know more about the overall capabilities of the platform, we invite you to read TEC's Product Review of AuraQuantic's Digital Process Automation Platform.

Business Process Automation

One of the key elements of today's business process-oriented software is the software's ability to enable not only the design, development, deployment, and execution of business processes to ensure effective business operations but also the automatic execution of some or all of the processes to minimize human intervention and thus enable time and cost savings as well as increased process efficiency.

A defining feature of AuraQuantic's DPA offering centers around the platform's ability to choreograph work while going beyond that to orchestrate specific activities.

Work Choreography and Orchestration

AuraQuantic includes a set of capabilities that expand task automation and enter the realm of service/work choreography and orchestration.

The AuraQuantic DPA platform allows organizations to automate some if not all of the configuration and management work and services provided by computer systems so that these can operate in a coordinated way using choreography and/or orchestration methods. In other words, the platform enables organizations to deploy both distributed (choreography) and centralized (orchestration) methods for achieving flexibility and adaptability in business process automation and execution.

Some of the work choreography features provided by AuraQuantic include:

- Inclusion of ad hoc processes within work choreography, so that workloads are connected not only within the instances from the same process but also with other, ad hoc processes.
- Smooth connection of activity data, so that messages between activities proceed seamlessly.
- Setting of regular process tasks such as parallel behavior, so that tasks are connected in parallel and hence "jointly executed," further enabling more effective connectivity among different types of work.

The AuraQuantic DPA platform also considers a wide range of simple and complex process orchestration scenarios as well as a full set of management capabilities for human and system workflows including roles, time, contextual data, data performance, and external input, among others. All this is complemented by a rich set of capabilities such as the following:

- A fully configured BPM engine that works alongside the orchestration engine and that allows workflows to be executed to establish seamless flows across enterprise systems as well as with external parties. The BPM engine is bolstered by a full set of activity logs, monitoring, and alerts capabilities to provide valuable data for continuous process improvement.

- The ability to manage and assign critical and priority levels to processes, so that the most urgent tasks are prioritized, thereby allowing users to manage their tasks with the utmost efficiency.
- A work-balancing mechanism that enables the system to automatically assign tasks based on various parameters to ensure efficient execution. For example, the system can assign tasks to a user (with a specific role) who has the least outstanding tasks in their workflow as well as reassign tasks to other employees when employees originally assigned to the tasks take leave so that bottlenecks do not occur.
- The delegation of activities or tasks can occur in different ways:
    - By group-member ranking. The task will be sent to the user with the appropriate rank.
    - In a discretional mode. Any user under an assigned group can claim the task while also being able to delegate the activity to any other member of the group.
    - By different delegation modes. With the ordinal delegation mode, the delegation follows a predefined order for that group of users, whereas, with the not delegable mode, the activity stays with the user who claims the task.
    - With parallel behavior. A copy of the task is created for each member of the group to perform the same task.
- An intelligent business rules engine that enables organizations to automatically orchestrate actions according to their existing regulations and procedures as well as to integrate seamlessly their process-related information within running processes. The business rules engine can configure rules to be invoked as required, giving users the power to modify and perform them as needed.
- An extranet service to manage communication flows between internal and external users, such as customers, suppliers, and other external organizations, to facilitate collaboration and enable customer satisfaction improvement.
- The ability to allow external systems to orchestrate or establish the order/sequence of activities of a process. For example, a developer might import an Excel document with a list of task assignments, users, and deadlines, and the AuraQuantic DPA platform may automatically construct the flow of activities for that instance of the process.

- Capabilities for adding contextual information to processes, by enabling the extraction and display of real-time event data across different process elements to enhance process enrichment.
- The ability to consider process metadata elements for analysis and insight gathering about tasks and processes.
- The presence of a rich set of connectors to third-party systems to ensure vast communication with an organization's existing enterprise software stack.

Process Automation

The capabilities for work orchestration provide a solid base to enable AuraQuantic DPA platform users to achieve effective levels of digital process automation, regardless of whether the process is simple or complex, internal or external, or related to a line of business (LoB) or the entire enterprise.

To better understand some of the platform's more relevant digital process automation features, let's take a stepwise approach into some of the different process development and execution phases.

