

# IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide

Description	IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide
Author(s)	Andrew R. Jones (andrewj@us.ibm.com)
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# Welcome

Welcome to the **IBM watsonx Assistant for Z for Technical Sales Level 3** lab and demonstration guide! The goal of this lab is to provide you with the knowledge and tools to demonstrate **IBM watsonx Assistant for Z**.

This lab is not intended to serve as an in-depth study of IBM watsonx Assistant for Z, watsonx, or IBM Z, rather the focus is on learning how to deliver a client demonstration of IBM watsonx Assistant for Z. More specifically, the focus is on the *end-user* creating queries and using trusted automations through skills that are suggested by IBM watsonx Assistant for Z.

Other aspects of IBM watsonx Assistant for Z including creating and configuring assistants, importing and creating new skills, and ingestion of client documentation are **not** covered in this demonstration guide. To learn more and get hands-on with these additional capabilities, check out the Velocity Pilot information in IBM Technology Zone ([ITZ](#)) [here](#). Watch for a Level 4 course in the future.

## Obtaining the IBM watsonx Assistant for Z Technical Sales Intermediate badge (Level 3)

**Business Partner technical sellers** must pass a short quiz upon completing the course. This quiz consists of multiple-choice questions, with four possible responses (and only one correct answer) for each question. The questions do not test your understanding of IBM watsonx Assistant for Z, rather, they validate your use of the provided demonstration environment.

**IBM technical sellers** must develop and record a Stand and Deliver presentation. This video is intended to simulate your delivery of a “live” demo in front of a client. IBMers have the flexibility to define a hypothetical client, the challenges the client has, and the goals they aspire to achieve. Your recording must be a demonstration that pitches the value of this solution by using the environments and techniques that are described in the demonstration guide. Specific criteria that must be demonstrated as part of the Stand and Deliver recordings are provided within the documentation that accompanies the Level 3 course in Your Learning.



### Keep the demonstration guide and [ITZ](#) environment active



Business Partners, keep the demonstration guide and [ITZ](#) environment active while you take the quiz.

IBM technical sellers, keep the demonstration guide and [ITZ](#) environment active until you complete your Stand and Deliver.

## Support

Think something is down? Check the applicable status pages for any known issues like a site or service not available:

- [IBM Technology Zone](#)

For issues with provisioning the ITZ environment for this lab (for example, a failed reservation request due to insufficient quota capacity) open a ticket with ITZ support:

- Web: [IBM Technology Zone](#)
- Email: [techzone.help.ibm.com](mailto:techzone.help.ibm.com)

For issues related to specific steps found in the demonstration guide after the ITZ environment is provisioned, contact the authors:

- Slack: [#watsonx-assistant-z-technical](#) - IBM only
- Email: [andrewj@us.ibm.com](mailto:andrewj@us.ibm.com)

Business Partners should use the IBM Training live Chat Support service or other support methods that are found on the IBM Training portal [here](#).

## Using the demonstration guide

Use these helpful tips to take full advantage of the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide.



### Printing the demonstration guide

#### Printed or saved copies can be out of date

The IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide changes regularly to match the IBM watsonx Assistant for Z offering and associated ITZ environment. Printed or saved copies of the demonstration guide can become out-of-date quickly and result in failed steps.

A ready-to-print PDF version of the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide is [here](#).



### Viewing images

Images in the demonstration guide can be enlarged by clicking on the image. Press the key or click the X to dismiss the enlarged image.



### Image highlighting

In some images, the following styles of highlighting are used:

- **Solid highlight box:** This style of box highlights where to click, enter, or select an item.



- **Dash highlight box:** This style of box highlights one of two things: the path to follow to get to a specific location in the user interface, or areas to explore on your own.





## Copying commands and prompts

Copying and pasting commands and prompts from this demonstration guide is easy and can eliminate typographical errors.

Click the highlighted copy icon and then use your operating system's paste function. For example, ^ Ctrl + V or right-click and select Paste.

### Prompt 1

What is the APF list in z/OS? Provide a detailed explanation.



## Acronyms and terminology

IBM employees, and the tech industry in general, enjoy using acronyms. In the demonstration guide, most acronyms will appear with a dashed underline. Hover over the acronym to learn its meaning. A question mark (?) icon will first appear and after a second the tool tip with the acronym's meaning is displayed. Try it here: LPAR.



### Guidance for delivering a demonstration



Search

IBM watsonx Assistant for Z

Welcome

Reserve the IBM Technology Zone environment

Guidance for delivering a demonstration

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Next steps

Specific guidance for IBM watsonx Assistant for Z and the ITZ environment

Following the scripts provided in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide will help guarantee a successful demonstration. Use these tips to help insure success with IBM watsonx Assistant for Z and the ITZ environment:

- Follow the scripts in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide for the automations and skills to execute as expected.

Table of contents

General demonstration guidance

Specific guidance for IBM watsonx Assistant for Z and the ITZ environment



## The Demonstration Guide table of contents



This **Demonstration Guide** uses a responsive browser-based interface to ensure a pages are usable on various devices with different screen sizes. The Demonstration Guide table of contents may be displayed as highlighted in the green dashed box in this image:

**IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide**

**Welcome**

Welcome to the **IBM watsonx Assistant for Z for Technical Sales Level 3** course and demonstration guide! The goal of this course is to provide IBM and Business Partner technical sellers the knowledge and tools to demonstrate **IBM watsonx Assistant for Z**.

This course is not intended to serve as an in-depth study of IBM watsonx Assistant for Z, watsonx, or IBM Z; rather the focus is on learning how to deliver a client demonstration of IBM watsonx Assistant for Z. More specifically, the focus is on the *end-user* creating queries and by using trusted automations through skills that are suggested by IBM watsonx Assistant for Z.

Other aspects of IBM watsonx Assistant for Z including creating and configuring assistants, importing and creating new skills, and ingestion of client documentation are **not** covered in this demonstration guide. To learn more and get hands-on with these additional capabilities, check out the Velocity Pilot information in IBM Technology Zone (ITZ) [here](#).

Obtaining the IBM watsonx Assistant for Z Technical Sales Intermediate badge

**IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide Table of Contents:**

- IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide
- Welcome
- Guidance for delivering a demonstration
- Reserve the IBM Technology Zone environment
- Demonstration scenarios
  - Introduction to scenarios
  - Scenario 1: Authorized Program Facility
  - Scenario 2: Certificate renewal
  - Scenario 3: Db2 versioning
  - Scenario 4: Initial Program Load on Z
  - Additional IBM Z related prompts
  - Summary
  - Next steps
  - Printing the guide
  - Instructions

However, if the browser window is sized smaller, the table of contents can be accessed by clicking the main menu icon (≡):

**IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration...**

**Welcome**

Welcome to the **IBM watsonx Assistant for Z for Technical Sales Level 3** course and demonstration guide! The goal of this course is to provide IBM and Business Partner technical sellers the knowledge and tools to demonstrate **IBM watsonx Assistant for Z**.

Click the main menu icon (≡) to expand the table of contents.

# Demonstration guidance

Whether for a client, a session at a conference, or performing your Stand and Deliver, preparation for a demonstration is critical. Included are both general demonstration guidance and helpful tips for using IBM watsonx Assistant for Z and the IBM Technology Zone (ITZ) environment that is associated with the IBM watsonx Assistant for Z for Technical Sales Level 3 learning plan.

## General demonstration guidance

Knowing the audience that you are presenting to is critical. Having a basic understanding of a client's business and their challenges enables you to customize the conversation, so it resonates with the audience. It is also important to understand the roles of the individuals in your audience to know at what level of technical detail to present.

In addition, it is always a good idea to:

- Know how much time is allotted for your demonstration.
- Anticipate what questions your audience will ask.
- Anticipate what objections your audience may raise.
- Have a backup plan (like a video recording of the demonstration) in case of unforeseen events like network failures and unexpected errors.
- If your demonstration is to be delivered virtually, make sure everything works using the e-meeting technology.
- Do not deviate from this demonstration script. Straying from the planned script can lead to unexpected results and failure.
- If possible, and time permits, make your demonstration interactive with your audience. If that isn't possible, be sure to leave time for questions.
- Always conclude with a **call to action** (for example, next steps, follow-on activities, and so on).

And, most importantly, practice, practice, and practice.

## Specific guidance for IBM watsonx Assistant for Z and the ITZ environment

Following the scripts that are provided in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide helps assure a successful demonstration. Use these tips to help assure success with IBM watsonx Assistant for Z and the ITZ environment:

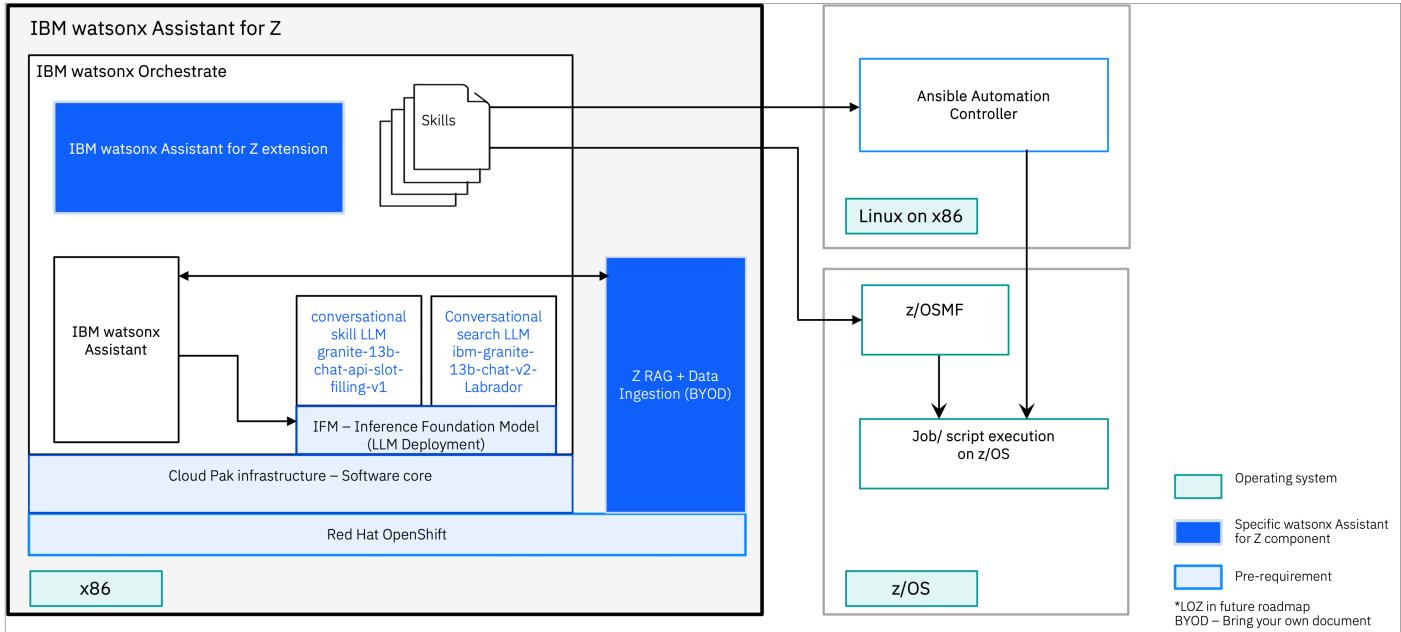
- While running many of the automated skills of IBM watsonx Assistant for Z, there will be times when the responses take 30 to 45 seconds to complete. You should be prepared to fill these wait times with some type of commentary. During these wait periods consider explaining in more detail what is being performed in the background, values of the automation, general values of the offering, or answering questions the client may have.
- **Google Chrome is the recommended browser for this environment.** Some users have experienced intermittent errors with running some of the skills when using other browsers.
- Run all prerequisites steps before starting the demonstration. Prerequisite steps are described with each scenario.
- Anticipate different responses from the scripted queries. The ITZ environment is a live and changing demonstration environment. Responses are subject to change as updates are made to the large language model (LLM) and retrieval augmented generation (RAG) used by IBM watsonx Assistant for Z.
- Follow the scripts in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide for the automations and skills to run as expected.
- When issuing other prompts:
  - Procedural questions provide better structure to responses. For example, in a query it is better to use "Explain how to estimate space requirements for Db2 table spaces without using Db2 admin tool. Provide a step-by-step answer." versus "How to estimate space requirements for table spaces?"
  - When asking a generic question, responses are more accurate when possessive adjectives are avoided. For instance, "How do I check the Db2 for z/OS version on a logical partition (LPAR)?" versus "How do I check my Db2 for z/OS version on my LPAR?"
  - Compound questions perform better. As an example, "Categorize the various zparms available." versus "What is zparm?"
  - Question styles like pros and cons and A versus B work better. For instance, "What are the pros and cons for setting GMTRAN to EXIT? Provide a detailed answer."

