IBM Launches watsonx Code Assistant, Delivers Generative AI-powered Code Generation Capabilities Built for Enterprise Application Modernization

Watsonx Code Assistant for Red Hat Ansible Lightspeed and watsonx Code Assistant for Z are now available

ARMONK, N.Y., Oct. 26, 2023 /PRNewswire/ -- Today IBM (NYSE:IBM) launched watsonx Code Assistant, a generative AI-powered assistant that helps enterprise developers and IT operators code more quickly and more accurately using natural language prompts. The product currently delivers on two specific enterprise use cases. First, IT Automation with watsonx Code Assistant for Red Hat Ansible Lightspeed, for tasks such as network configuration and code deployment. Second, mainframe application modernization with watsonx Code Assistant for Z, for translation of COBOL to Java.[1]

Designed to accelerate development while maintaining the principles of trust, security, and compliance, the product leverages generative AI based on IBM's Granite foundation models for code running on IBM's watsonx platform. Granite uses the decoder architecture, which underpins large language model capabilities to predict what is next in a sequence to support natural language processing tasks. IBM is exploring opportunities to tune watsonx Code Assistant with additional domain-specific generative AI capabilities to assist in code generation, code explanation, and the full end-to-end software development lifecycle to continue to drive enterprise application modernization.

According to a recent IDC report, "Because it relies on a model trained on curated data, watsonx Code Assistant can help enterprises improve code quality by propagating best practices through code recommendations, instead of polluting enterprise code bases with code generated by models trained on unvetted repositories."[2]

"With this launch, watsonx Code Assistant joins watsonx Orchestrate and watsonx Assistant in IBM's growing line of watsonx assistants that provide enterprises with tangible ways to implement generative AI," said Kareem Yusuf, Ph.D, Senior Vice President, Product Management and Growth, IBM Software. "Watsonx Code Assistant puts AI-assisted code development and application modernization tools directly into the hands of developers – in a naturally integrated way that is designed to be non-disruptive – to help address skills gaps and increase productivity."

Additionally, IBM Consulting brings deep domain expertise across these use cases working closely with clients across industries such as banking, insurance, healthcare and government, to build strategies to allow them to take advantage of the

potential of generative AI and code generation to accelerate modernization.

IT Automation - IBM watsonx Code Assistant for Red Hat Ansible Lightspeed

The Ansible Automation Platform helps enterprise developers and IT operators implement automation, using Ansible Playbooks, for IT tasks including infrastructure management, hybrid cloud deployment, network configuration, application deployment and more. With IBM watsonx Code Assistant for Red Hat Ansible Lightspeed, platform users can input plain English prompts to automatically generate task recommendations for Ansible Playbooks that adhere to best practices in task creation and maintenance. This way, a greater number of team members can create Ansible Playbooks more efficiently and implement automation engineered to be more resilient and easier to support without in-depth training.

Technical Preview Key Data:

- Approximately 4,000 developers participated in the technical preview.
- 85% overall average acceptance rate of the AI-generated content recommendations. (from July 27 – Oct 23, 2023, based on over 41,000 recommendations)
- Productivity improvements in the range of 20-45%.

"Red Hat has already shown what domain-specific AI can do for IT automation at the community level," said Ashesh Badani, Senior Vice President and Chief Product Officer, Red Hat. "The release of watsonx Code Assistant for Red Hat Ansible Lightspeed has the potential to close skills gaps, create greater organizational efficiencies and free enterprise IT to deliver even more business value."

The Hybrid Cloud Platforms team within the IBM CIO Office uses Red Hat Ansible Automation Platform to support a wide range of tasks within their IT environment whether it's patching, resolving vulnerabilities, or running regular health checks of their systems. Bob Epstein, Leader of IBM CIO Hybrid Cloud Platforms, expects that the number of developers able to produce Ansible Playbooks with the full release version could increase as much as 10x as watsonx Code Assistant for Red Hat Ansible Lightspeed empowers other team members such as Site Reliability Engineers who can use natural language to generate Ansible-specific automation tasks.