Process Triggering

- A process instance can trigger another process instance, regardless of which process these instances belong to.
- A new instance can be triggered from either the beginning, an intermediate point, or a subprocess. Additionally, there is the option of having the triggering process wait for a response from the triggered process.
- Process instances can be initiated using a scheduled, on-demand, or manual mechanism.

Process Execution

AuraQuantic's platform includes a full set of features to ensure automatic process performance and execution via its Chronometrics and Universal Watcher features, including alarms, alerts, and prebuilt key performance indicators (KPIs) and reports to monitor operation times and process performance as well as to provide insights into process performance and guidance about issue resolution.

The platform also has a multiflow control feature that allows users to trigger multiple processes at once and from a single point (figure 1).

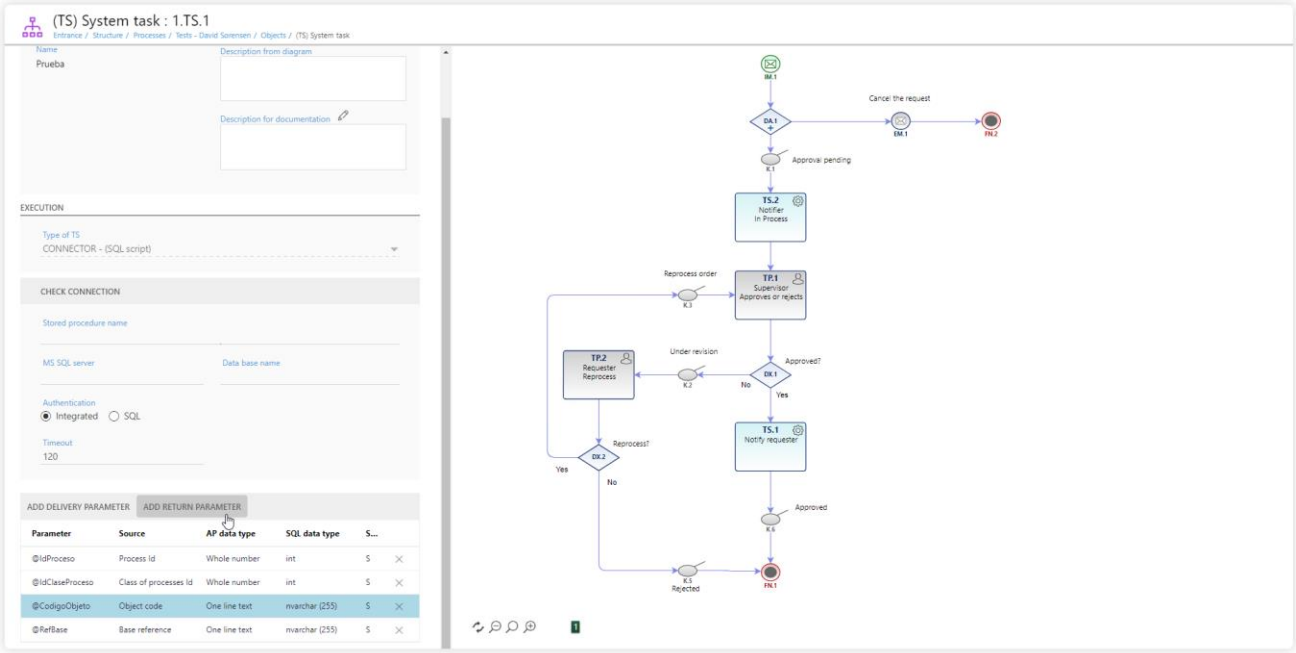

Figure 1. Multiflow event-driven activation (*Courtesy of AuraQuantic*)

Another key feature includes the ability to detect faults as well as unexpected changes via a full set of flow control capabilities (figure 2).

Should a fault or undefined change occur during an instance of a process, this instance will be put on hold and the process responsible will be sent a notification with information on where and why the process flow has stopped. The user responsible for enabling process execution will then be able to make changes on the fly to the process and its parameters.