If you know your client and their environment well, client-specific questions will add value to your demonstration. However, it is critical to validate the accuracy of the responses before attempting in a live demonstration.

Next, explore the scripted demonstrations that are created by IBM watsonx Assistant for Z experts.

# IBM Technology Zone environment

To enable sellers to demonstrate IBM Watson Assistant for Z, an environment was created in IBM Technology Zone (ITZ). This environment mimics a typical client deployment of IBM Watson Assistant for Z, similar to this deployment architecture.



Follow the instructions in this section to create a new reservation request, extend the reservation, and access the ITZ demonstration environment.

## Create a reservation request

Follow these steps to create a reservation in ITZ.

1. Click the following link to open a browser to the reservation page of the **IBM Watson Assistant for Z**.



**You may be asked to authenticate to IBM Technology Zone**

The steps to authenticate to ITZ are not detailed here as they may vary between users.

[IBM Watson Assistant for Z - reservation page](#)

2. Click **Reserve now**.

The **Reserve now** option creates a reservation for immediate use. Optionally, schedule the reservation for a later date, like when you will be at your client's office.

IBM Technology Zone | My TechZone | Help

## Create a reservation

IBM watsonx Assistant for Z

Select a environment/infrastructure    Select a reservation type    Fill out your reservation    Complete

Select your reservation type. Do you need this now or later?

Single environment reservation options:

- Reserve now
- Schedule for later

[View collection](#)

3. Complete the reservation request and click **Submit**.

- a. Optionally, change the **Name** field for the reservation.
- b. Select the **Education** purpose tile.
- c. Enter a **Purpose description**.
- d. Select any geography in the **Preferred Geography** drop-down.
- e. The **End date and time** will be set to 2 days after the current date and time.
- f. Accept the IBM Technology Zone's terms and conditions and security policies.
- g. When satisfied with the parameters, click **Submit**.

IBM Technology Zone | My TechZone | Help

## Create a reservation

IBM watsonx Assistant for Z

Select a environment/infrastructure    Select a reservation type    Fill out your reservation    Complete

Name a  
Demo Access - watsonx Assistant for Z  
Name this reservation. This will help identify it in your reservations list.

Purpose

Demo  
Deliver a client specific demonstration based on discovery with the client and aligns to the identified architecture. Automatically captures a Technical Sales Activity in IBM Sales Cloud on the Opportunity code provided.

Pilot  
Rapid co-creation build that proves IBM technologies can deliver business value to clients' end users. Serves as a foundation to build a production solution. Automatically captures a Technical Sales Activity in IBM Sales Cloud on the Opportunity code provided.

**b** Education  
gaining experience with specific technology, product, or solution.

Please ensure to select the correct purpose as this can NOT be updated or changed after this reservation has been created. Review the [Reservation Duration Policy](#) to understand default durations allowed for specific infrastructures based on purpose.

Sales Opportunity number  
 Enter an opportunity number  
Providing an [IBM Sales Cloud Opportunity number](#), [Gainsight Relationship ID](#), or a [Project Work ID](#) will allow you to extend your reservation date.

**c** Purpose description  
Level 3 training

What are you doing? Why did you need this? What are you trying to accomplish?  
**d**

Preferred Geography  
 any - AMERICAS - any region - any datacenter

End date and time  
**e**  
Select a date: 09/27/2024   Select a time: 12:29 PM   America/Chicago

Reservation policy: Recommended 2 days, but can be reserved up to 2 days on this reservation form. Extend later for 2 days increments up to 4 days total. Max time 6 days total.

Notes  
 Enter any notes you would like to attach to this reservation

I agree to IBM Technology Zone's [Terms & Conditions](#) and [End User Security Policies](#) **f**

**g**

## Extend the reservation

The ITZ provisioning process takes approximately 15 minutes. Multiple emails are sent to you from ITZ as the provisioning process runs. One email states the reservation is provisioning and the other email states that the environment is **Ready**.

In rare cases, the provisioning process may fail. If you receive an email stating the reservation failed, try again by repeating Steps 1-3.

When the reservation is in the **Ready** state, you can extend your reservation to a total of 6 days. Remember, IBM sellers need the environment to record their Stand and Deliver and Business Partners need an environment to answer quiz questions.

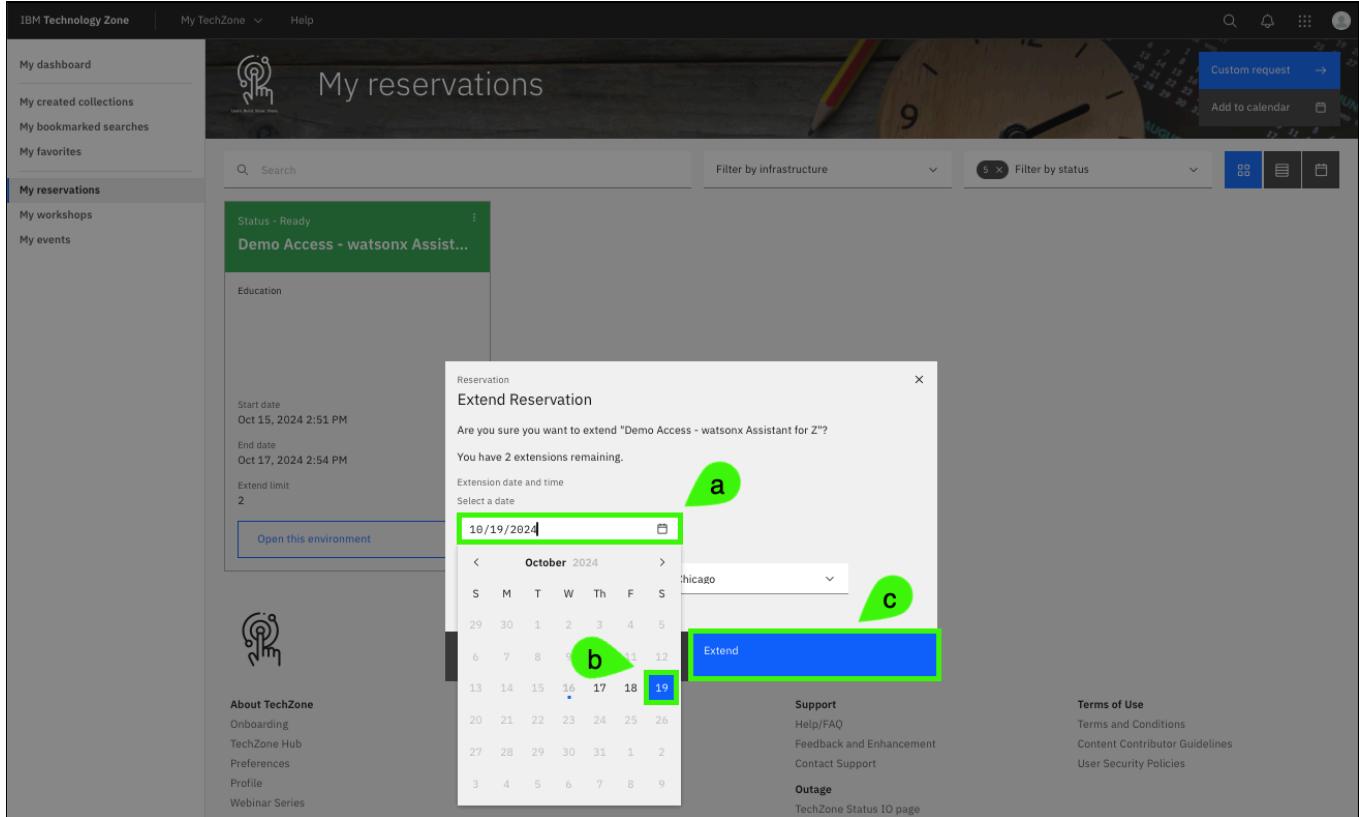
4. In the IBM Technology Zone portal, expand **My TechZone** at the top and select **My Reservations**.

The screenshot shows the IBM Technology Zone portal interface. The top navigation bar includes 'IBM Technology Zone', 'My TechZone ▾', 'Help', and a search bar. The left sidebar has links for 'My dashboard', 'My created collections', 'My bookmarked searches', 'My favorites', 'My reservations' (which is highlighted with a green box), 'My workshops', and 'My events'. The main content area displays a welcome message 'Welcome to Technology Zone, Andrew' and a section titled 'Certified Base Images' with a sub-section 'Best starting point to build'. Below this is a calendar view for August 2024. A large, semi-transparent overlay on the right side features a hand cursor pointing at a three-dot overflow menu icon on a reservation tile. The tile itself contains information like 'Status - Ready', 'Demo Access', 'Education', and dates from 'Oct 7, 2024 2:16' to 'Oct 11, 2024 2:20'. At the bottom of the tile is a blue button labeled 'Open this environment'.