"I like to look at our modernization journey in these stages: In the past we were crawling, doing a lot of things manually. Then, when we started automating, we were walking. Once we implemented Red Hat Ansible Automation Platform, we were running. And as we look ahead, with watsonx Code Assistant for Red Hat Ansible Lightspeed, I think we will be able to fly," said Robert Barron, Architect, Hybrid Cloud Platforms, IBM CIO Office.

```
test > ≡ matt2.yml
  1    - name: Httpd podman
  2      hosts: all
  3      tasks:
  4        # Assert ansible_user is not root & Install podman & Pull httpd container image & Create httpd container
  5
  6
```

For more information on IBM watsonx Code Assistant for Red Hat Ansible Lightspeed, please visit our website here.

Mainframe Application Modernization – IBM watsonx Code Assistant for Z

IBM watsonx Code Assistant for Z helps enable faster translation of COBOL to Java and enhances developer productivity on the platform. It is being designed to assist businesses in leveraging generative AI and automated tooling to accelerate their mainframe application modernization – while allowing clients to take advantage of the performance, security and resiliency capabilities of IBM Z.

Today, the product follows the application modernization lifecycle, starting with an application discovery capability, which maps out a technical understanding of the application and its dependencies. Then, an automated refactoring capability leverages the information captured in application discovery to identify selected elements to decompose the monolithic application into modular COBOL business services. Finally, watsonx Code Assistant for Z leverages generative AI to transform individual COBOL business services into object-oriented Java code. The next step in the lifecycle is validation testing. Anticipated in a future release, the product will support automated test case generation to validate the new COBOL or Java services.

TCS and IBM hold a long-term partnership that fosters a collaborative ecosystem to develop joint successes for their customers and stakeholders. Leveraging this partnership and the deep contextual knowledge, TCS has grown a purpose-led, dedicated, full-service practice for in-place application modernization.

"There is a significant need for the developer productivity gains that generative AI can bring to transform applications on the mainframe," said Keshav Varma, ISU Head, Technology, Software and Services Business Unit, TCS. "While watsonx Code Assistant for Z has only just become available, we have several clients that have already requested that we create proofs of concept for them. With decades of enterprise experience from both our companies, we look forward to building on our deep partnership with IBM using watsonx."

For more information on IBM watsonx Code Assistant for Z, please visit our website here.

IBM Consulting Brings Expertise to Help Clients with IT Automation and Modernization

Early IBM Consulting engagements for both watsonx Code Assistant for Red Hat Ansible Lightspeed and watsonx Code Assistant for Z aim to provide clients with the ability to deliver continuous automation, Ansible Playbook productivity, quality improvements, and transformation of IT operations – in addition to helping them identify the right application areas to modernize with Z.

For those looking for more personalized use cases with watsonx Code Assistant, IBM Consulting and IBM Client Engineering can work side-by-side with clients to identify specific pain points and solve critical business and technical challenges from the users' perspective. IBM Consulting brings deep industry expertise in application modernization, IT automation and generative AI via dedicated Red Hat and watsonx practices that work closely with IBM Research, IBM Technology and Red Hat.

Statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

About IBM

IBM is a leading provider of global hybrid cloud and AI, and consulting expertise. We help clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. More than 4,000 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud products and consulting deliver open and flexible options to our clients. All of this is backed by IBM's long-standing commitment to trust, transparency, responsibility, inclusivity and service.

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[1] IBM watsonx Code Assistant for Z includes an on-prem and as a service component. When the components are purchased together, watsonx Code
Assistant for Z includes the referenced generative AI capabilities.

[2] IDC Market Note, IBM's watsonx Offers Generative AI for EnterpriseDevelopment and DevOps, IDC #US51203823, September 8, 2023

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Additional assets available online: Photos (1)

  Video (1)

https://stage.mediaroom.com/ibmnewsroom/2023-10-26-IBM-Launches-watsonx-Code-Assistant,-Delivers-Generative-AI-powered-Code-Generation-Capabilities-Built-for-Enterprise-Application-Modernization