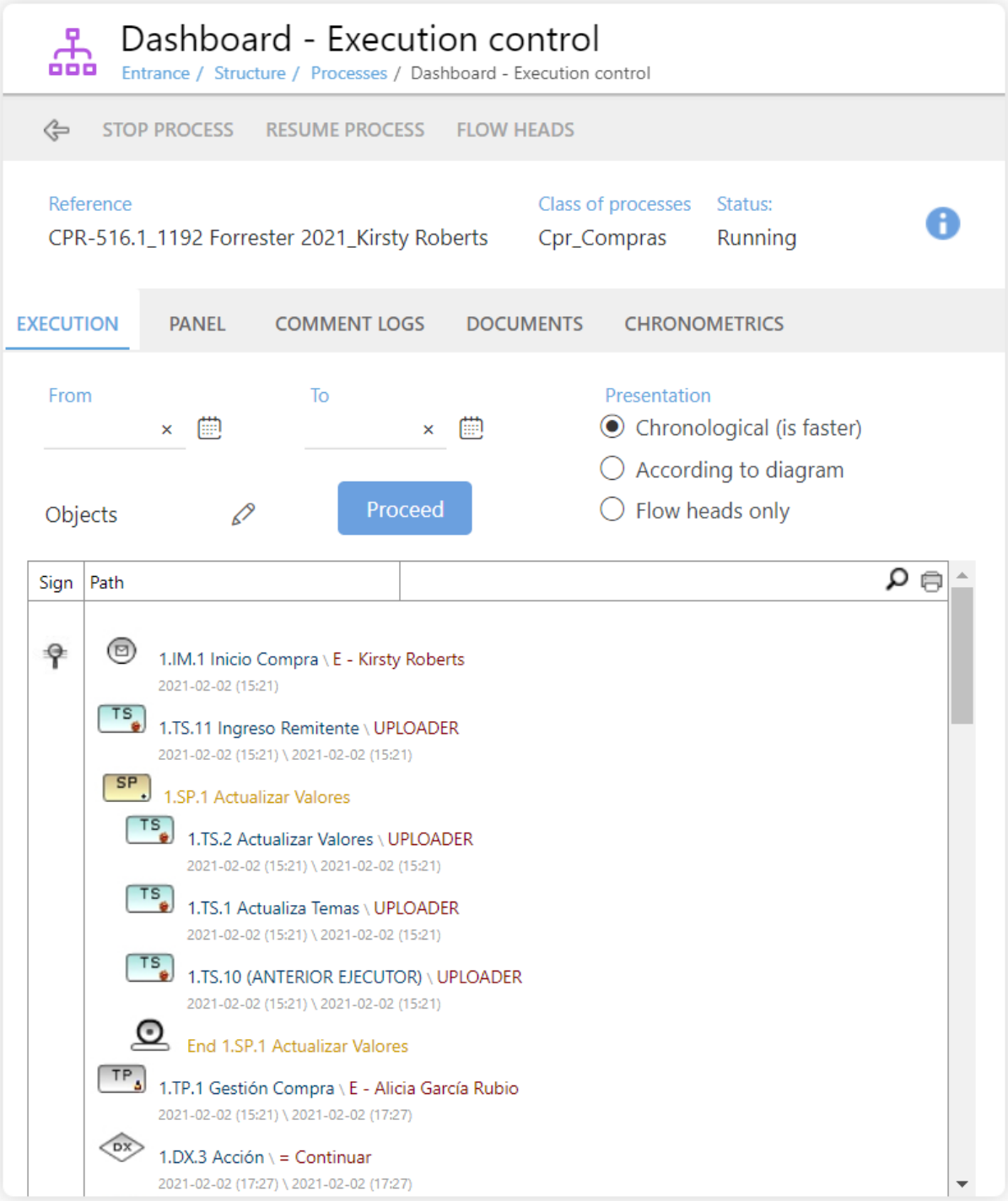

Figure 2. AuraQuantic's execution control screen (*Courtesy of AuraQuantic*)

From a business data perspective, control "sensors" can be placed at strategic points throughout the process flow. When any deviation occurs, alarms are triggered and notifications are sent to the relevant people; other processes or subprocesses can also be triggered from these alarms.

Furthermore, the Universal Watcher feature, available to citizen developers, allows the user to retrieve information about events and data relevant to process execution, as well as the setting of conditions, alarms, and warning notifications.

This anomaly detection system identifies not only unexpected changes but also opportunities for continuous business process improvement.

Unlike other types of controls, which show only real-time information, Universal Watcher allows the retrieval of data recorded at a specific time and the storing of data over time to detect critical performance patterns.