5. Click the **overflow icon (≡)** on the reservation tile and select **Extend**.

The screenshot shows the 'My reservations' page in the IBM Technology Zone portal. The left sidebar is identical to the previous screenshot. The main area shows a list of reservations. One specific reservation for 'Demo Access' is highlighted with a green box. A context menu is open over this reservation, with the 'Extend' option highlighted with a green box. Other options in the menu include 'Reservation details', 'View collection', 'Support', 'Share', 'Transfer', 'Re-reserve', and 'Delete'. At the bottom of the reservation card, there is a blue button labeled 'Open this environment'.

6. Click the **Select a date** option, specify the date to extend to, and then click **Extend**.



If you anticipate needing more time, repeat Steps 5 and 6 to extend the reservation to the maximum of 6 days.

## Accessing the demonstration environment

Access to the IBM watsonx Assistant for Z demonstration environment is provided through a web interface to a fictitious company's intranet website.

### 7. Click on reservation tile in the ITZ My reservations page.

The screenshot shows the ITZ My reservations page. On the left, there's a sidebar with links like 'My dashboard', 'My created collections', 'My bookmarked searches', 'My favorites', 'My reservations' (which is selected and highlighted in grey), 'My workshops', and 'My events'. The main area is titled 'My reservations' and features a search bar and filters for infrastructure and status. A single reservation card is displayed, which has been highlighted with a green box. The card has a title 'Demo Access - watsonx Assis...', a status 'Ready', a purpose 'Education', and a date range from 'Oct 7, 2024 2:16 PM' to 'Oct 13, 2024 2:20 PM'. It also shows an 'Extend limit' of 0 and a blue 'Open this environment' button.

### 8. Click Open your IBM Cloud environment.

The screenshot shows the ITZ My reservations / Collection page for the 'Demo Access - watsonx Assistant for Z' reservation. At the top, it displays the reservation title, date range (Oct 15, 2024 2:51 PM to Oct 19, 2024 2:54 PM), and status (Ready). Below this, there are sections for 'Desktop' and 'Shared Reservation'. Under 'Desktop', there's a green box around the 'Open your IBM Cloud environment' button, which is a blue button with white text. Below the button, the 'Desktop url' is shown as <https://wxa4z.techzone.ibm.com>. The 'Shared Reservation' section is currently empty. At the bottom, there's a 'Purpose' section with 'Education' listed under 'Opportunity Product(s)' and 'Opportunity description' with the value 'I3 testing'.



#### You may be prompted to authenticate

In some instances, you may be prompted to authenticate when attempting to access the **Open our IBM Cloud environment** link. Use the same IBM ID and password used to reserve the **ITZ** environment.

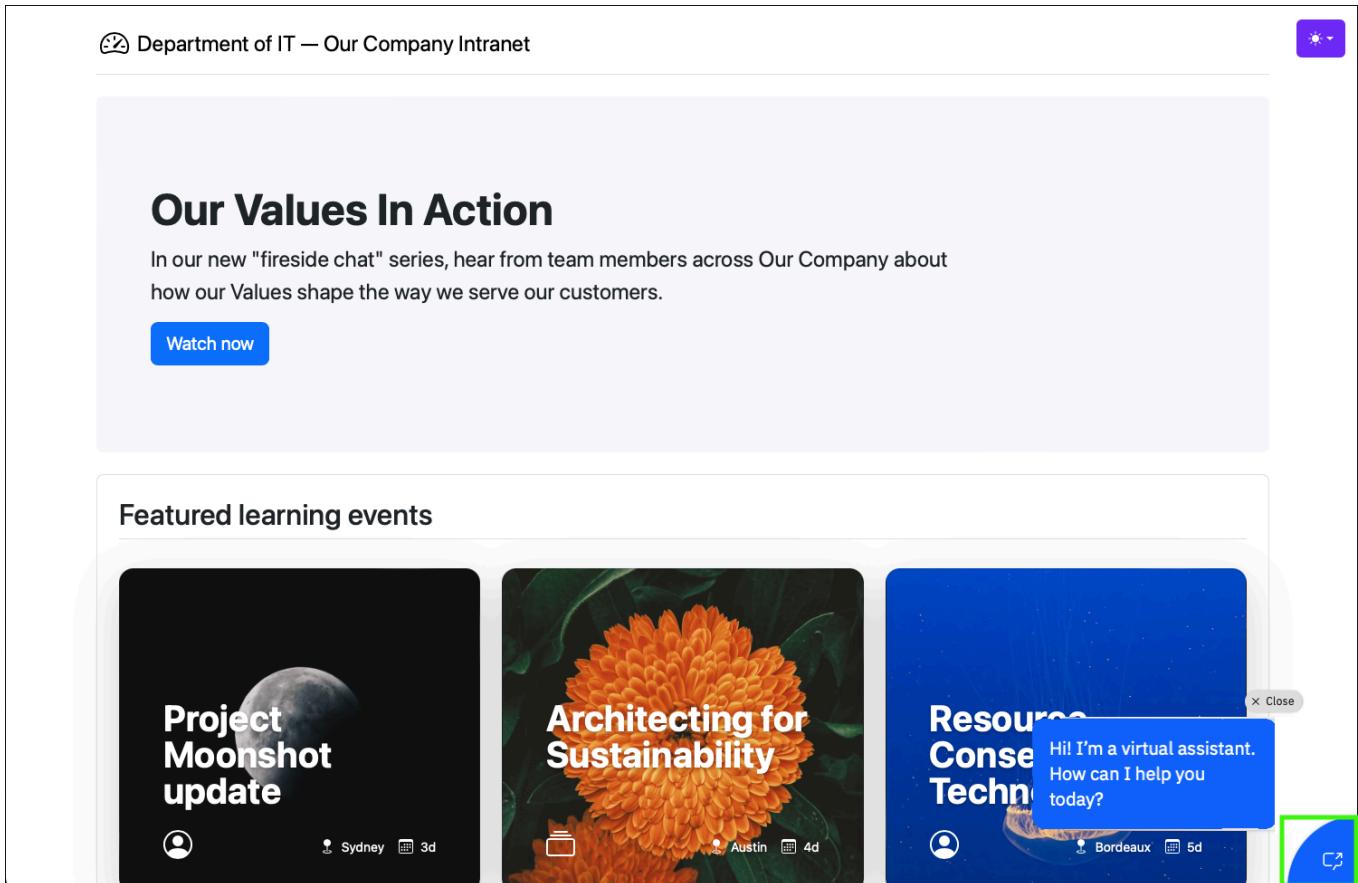
## The demonstration portal page

The demonstration portal page provides two ways of accessing the IBM watsonx Assistant for Z virtual assistant.

### The chat icon

The first method is to use the assistant chat icon that appears at the lower right of the page. The **Hi! I'm a virtual assistant. How can I help you today?** dialog appears after a few seconds as the page loads.

9. Click the **Virtual Assistant chat icon**.



This action opens the virtual assistant in the current browser page as a pop-up dialog. This approach provides an integrated view of the web page and the virtual assistant dialog; however, the dialog could be considered small for giving a live demonstration if the audience is expected to read the output.

10. Close the **Virtual Assistant** dialog.

The screenshot shows a company intranet page titled "Department of IT — Our Company Intranet". The main content features a section titled "Our Values In Action" with a sub-section about a "fireside chat" series. A blue button labeled "Watch now" is visible. Below this, there's a "Featured learning events" section with three cards: "Project Moonshot update" (Sydney, 3d), "Architecting for Sustainability" (Austin, 4d), and a partially visible card starting with "Res Cor Tec". On the right side of the screen, a blue "Z Assistant" dialog box is open. The dialog has a green header bar with a minus sign icon. The main area of the dialog contains the text "Hi! I'm a virtual assistant. How can I help you today?". At the bottom of the dialog is a text input field with the placeholder "Type something..." and a send button icon. The entire screenshot is framed by a thick black border.

## The full page virtual assistant

The second user interface available for the virtual assistant is a full browser page experience.

11. Scroll to the bottom of the page and click **Techbot (in a new tab)** under **Technology**.

**Project Moonshot update**

Sydney 3d

**Architecting for Sustainability**

Austin 4d

**Resource Conservation in Technology**

Bordeaux 5d

**Technology updates**

Enabling our business to achieve and grow through providing the best in technology. Learn about some of the exciting programmes being delivered in coming months!

[Learn more](#)

**CEO Roadshow**

The CEO of Our Company is visiting your area! Get updates on the schedule, and register your questions in advance of the Town Hall session at your location.

[Check the schedule](#)

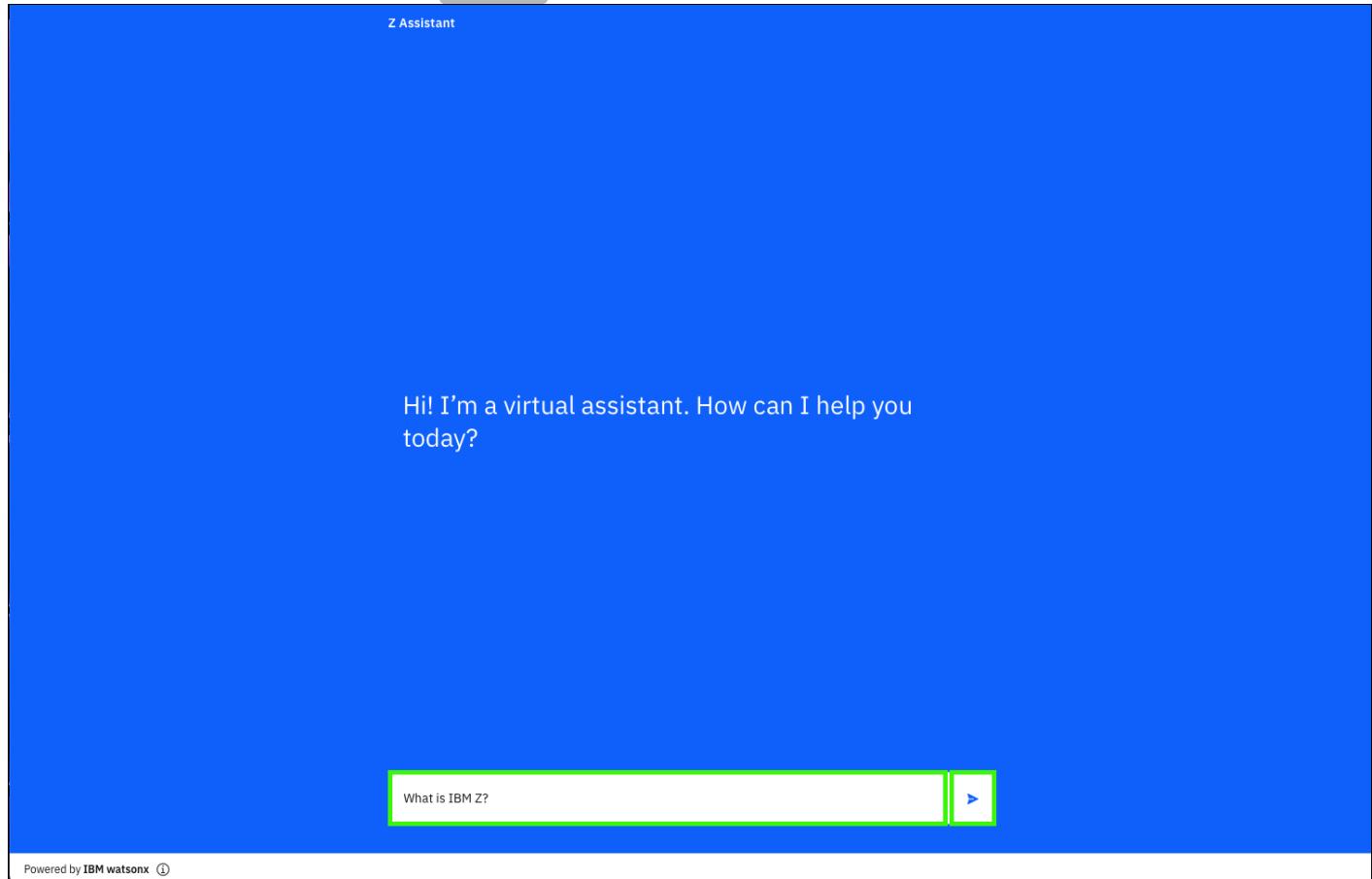
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<b>Technology</b> <ul style="list-style-type: none"> <li><a href="#">About</a></li> <li><a href="#">Platforms</a></li> <li><a href="#">TechPortal</a></li> <li><a href="#">TechBot (pop-out)</a></li> <li><a href="#">TechBot (in a new tab)</a></li> <li><a href="#">Service Delivery</a></li> </ul>	<b>Sales</b> <ul style="list-style-type: none"> <li><a href="#">Products</a></li> <li><a href="#">Trials and Demos</a></li> <li><a href="#">Case studies</a></li> <li><a href="#">FAQs</a></li> <li><a href="#">Financing</a></li> </ul>	<b>Corporate</b> <ul style="list-style-type: none"> <li><a href="#">History</a></li> <li><a href="#">Careers</a></li> <li><a href="#">Newsroom</a></li> <li><a href="#">Corporate Responsibility</a></li> <li><a href="#">Investor Relations</a></li> </ul>
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The full-page virtual assistant interface opens in a new browser window or tab (this is dependant on your browser preferences). The full-page virtual assistant interface is used for all screen captures in later chapters.

## Using the virtual assistant

Enter a query into the field and press **Enter ↵** or click the **Send** icon ().



The screenshot shows the IBM Watson Assistant interface. At the top, it says "Z Assistant". In the center, there is a message from the virtual assistant: "Hi! I'm a virtual assistant. How can I help you today?". Below this, there is a text input field containing the query "What is IBM Z?" and a "Send" button to its right. The entire interface is set against a blue background.

Proceed to the next section to run through different IBM watsonx Assistant for Z client scenarios detailed in this demonstration guide.

## Demonstration scenarios

# Scenarios

This section includes expert-created a set of scenarios that illustrate the domain-specific knowledge of IBM watsonx Assistant for Z. Each scenario includes step-by-step guidance based on actual client interactions and workflows with IBM Z. Each scenario provides:

- A brief overview of the scenario.
- Any prerequisite or setup steps necessary for the scenario to work in the demonstration environment.
- A list of queries and Example output that illustrate the scenario.
- Any cleanup steps that must be run after the scenario.



## Responses from the virtual assistant are likely to change

Responses generated by IBM watsonx Assistant for Z are likely to change over time. The responses you see when you run through the scenarios may differ from the screen images captured in this guide. Using the exact queries specified will help assure a successful demonstration.

Each scenario overview is written as if they are being presented to a client versus the typical prose of the demonstration guide. The **Speaker's script** illustrates the style and how to start a client demonstration.

## Speaker's script

Hello [insert customer name]. Welcome to this demonstration of IBM watsonx Assistant for Z. Today, many early tenure IBM Z administrators spend hours looking for current information, accurate information, and performing time-consuming manual tasks. And they are very dependent on the Subject Matter Experts to complete their tasks.

IBM watsonx Assistant for Z is a new generative AI assistant that melds automation with conversational AI to help transform how system programmers, operators, and developers of all experience levels engage with and manage their IBM Z. IBM watsonx Assistant for Z understands over 200 IBM Z products and is designed to enable clients to:

- Expedite the onboarding process, quickly enhancing platform expertise of early tenure professionals with a side-by-side AI assistant, accelerating their journey to productivity with confidence.
- Improve productivity, autonomy, and confidence across *all* skill levels, by offering a central place to find answers and running automation to perform common and complex tasks.
- And you can also leverage the platform to ingest your own documentation further benefiting from this solution. I won't be covering this capability today, but as we move forward we can show how easy this is done, along with adding other skills using your own automation through Ansible, REXX, and JCL.

In this demo, we will run through a couple of scenarios that highlight the value IBM watsonx Assistant for Z can provide to various roles in your organization regardless of skill level. These scenarios also leverage skills using Ansible Automation to provide great flexibility when it comes to automating Z-specific tasks as part of your enterprise automation strategy.

Let's get started.

Other Speaker's scripts are included in some scenarios for some prompts. This [sample client demonstration video](#) also provides additional talking points for the Db2 and certificate renewal scenarios.

When you plan your demonstration, choose the scenarios that best fit your client's requirements.

# Scenario: Authorized Program Facility

## Scenario overview

### Speaker's script

Imagine you are an early-tenure systems programmer ([sysprog](#)) that is tasked with updating the Authorized Program Facility ([APF](#)) authorized list on an logical partition ([LPAR](#)) and would like to quickly find guidance on doing this without having to read a bunch of manuals. In [z/OS](#), the [APF](#) list includes information about libraries that contain [APF](#)-authorized programs. You would also like to take advantage of some simple automation to complete this task if possible.

As you will see, in the last prompt, IBM Watson Assistant for Z will respond with the command to run to add the library to the [APF](#) authorized list, followed by prompting you to run a skill (issuing a [z/OS](#) console command) on your behalf which will perform the task.

### Responses from the virtual assistant are likely to change

Responses generated by IBM Watson Assistant for Z are likely to change over time. The responses you see when you run the queries in this section may differ from the screen images captured in the IBM Watson Assistant for Z for Technical Sales Level 3 Demonstration Guide. Using the exact queries specified will help assure a successful demonstration. Also, as updates to the environment are made, some confirmation dialogs may no longer be displayed as illustrated in the Example outputs.

## Prerequisite steps

None.

## Prompts and Example outputs

### Copy and paste the prompt

Use the copy icon () to copy prompts from this demonstration guide and then paste the prompt using  + , or right click and select Paste.

1. Ask the assistant what the APF list is.

#### **Prompt:**

What is the APF list in z/OS? Provide a detailed explanation?

#### **Example output:**

You 8:59 AM

What is the APF list in z/OS? Provide a detailed explanation.

8:59 AM

The APF list, or Authorized Program Facility list, in z/OS is a data set that contains a list of data sets that are authorized to run in an APF-authorized library. APF-authorized libraries are libraries that have been specifically authorized by the system to allow the execution of programs from those libraries. The APF list is used to control which libraries and programs are allowed to run with increased privileges, helping to prevent unauthorized access and potential security breaches.

The APF list is maintained by the system and can be updated dynamically by adding or removing data sets as needed. By default, the system includes SYS1.LINKLIB and SYS1.SVCLIB in the APF list. Additionally, any module in the link pack area (pageable LPA, modified LPA, fixed LPA, or dynamic LPA) is treated by the system as though it came from an APF-authorized library.

It's important to note that programs that are marked as coming from an authorized library could have come from one of these libraries or from the link pack area. Therefore, it's crucial to properly protect SYS1.LPALIB and any other library that contributes modules to the link pack area to avoid system security and integrity exposures, just as you would protect any APF-authorized library. 

### Speaker's script

Notice the detailed level of the response, and more importantly, notice the expandable section at the bottom of the response.

## 2. Expand the results.

You 8:59 AM

What is the APF list in z/OS? Provide a detailed explanation.

8:59 AM

The APF list, or Authorized Program Facility list, in z/OS is a data set that contains a list of data sets that are authorized to run in an APF-authorized library. APF-authorized libraries are libraries that have been specifically authorized by the system to allow the execution of programs from those libraries. The APF list is used to control which libraries and programs are allowed to run with increased privileges, helping to prevent unauthorized access and potential security breaches.

The APF list is maintained by the system and can be updated dynamically by adding or removing data sets as needed. By default, the system includes SYS1.LINKLIB and SYS1.SVCLIB in the APF list. Additionally, any module in the link pack area (pageable LPA, modified LPA, fixed LPA, or dynamic LPA) is treated by the system as though it came from an APF-authorized library.

It's important to note that programs that are marked as coming from an authorized library could have come from one of these libraries or from the link pack area. Therefore, it's crucial to properly protect SYS1.LPALIB and any other library that contributes modules to the link pack area to avoid system security and integrity exposures, just as you would protect any APF-authorized library. 

**Example output:**

**Z Assistant**

It's important to note that programs that are marked as coming from an authorized library could have come from one of these libraries or from the link pack area. Therefore, it's crucial to properly protect SYS1.LPALIB and any other library that contributes modules to the link pack area to avoid system security and integrity exposures, just as you would protect any APF-authorized library.

- Db2 13 - Installation and migrat...**
  - Dynamically add a new Db2 subsystem named DSN1, with these characteristics: Command prefix -DSN
  - Command prefix scope S (started) Use the following commands: SETPROG...[View source](#) →
- OMXE for DB2 PE - Configuratio...**
  - In RACF this is accomplished by permitting the OMEGAMON XE for DB2 PE task update authority to the facility: PERMIT CSVDYLPA.ADD.KO2ZINIB...[View source](#) →
- APP**
  - LPALIB and any other library that contributes modules to the link pack area to avoid system security and integrity exposures, just as you would protect any APF-authorized library.[View source](#) →
- APF**
  - In addition, any module in the link pack area (pageable LPA, modified LPA, fixed LPA, or dynamic LPA) is treated by the system as though it came from an APF-authorized library.[View source](#) →
- IMS Recovery Expert - Software...**
  - Refer to the Program Directory for IBM IMS Recovery Expert for z/OS and Program Directory for IBM IMS Recovery Solution Pack for z/OS for more information about the required...[View source](#) →
- APFADM(1)**
  - This option enables -j if it was not specified. -l Print APF list. -M <marker> Custom marker in "\\\\"{mark}.\*\\\"\\{mark}\\ MANAGED BLOCK...[View source](#) →
- APF**
  - SVCLIB are automatically included as authorized data sets.[View source](#) →
- Description**
  - Note that programs that are marked as coming from an authorized library could have come from one of these libraries or from the link pack area.
  - ,DSNAME=libname Specifies a field (...[View source](#) →

[AI]

Type something... ➤

## ☰ Speaker's script

You expand this section and can see the referenced sources that were used to build the answer. This illustrates just part of the explainable AI capabilities of watsonx. Click on any of the document tiles to display the source document.