Case Management

An important element to consider when talking about process automation is the ability to perform effective case management. AuraQuantic includes capabilities for better managing highly adaptive processes and for performing key tasks such as:

- Requesting additional information
- Re-routing a case to be reviewed by someone other than the defined participants
- Repeating a previous action
- Delaying the process until a certain time frame or event has occurred

The chronometric feature, which includes alerts, alarms, and KPIs, is especially helpful, as it allows authorized users to make immediate changes such as postponing a deadline. It is important to note that every step within an AuraQuantic process can be repeated with an unlimited number of loops.

Another key feature is the generation of fields based on data received from an external source. In this case, a set or sequence of tasks can be custom tailored to the data within an Excel sheet, enabling seamless data import and configuration of tasks by using the existing data.

These and other features of the AuraQuantic digital process automation platform impart organizations with bold capabilities for enabling effective process automation at all stages of process design and implementation.

Low-Code Application Development

In its DPA platform, AuraQuantic has put together a full set of capabilities for performing low-code application development.

The platform makes it possible for users to develop both simple and complex applications from scratch or with the help of a set of predeveloped components provided by AuraQuantic, enabling both nonsavvy users and experienced developers to simplify and accelerate the development of new applications.

To facilitate the development of these applications, AuraQauntic provides the ability for performing low-code development in all phases of the application development cycle and offers users a large set of design capabilities. AuraQuantic provides features for application responsiveness as well as a full set of wizards and intelligent assistants (such as forms, full mobile apps, and intuitive tools) for incorporating tab navigation and inserting multimedia content, thereby easing the process of developing web-based pages, websites, or full portals.

Among other important features is a full set of graphical development tools, including an application interface design tool as well as a fully graphical interface for users to develop page flow maps, helping them to configure the automation process.

An entry portal/custom pages design tool, an external portal design tool, and a form design tool enable users to build full sets of internal and external web design sites for both web and mobile devices.

Additionally, AuraQuantic also allows users to take advantage of other design tools, such as the following, to develop additional applications:

- A reporting/BI design tool
- A process tracking design tool
- A data records design tool

The AuraQuantic DPA platform also offers some specific functional tools such as a login form design and shopping cart tools. All interface tools are equipped with a rich set of design and execution configuration options.

The platform does not rely solely on design interfaces but offers a wide number of web-based editors to enable full development efforts.

Starting with its Universal Watcher (process tracking) graphical developer tool, AuraQuantic offers its customers and users the ability to perform a wide range of web-based development efforts that include the ability to model the process logic and business rules, while of course, including rich visual and effective user interfaces.

With its digital process automation platform, AuraQuantic has ensured that nearly all aspects of development can be addressed via low-code graphical interfaces including customer pages, data structure design, shopping carts, and on-the-fly HTML page design by nonsavvy users. It also offers citizen developer–friendly web services and connectors.

The design experience offered by AuraQuantic appears to be carefully tailored to the needs of corporate and LoB environments and is suited for both technical developers and nontechnical so-called "citizen developers."

AuraQuantic's design experience comes complete with additional yet relevant capabilities for enhancing and extending users' development efforts with supported pro-code extensions including the following:

- SQL scripts
- ASPX pages
- JSON structures in REST connectors
- SOAP WS
- HTML pages
- CSS

All these extensions can be used or actioned from different points within the application development process to provide flexibility and agility, including buttons within forms, sites, as well as other tools that during process runtime (system tasks in process logic) can be triggered, for example, right before starting a process (set up at start event) or via activation of a plugin. AuraQuantic thus offers a fairly easy and flexible way to integrate with third-party development efforts and expand their own development powers with a versatile configuration of code editors (figure 3).