### 3. Ask the assistant how to update the APF list.

#### Prompt:

How do you update the APF list in z/OS?

#### Example output:

How do you update the APF list in z/OS?

10:53 AM

To update the APF list in z/OS, you can use the SETPROG APF command with the appropriate parameters. The SETPROG APF command allows you to change the format of the APF list from static to dynamic, add or delete libraries from a dynamic APF list, and update the contents of the APF list during normal processing. The command requires system (AUTH(SYS)) or higher authority and UPDATE authority to the RACF FACILITY resource class entity CSVAPF.libname or CSVAPF.MVS.SETPROG FORMAT.DYNAMIC, depending on the task. You can also use the SET PROG=xx command to update the APF list using parameters specified in the PROGxx parmlib member. ▾

### 4. Ask the assistant what the parmlib member to update the APF list.

#### Prompt:

What is the parmlib member to update the APF list in z/OS?

#### Example output:

What is the parmlib member to update the APF list in z/OS?

10:55 AM

PROGxx

5. Ask the assistant what is the command to add loadlib for a volume in the APF list.

**Prompt:**

What is the command to add PROD1.LOADLIB on volume PRD001 to the APF list?

**Example output:**

What is the command to add PROD1.LOADLIB on volume PRD001 to the APF list?

10:56 AM

SETPROG APF,ADD,DSNAME=PROD1.LOADLIB,VOLUME=PRD001 ▾

Would you like me to run this SETPROG command to add to the APF list?

Yes

No

6. Click **Yes** to run the command.

What is the command to add PROD1.LOADLIB on volume PRD001 to the APF list?

10:56 AM

SETPROG APF,ADD,DSNAME=PROD1.LOADLIB,VOLUME=PRD001 ▾

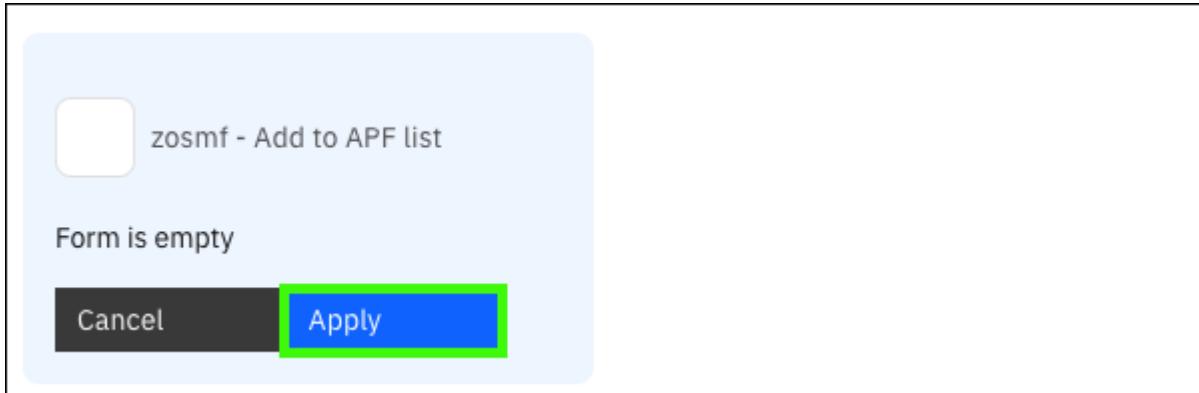
Would you like me to run this SETPROG command to add to the APF list?

Yes

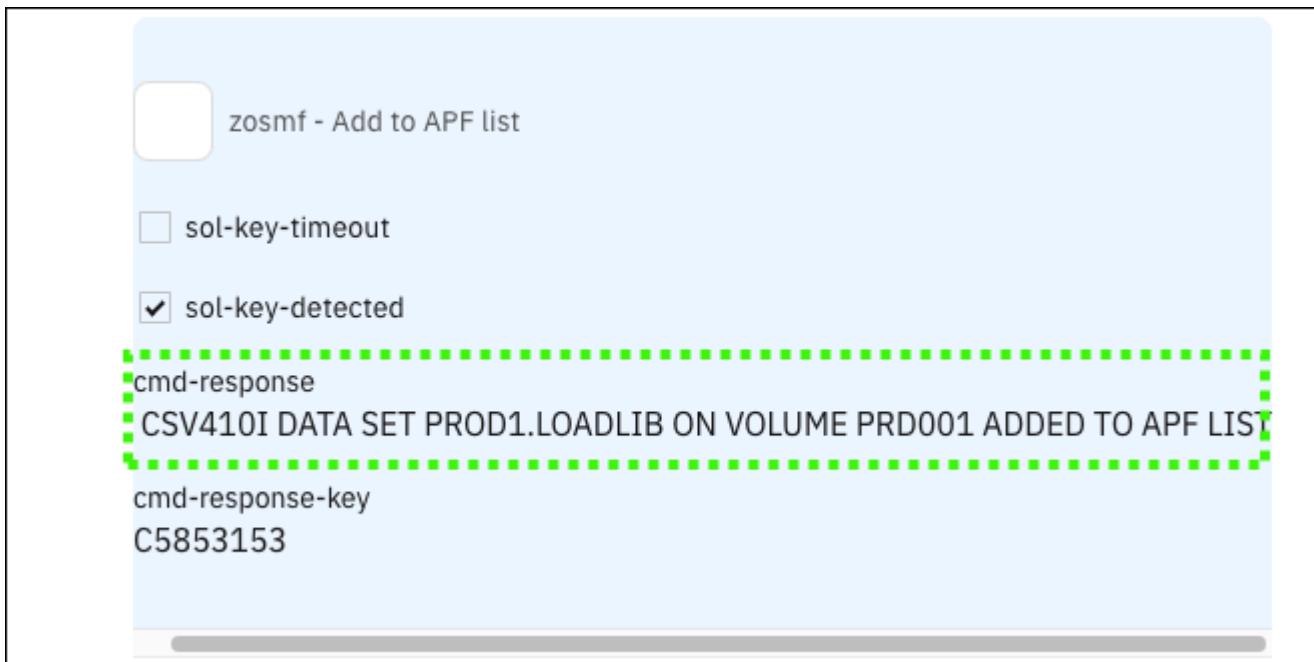
No

7. Wait approximately 10 seconds and then click **Apply**

**Note:** there are no additional parameters required in this form, this is why you see the “**Form is empty**” message.



**Example output:**



#### Speaker's script

Notice the Assistant's response for this command informs you that LOADLIB was added to the .....  
.....

#### Cleanup steps

None.

# Scenario: Certificate renewal

## Scenario overview

### Speaker's script

Now, change your role to that of a security administrator. You have just been informed that one of your SSL certificates signed by a Certificate Authority is expiring soon. Secure Sockets Layer (SSL) certificates, sometimes called digital certificates, are used to establish an encrypted connection between communicating parties over a network. Certificate management is crucial for maintaining the security of our company's z/OS environment, but it has been a while since you have performed this action. You recall there are many steps required on z/OS and various RACF commands that need to be run to renew a certificate. Rather than going to your senior security administrator for assistance, you leverage watsonx Assistant for Z to help automate the certificate renewal process. By automating these processes with Ansible, you ensure critical certificates are always up to date and reduce the risk of expired certificates disrupting your services.

### Responses from the virtual assistant are likely to change

Responses generated by IBM watsonx Assistant for Z are likely to change over time. The responses you see when you run the queries in this section may differ from the screen images captured in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide. Using the exact queries specified will help assure a successful demonstration. Also, as updates to the environment are made, some confirmation dialogs may no longer be displayed as illustrated in the Example outputs.

## Prerequisite steps

To run this scenario, a certificate must first be created.



### Copy and paste the prompt



Use the copy icon (copy icon) to copy prompts from this demonstration guide and then paste the prompt using `^ Ctrl + V`, or right click and select Paste.

Using the virtual assistant:

1. Create a certificate.

**Prompt:**

```
create a certificate
```

**Example output:**

You 8:18 AM

create cert

8:18 AM

 z/OS Certs - Create Cert

Certificate Label \*

TESTSITE

CERT TYPE \*

SITE

Expiration date \*

2030-01-01

Common name \*

test.com

SIGN WITH \*

Self

SIGN LABEL \*

TESTCA

Show all fields

Cancel Apply

2. Complete the form for the **z/OS Certs - Create Cert** skill and click **Apply**.

**Input values:**

- **Certificate Label:** <Enter a unique label of your choice, for example "yourNameCert". Record the label as it is needed later.>
- **CERT TYPE:** SITE
- **Expiration date:** <Enter an expiration date within the next 30 days.>
- **Common name:** <Enter a unique label of your choice, for example "company.com". Record the name as it is needed later. Do NOT use test.com\*\*>
- **SIGN WITH:** CERTAUTH
- **SIGN LABEL:** TESTCA

8:18 AM

 z/OS Certs - Create Cert

Certificate Label \*

arjCert0

CERT TYPE \*

SITE

Expiration date \*

2024-10-10

Common name \*

myco.com

SIGN WITH \*

CERTAUTH

SIGN LABEL \*

TESTCA

[Show all fields](#)

Cancel Apply

Example output:

CERTAUTH

SIGN LABEL \*

TESTCA

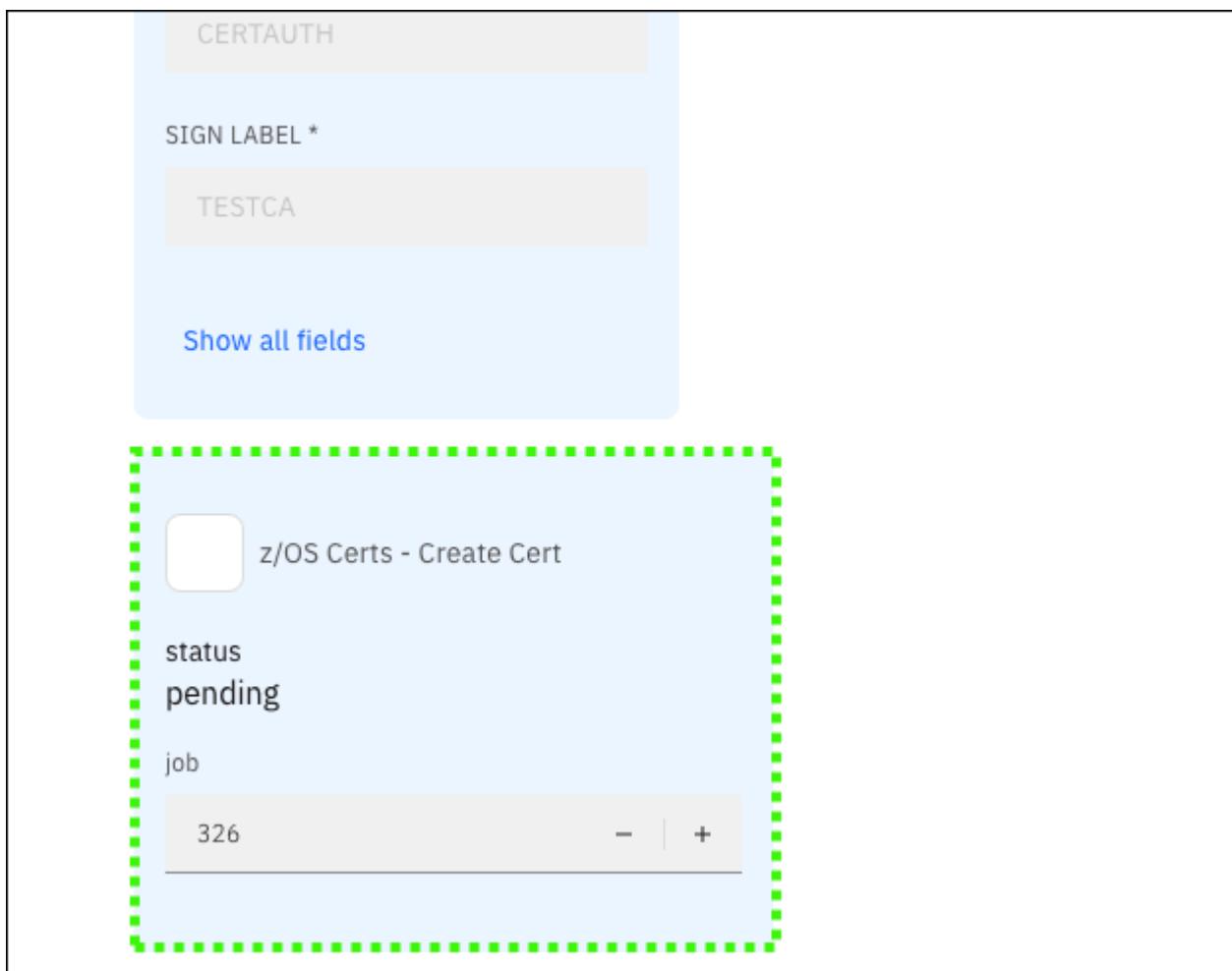
[Show all fields](#)

z/OS Certs - Create Cert

status  
pending

job

326 - +



The new certificate is created (despite the last message status of **pending**).

## Prompts and Example outputs

1. Ask the assistant how to check on an expiring certificate.

**Prompt:**

I have a SSL certificate on z/OS expiring soon. How do I check when my certificate is going to expire?

**Example output:**

I have an SSL certificate on z/OS expiring soon. How do I check when my certificate is going to expire?



7:39 AM

You can use the ZDCOM command with the CERTIFICATE and SUMMARY parameters specified to display a summary of z/OS certificates that were used to establish TLS sessions on the z/OS system. The issuance and expiration dates, as well as the days until expiration are displayed for each certificate.

Would you like me to retrieve your certificate details?

Yes

No

2. Click **Yes** to retrieve the certificate details.
3. Complete the form with the certificate label and type (use the same values as specified in the prerequisite steps) and click **Apply**.

**Input values:**

- **CERT LABEL:** <Enter the unique label of the certificate created in the setup steps.>
- **CERT TYPE:** SITE

 LIST CERT SKILL FLOW

CERT LABEL \*

arjCert0

CERT TYPE \*

SITE

[Show all fields](#)

Cancel

Apply

 LIST CERT SKILL FLOW

id \*

349

Cancel

Apply

**Example output:**



## LIST CERT SKILL FLOW

content

Identity added: /runner/artifacts/349/ssh\_key\_data (/runner/artifacts/349)  
[1;35m[WARNING]: Collection ibm.ibm\_zos\_core does not support Ansible

PLAY [List certificates via TSO commands.] \*\*\*\*\*

TASK [Displaying cert arjCert0.] \*\*\*\*\*

[0;32mok: [zos\_host] [0m

TASK [Print results from list cert command.] \*\*\*\*\*

[0;32mok: [zos\_host] => { [0m

[0;32m "list\_cert.output[0].content": [ [0m

[0;32m " ", [0m

[0;32m "Digital certificate information for SITE:", [0m

[0;32m " ", [0m

[0;32m " Label: arjCert0", [0m

[0;32m " Certificate ID: 2QiJmZmiiaOFg4GZkcOFmaPw", [0m

[0;32m " Status: TRUST", [0m

[0;32m " Start Date: 2024/10/09 00:00:00", [0m

[0;32m " End Date: 2024/10/10 23:59:59", [0m

[0;32m " Serial Number: ", [0m

[0;32m " >35< ", [0m

[0;32m " Issuer's Name: ", [0m

[0;32m " >CN=test.com.OU=ANSIBLE CORE.C=US<

[0;32m " Subject's Name: ", [0m

[0;32m " >CN=test.com.OU=ANSIBLE CORE.C=US<

4. Wait approximately 10 seconds and then click **Apply**.

5. Ask the assistant how to renew a certificate.

**Prompt:**

What are the steps to renew a certificate on z/OS?

**Example output:**

What are the steps to renew a certificate on z/OS?



10:29 AM

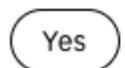
To renew a SITE certificate on z/OS, you can follow these general steps:

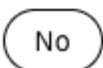
1. Generate a new certificate request using the existing SITE certificate.
2. Submit the new certificate request to the Certificate Authority (CA) for signing.
3. Once the CA signs the new certificate request, import the newly signed certificate into the RACF keyring associated with the SITE certificate.
4. Update the SITE certificate in the FTP server or other systems where it is being used to reference the newly signed certificate.

The specific commands or procedures for performing these steps would depend on the RACF and FTP server configurations. It is recommended to consult the relevant documentation and seek assistance from a system administrator if needed. 

 Accuracy of generated answers may vary.

Would you like to run the certificate renewal skill?

 Yes

 No

6. Click **Yes** to run the certificate renewal skill.
7. Complete the form to renew the certificate and click **Apply**.

**Input values:**

- **CERT LABEL:** <Enter the same label of the certificate created in the setup steps.>
- **CERT TYPE:** SITE
- **SIGN WITH:** CERTAUTH
- **SIGN LABEL:** TESTCA
- **extra\_vars.new\_expiry\_date\_survey:** <Enter an expiration date on year from today.>

Running the certificate renewal skill.....

The screenshot shows a user interface for renewing a certificate. The title bar says "z/OS Certs - Search and Renew". The form contains the following fields:

- CERT LABEL \***: arjCert0
- CERT TYPE \***: SITE
- SIGN WITH \***: CERTAUTH
- SIGN LABEL \***: TESTCA
- extra\_vars.new\_expiry\_date\_survey \***: 2025-10-10

At the bottom, there are "Cancel" and "Apply" buttons. The "Apply" button is highlighted with a blue border.

**Example output:**

No output is returned.

**Wait approximately 1 minute before continuing**

The search and renew skills just run can take up to a minute to complete. Wait a minute before proceeding.

8. Retrieve this renewed certificate and verify the date was changed.

**Prompt:**

Get my certificate details.

**Example output:**

Get my certificate details.

10:35 AM

 LIST CERT SKILL FLOW

CERT LABEL \*

TEST SITE

---

CERT TYPE \*

SITE

---

[Show all fields](#)

[Cancel](#) [Apply](#)

9. Complete the form with the certificate label and type (use the **same** values as specified in the prerequisite steps) and click **Apply**.

**Input values:**

- **CERT LABEL:** <Enter the unique label of the certificate created in the setup steps.>
- **CERT TYPE:** SITE

 LIST CERT SKILL FLOW

CERT LABEL \*

CERT TYPE \*

[Show all fields](#)

 LIST CERT SKILL FLOW

id \*

 - +

**Example output:**



## LIST CERT SKILL FLOW

content

Identity added: /runner/artifacts/351/ssh\_key\_data (/runner/artifacts/351/[1;35m[WARNING]: Collection ibm.ibm\_zos\_core does not support Ansible

PLAY [List certificates via TSO commands.] \*\*\*\*\*

TASK [Displaying cert arjCert0.] \*\*\*\*\*

[0;32mok: [zos\_host] [0m

TASK [Print results from list cert command.] \*\*\*\*\*

[0;32mok: [zos\_host] => { [0m

[0;32m "list\_cert.output[0].content": [ [0m

[0;32m " ", [0m

[0;32m "Digital certificate information for SITE:", [0m

[0;32m " ", [0m

[0;32m " Label: arjCert0", [0m

[0;32m " Certificate ID: 2QiJmZmiiaOFg4GZkcOFmaPw", [0m

[0;32m " Status: TRUST", [0m

[0;32m " Start Date: 2024/10/09 00:00:00", [0m

[0;32m " End Date: 2025/10/10 23:59:59", [0m

[0;32m " Serial Number: ", [0m

[0;32m " >36< ", [0m

[0;32m " Issuer's Name: ", [0m

[0;32m " >CN=test.com.OU=ANSIBLE CORE.C=US<

[0;32m " Subject's Name: ", [0m

[0;32m " >CN=myco.com.OU=ANSIBLE CORE.C=US<

[0;32m " Signing Algorithm: sha256RSA ", [0m

10. Wait approximately 10 seconds and then click **Apply**.

## Cleanup steps

Following the demo, cleanup the system by deleting the original certificate created.

Using the virtual assistant:

1. Delete the certificate.

**Prompt:**

```
delete cert
```

**Example output:**

The screenshot shows a conversation between a user and the virtual assistant. The user's message "delete cert" is at the top right. The assistant's response is a form titled "z/OS Certs - Delete Cert" with fields for "CERT TYPE \*" (set to "USER") and "CERT LABEL \*" (set to "TEST USER"). At the bottom of the form are "Cancel" and "Apply" buttons. A blue link "Show all fields" is also visible on the form.