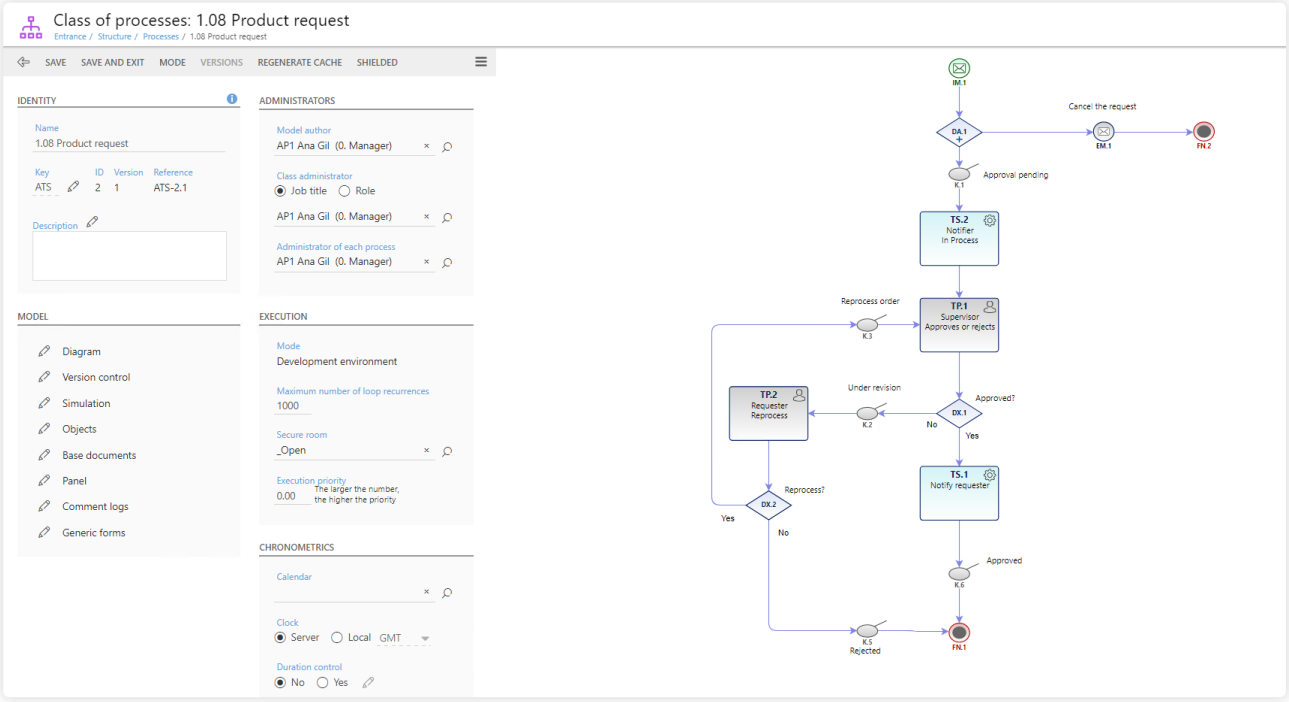

Figure 3. Screencap of AuraQuantic's code editors configuration (*Courtesy of AuraQuantic*)

Conclusion

As low-code development platforms continue to evolve, they have become a technology to look out for by many organizations that need to accelerate and simplify software development without compromising either quality or execution power.

These have been especially challenging times that have forever changed the software technology landscape, putting organizations under immense pressure to respond with new and effective ways to take software development to the next stage.

AuraQuantic's automation and low-code development platform is the result of this evolution—bringing together process management and automation with low-code development for organizations of all sizes and shapes.

AuraQuantic has been able to assemble a solid platform for allowing businesses to expand their operational capabilities with the use of well-defined process-oriented and automated applications.

AuraQuantic, like any other software company thriving in this space, will face tough competition in a market that seems to be rapidly growing not only in user adoption but also in the number of new players that are present and the offerings that are available to organizations. The AuraQuantic digital process automation (DPA) platform can provide the depth of functionality and levels of service required by lines of business and entire enterprises running their business processes with a largely remote workforce and facing considerate business uncertainty. Based on our research and interactions with AuraQuantic, the DPA software provider should certainly be among the shortlisted contenders for your next low-code software development project venture.

About the Author

Jorge García is TEC's Principal Analyst, Business Intelligence (BI) and Data Management. He has more than 20 years of experience in all phases of application development, database and data warehouse (DWH) design, as well as 9 years in project management, covering best practices and new technologies in the BI/DWH space.

Before joining TEC, García was a senior project manager and senior analyst developing BI, DWH, and data integration applications with Oracle, SAP Business Objects, and data integration. He has also worked on projects related to the implementation of BI solutions for the private sector, including the banking and services sectors. He has had the opportunity to work with some of the most important BI and DWH tools on the market.

García is a member of the Boulder BI Brain Trust.

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