You 9:45 AM

delete cert

9:45 AM

z/OS Certs - Delete Cert

CERT TYPE \*

USER

CERT LABEL \*

TEST USER

Show all fields

Cancel Apply

2. Complete the form and click **Apply**.

**Input values:**

- **CERT LABEL:** <Enter the original certificate label that you created.>
- **CERT TYPE:** SITE

z/OS Certs - Delete Cert

CERT TYPE \*

SITE

CERT LABEL \*

arjCert0

Show all fields

Cancel      Apply

**Example output:**

z/OS Certs - Delete Cert

status  
pending

job

345      - | +

# Scenario: Db2 versioning

## Scenario overview

### Speaker's script

You are now a new database administrator (DBA) and need to quickly familiarize yourself with the Db2 subsystem in your company's IBM Z environment. You would like to understand more about Db2 on z/OS versus other platforms, the latest supported version of Db2, and the process for migrating to a newer version. Most early-tenure DBAs don't have this experience. You leverage the virtual assistant that is customized with pre-existing automation your team has in place. And by leveraging the retrieval augmented generation (RAG) grounded on IBM Z-specific knowledge, you have confidence that the responses generated from the questions are accurate. You like the fact that you can go to one place to get answers to any question, on-demand, and can help automate some of the tasks, which in turn reduces your learning curve and increases your efficiency.

### Responses from the virtual assistant are likely to change

Responses generated by IBM watsonx Assistant for Z are likely to change over time. The responses you see when you run the queries in this section may differ from the screen images captured in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide. Using the exact queries specified will help assure a successful demonstration. Also, as updates to the environment are made, some confirmation dialogs may no longer be displayed as illustrated in the Example outputs.

## Prerequisite steps

None.

## Prompts and Example outputs

### Copy and paste the prompt ▼

Use the copy icon () to copy prompts from this demonstration guide and then paste the prompt using  + , or right click and select Paste.

1. Ask the assistant what is different about Db2.

#### **Prompt:**

Why is Db2 different than other database systems?

#### **Example output:**

You 7:26 AM

Why is Db2 different than other database systems?



7:27 AM

Db2 is a relational database management system (DBMS) that runs under the z/OS operating system. It provides several advantages over other database systems, including:

1. It allows you to control and use the information stored on a computer system more effectively and efficiently than you can with standard file processing.
2. It offers several access methods, including Virtual storage access method (VSAM), Queued sequential access method (QSAM), and Basic partitioned access method (BPAM), which can handle different types of data and structures.
3. It shields the application program from the physical format of the data, allowing the program to deal with the data on a logical level and leaving the physical data management concerns to the DBMS.
4. It provides security features that control who can access data, ensuring that users can only see the data they are authorized to see.
5. It supports both Db2 for Linux, UNIX, Windows as well as Db2 for z/OS, and customers can obtain a Db2 for LUW database if they do not already have a Db2 for z/OS available.



### Speaker's script

Notice the detailed level of the response, and more importantly, notice the expandable section at the bottom of the response.

2. Ask the assistant how Db2 differs on the z/OS platform and distributed platforms.

**Prompt:**

What is the difference between Db2 for z/OS and Db2 on distributed systems?

**Example output:**

What is the difference between Db2 for z/OS and Db2 on distributed?

12:09 PM

Db2 for z/OS is a relational database management system that runs on the IBM zSystems platform, while Db2 on distributed refers to versions of Db2 that run on other operating systems such as Linux, UNIX, Windows, IBM i, VSE, VM, and others. The key difference is that Db2 for z/OS is specifically designed to take advantage of the unique features and capabilities of the IBM zSystems platform, while Db2 on distributed is optimized for those other operating systems. ▾

3. Ask the assistant what is the latest release of Db2 for z/OS.

**Prompt:**

What is the latest release of Db2 for z/OS?

**Example output:**

What is the latest release of Db2 for z/OS?

12:09 PM

The latest release of Db2 for z/OS is Version 13. ▾

4. Ask the assistant what version of z/OS is required for Db2 v13.

**Prompt:**

What version of z/OS does Db2 v13 run on?

**Example output:**

What version of z/OS does Db2 v13 run on?

12:10 PM

Db2 v13 runs on z/OS 2.4 or later. ▾

## 5. Ask the assistant how to check the version of Db2 on an LPAR.

### Prompt:

How do I check the Db2 for z/OS version on an LPAR using an operator command?

### Example output:

How do I check the Db2 for z/OS version on an LPAR using an operator command?

12:11 PM

To check the Db2 for z/OS version on an LPAR using an operator command, you can use the 'DISPLAY GROUP(DB2)' command. This command will display the group name 'DB2' and its associated attributes, including the version number. ▾

## 6. Ask the assistant if it can run the version check.

### Prompt:

Can you run this command for me to check my version level?

### Example output:

#### Speaker's script

A skill is triggered to use an Ansible playbook that runs the referenced operator command to return the Db2 details.

Can you run this command for me to check my version level?

12:13 PM

Running the mentioned operator command to retrieve and display your Db2 subsystem details.

Db2 Operator Command

id \*

171      - | +

Cancel      Apply

7. Wait approximately 10 seconds and then click **Apply**.

**Sample input**

The screenshot shows a user interface titled "Db2 Operator Command". It features a logo of a smiling face with blue eyes and a purple smile. Below the title, there is a field labeled "id \*". Inside the field, the number "354" is entered. To the right of the field are two buttons: a minus sign "-" and a plus sign "+". At the bottom of the interface are two buttons: "Cancel" and "Apply". The "Apply" button is highlighted with a thick green border.

**Example output:**

The screenshot shows a "Speaker's script" output. The title bar says "Speaker's script". The main content area contains the text: "See the skill returned the version of Db2 running on the LPAR." followed by a horizontal ellipsis (...).

```
i32/ssh_key_data (/runner/artifacts/532/ssh_key_data)
m.ibm_zos_core does not support Ansible version 2.14.2[0m
```

```
*****
```

```
1and.] *****
```

```
nmand.] *****
```

```
2:06:51.00      ISF031I CONSOLE IBMU0000 ACTIVATED",0[0m
```

```
2:06:51.00      --
```

```
2:06:51.00      DSN7100I -
```

```
** BEGIN DISPLAY OF GROUP(.....) CATALOG LEVEL(V12R1M500)",0[0m
    CURRENT FUNCTION LEVEL(V12R1M500)",0[0m
    HIGHEST ACTIVATED FUNCTION LEVEL(V12R1M500)",0[0m
    HIGHEST POSSIBLE FUNCTION LEVEL(V12R1M501)",0[0m
    PROTOCOL LEVEL(2)",0[0m
    GROUP ATTACH NAME(....)",0[0m
```

```
DB2      SUB          DB2  SYSTEM  IRLM",0[0m
```

```
MEMBER ID SYS CMDPREF STATUS LVL NAME   SUBSYS IRLMPROC
```

```
-----
```

```
..... 0 DBC1 -
```

```
DIC1  DBC1IRLM",0[0m
```

```
-----
```

8. Ask the assistant how to migrate from one version of Db2 to another.

**Prompt:**

How do I migrate from Db2 v12 to Db2 v13 on z/OS?

**Example output:**

How do I migrate from Db2 v12 to Db2 v13 on z/OS?

12:16 PM

To migrate from Db2 v12 to Db2 v13 on z/OS, you need to complete premigration activities and activate function level 510 in Db2 v12. Then, you can migrate to Db2 v13 by using a single catalog level. After migration, you can activate new function levels as needed. ▾

## Cleanup steps

None.

# Scenarios: Initial Program Load

## Scenario overview

### Speaker's script

You are now a Systems Programmer ([sysprog](#)) that is preparing for an upcoming Initial Programming Load ([IPL](#)) scheduled for one of your IBM Z systems. It's been a while since you helped prepare for an [IPL](#) and you want to refamiliarize yourself with this process. Rather than spending time reading through the wide array of documentation available online, you leverage the conversational [AI](#) capabilities provided by IBM watsonx Assistant for Z to get accurate responses to your questions quickly, along with step-by-step guidance and links to documentation to learn more. When asking the assistant "How to perform an [IPL](#) on IBM Z?", you realize there's some information needed about your system; for example, the [IPL](#) volume and the [IPL LOAD PARM](#). The conversational skills capabilities provided by the assistant allows you to issue operator commands on the system directly within the assistant itself, serving as a one-stop shop for retrieving details required for the [IPL](#) process to go smoothly and increasing efficiency.



### Responses from the virtual assistant are likely to change

Responses generated by IBM watsonx Assistant for Z are likely to change over time. The responses you see when you run the queries in this section may differ from the screen images captured in the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide. Using the exact queries specified will help assure a successful demonstration. Also, as updates to the environment are made, some confirmation dialogs may no longer be displayed as illustrated in the Example outputs.

## Prerequisite steps

None.

## Prompts and Example outputs

### Copy and paste the prompt

Use the copy icon () to copy prompts from this demonstration guide and then paste the prompt using  + , or right click and select Paste.

1. Ask the assistant what happens during an IPL.

**Prompt:**

What happens during an IPL on IBM Z?

**Example output:**

What happens during an IPL on IBM Z?

 12:18 PM

During an IPL (Initial Program Load) on IBM Z, the system loads the Program Loader Application (PLPA) and initializes the system. This process can involve a cold start, quick start, or warm start, depending on whether the PLPA is reloaded, and whether VIO data set pages are preserved. A cold start loads the entire PLPA, while a quick start resets the page and segment tables to match the last-created PLPA. A warm start preserves journaled VIO data set pages. The specific details of the IPL process can be found in the "Types of IPL" section of the provided document. 

## 2. Ask the assistance how to perform an IPL.

### Prompt:

How do I perform an IPL on IBM Z? Provide a step by step guidance.

### Example output:

How to perform an IPL on IBM Z? Provide a step by step guidance.

12:19 PM

1. **Power On Reset (POR):** Begin by performing a Power On Reset (POR) of the IBM Z system. This can be done by pressing the power button on the system or through the Hardware Management Console (HMC).
2. **Initial Program Load (IPL):** After the POR is complete, proceed with the Initial Program Load (IPL) of z/VM. This can be initiated from the Support Element (SE) or the Hardware Management Console (HMC). Alternatively, it can also be triggered by an operating system or stand-alone program running in a logical partition (LPAR) or as a guest under z/VM.
3. **Verify the IPL:** Once the IPL is complete, verify that the system has been successfully initialized. Check for any error messages or indicators on the operating systems messages console on the SE or the HMC, or on the z/VM user console if the IPL is initiated under z/VM.

Note: The specific steps for IPLing may vary depending on the version of z/VM and the configuration of the IBM Z system. It is recommended to refer to the official IBM documentation for detailed instructions. 

## 3. Ask the assistant about the IPL LOAD PARM.

### Prompt:

What is the IPL LOAD PARM for my running system and database?

### Example output:

What is the IPL LOAD PARM for my running system and database?

12:20 PM

I'm sorry, I cannot provide the IPL LOAD PARM for your running system and database as I don't have access to that information. 

4. Ask the assistant what the command is to find information about the IPL for the system.

**Prompt:**

What is the operator command to find the IPL INFO for my system?

**Example output:**

What is the operator command to find the IPL INFO for my system?



12:22 PM

The operator command to find the IPL INFO for your system would be "IPL INFO". This command displays the IPL information for the system where it is entered. 

5. Ask the assistant to run the command.

**Prompt:**

Run this command from the operator console.

**Example output:**

**Speaker's script**

A skill is triggered to execute an operator command on the LPAR.

Run command from operator console.

12:24 PM

 Operator Command

extra\_vars.verbose\_survey

false ▾

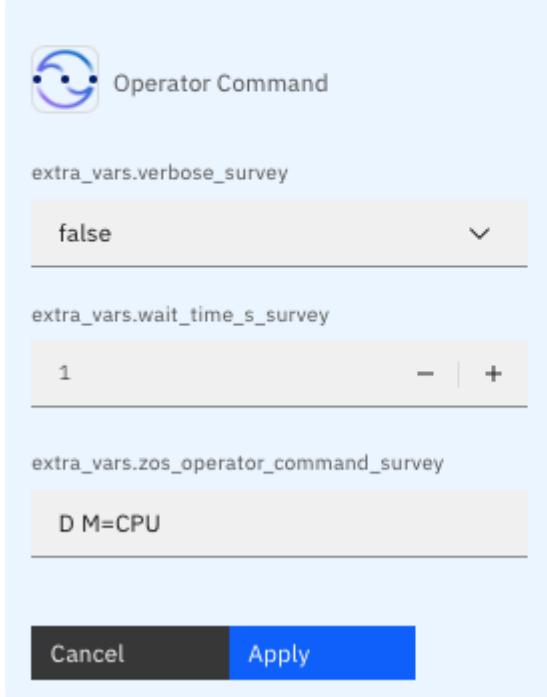
extra\_vars.wait\_time\_s\_survey

1 - +

extra\_vars.zos\_operator\_command\_survey

D M=CPU

Cancel Apply



6. Enter `D IPLINFO` in the **extra-vars** entry field and click **Apply**.

**Input:**

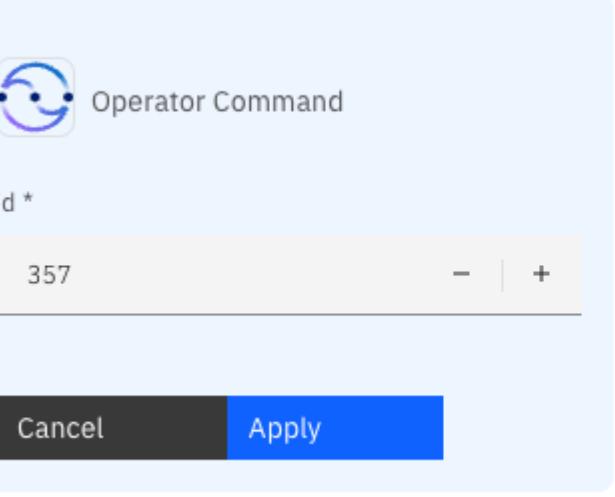


The screenshot shows the "Operator Command" interface. It has three configuration fields:

- extra\_vars.verbose\_survey**: A dropdown menu set to `false`.
- extra\_vars.wait\_time\_s\_survey**: An input field containing the value `1`, with increment/decrement buttons.
- extra\_vars.zos\_operator\_command\_survey**: An input field containing the value `D IPLINFO`, which is highlighted with a green border.

At the bottom are two buttons: **Cancel** and **Apply**, with **Apply** being the active button.

**Example output:**



The screenshot shows the "Operator Command" interface. It has one configuration field:

- id \***: An input field containing the value `357`, with increment/decrement buttons.

At the bottom are two buttons: **Cancel** and **Apply**, with **Apply** being the active button.

7. Wait approximately 10 seconds and then click **Apply**.

**Input:**

The screenshot shows a user interface titled "Operator Command". It features a large input field labeled "id \*" containing the value "357", with a numeric up/down control to its right. Below this is a row of buttons: "Cancel" and "Apply". The "Apply" button is highlighted with a green border.

**Example output:**

#### Speaker's script

In the output you can see the last time the system was IPLed, the z/OS version, the IPL LOAD PARM (LOADK2 member in SYS0.IPLPARM), and the IPL boot volume (D25VS1).

```
| icts/357/ssh_key_data (/runner/artifacts/357/ssh_key_data)
| on ibm.ibm_zos_core does not support Ansible version 2.14.2 [0m
```

```
*****
```

```
:command.] *****
[0m
```

```
:or command.] *****
'm
```

```
83 15:50:07.00      ISF031I CONSOLE IBMU0000 ACTIVATED", [0m
```

```
83 15:50:07.00      -D IPLINFO ", [0m
```

```
83 15:50:07.00      IEE254I 15.50.06 IPLINFO DISPLAY 102", [0m
```

```
     SYSTEM IPLED AT 13.33.33 ON 09/05/2024", [0m
```

```
     RELEASE z/OS 02.05.00 LICENSE = z/OS", [0m
```

```
     USED LOADK2 IN SYS0.IPLPARM ON ODE28", [0m
```

```
     ARCHLVL = 2 MTLSHARE = N", [0m
```

```
     VALIDATED BOOT: NO", [0m
```

```
     IEASYM LIST = (00,K2)", [0m
```

```
     IEASYS LIST = (00) (OP)", [0m
```

```
     IODF DEVICE: ORIGINAL(ODE28) CURRENT(ODE28)", [0m
```

```
     IPL DEVICE: ORIGINAL(ODE27) CURRENT(ODE27) VOLUME(D25VS1)"
```

8. Ask the assistant what needs to be done after an IPL finishes.

**Prompt:**

What needs to be done after an IPL completes successfully? Provide a detailed answer.

**Example output:**

What needs to be done after an IPL completes successfully? Provide a detailed answer.



12:33 PM

After an IPL completes successfully, the system should be checked for any issues related to the availability and accessibility of the Application Groups (APGs), Applications (APLs), and Monitor Resources (MTRs) that were defined with the 'Monitor for IPL Complete' attribute. If the 'Monitor for IPL Complete' attribute is set to YES, additional processing is triggered from the System Automation initialization process, which checks whether the selected Application Group(s), Application(s) or Monitor Resource(s) have reached the status of AVAILABLE within the specified time limit. If the resources do not reach the status of AVAILABLE within the specified time limit, the IPL is indicated as 'not successfully completed'. The 'IPL Complete Time Limit' attribute can be used to specify the maximum time the resources are allowed to take before reaching the status of AVAILABLE. The following messages become available at the console depending on the YES setting(s) you have made for your chosen resource(s): ING313I indicates the relevant APG/APL/MTR resources are available and the IPL is complete, ING314I indicates the relevant APG/APL/MTR resources are not available although specified and the IPL is therefore not complete, and ING315I indicates that an IPL is complete after the specified time limit. 

## Cleanup steps

None.

# Scenario: Additional prompts

## Scenario overview

There are many other queries that an early tenure IBM Z systems programmer may ask. Here are some others you can experiment with.

**Example outputs for these prompts are not provided.**

## Prerequisite steps

None.

## Prompts

 **Copy and paste the prompt** ▼

Use the copy icon () to copy prompts from this demonstration guide and then paste the prompt using `^ Ctrl + V` or right click and select Paste.

### SMF data

**Prompt:**

What is SMF?

**Prompt:**

What are SMF records?

**Prompt:**

What is the difference between SMF records and syslogs?

**Prompt:**

Can I access SMF records in real time?

**Prompt:**

Which SMF types include information about CICS?

**Prompt:**

What kind of statistics information does SMF type 110, subtype 0002 include?

**Prompt:**

What type of information do SMF 30 records include? Please provide a detailed answer.

**z/OS software maintenance****Prompt:**

What does applying maintenance mean in the context of a z/OS subsystem? Provide a detailed response on how to apply maintenance?

**Prompt:**

How to check prerequisite APARs or PTFs when applying maintenance to a z/OS system? Provide a detailed response.

**Prompt:**

How to check if a prerequisite APAR or PTF is already applied to the z/OS system?

**ISPF and SDSF****Prompt:**

Which tool in ISPF can I use to edit a JCL job? Please provide a step by step guidance.

**Prompt:**

Which tool in ISPF can I use to submit a JCL job? Please provide a step by step guidance.

**Prompt:**

How can I find out if a job completed successfully in SDSF? I need a step by step description.

**Prompt:**

What is the expected return code when a job is executed successfully?

**Prompt:**

How can I use a search function in ISPF to find a JCL job by its name? Please provide a step by step description.

## **z/OS HIPERS and PEs**

### **Prompt:**

How does IBM identify problems that are found in z/OS software?

### **Prompt:**

What happens during z/OS Problem Source Identification (PSI)? Provide a detailed response

### **Prompt:**

Are PEs and HIPERs reported after the Problem Source Identification (PSI) process?

## Cleanup steps

None.

## Scenarios: Conclusion

As mentioned in the demonstration guidance section, it is important to conclude your demonstration with a call to action.

### Speaker's script

So that wraps up my demonstration of IBM Watson Assistant for Z. As you can see, in the case of an early-tenure mainframe system programmer, or even a more experienced system programmer, rather than spending hours searching through documentation to find answers, they can leverage the domain specific Retrieval-Augmented Generation (RAG) grounded on IBM Z specific knowledge to get trusted answers in seconds. And it also allows them to free up time by automating some of their more manual tasks that they can otherwise spend on building expertise.

Thank you for your time today. Would you agree to meeting again for a more comprehensive workshop?

# Next steps

This IBM watsonx Assistant for Z for Technical Sales Level 3 demonstrated several of the IBM watsonx Assistant for Z capabilities. However, there is still more to learn about IBM watsonx Assistant for Z. Be sure to check out the [offering landing page](#) and the [product documentation](#).

Also, the focus of the IBM watsonx Assistant for Z for Technical Sales Level 3 Demonstration Guide was the *end-user* use of IBM watsonx Assistant for Z. To learn more about deploying, configuring, and customizing IBM watsonx Assistant for Z explore the other capabilities that are included in the [ITZ collection here](#). Included are guidance for running client pilots and the ability to manage an IBM watsonx Assistant for Z deployment. In the Velocity Pilot environment, you can explore all the capabilities of the offering like creating an assistant, importing documents, and adding automation skills.

## Earn the badge

Finally, remember to complete the IBM watsonx Assistant for Z for Technical Sales Level 3 learning plan to earn the IBM watsonx Assistant for Z Technical Sales Intermediate badge.

**IBM technical sellers** must complete a Stand and Deliver exercise to validate their ability to demonstrate IBM watsonx Assistant for Z to potential clients. Refer to the evaluation checklist in the [YourLearning learning plan](#) for the Stand and Deliver.

**Business Partners** must pass the IBM watsonx Assistant for Z for Technical Sales Level 3 quiz that is located in the [IBM Training learning plan](#). The Business Partner quiz verifies use of the demonstration environment and click-through demonstrations, and not one's general knowledge of the offering.