



Getting Started with InterSystems IRIS Community Edition

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Getting Started with InterSystems IRIS Community Edition

Want to see what InterSystems IRIS® can do? One fast and easy way is to get an InterSystems IRIS Community Edition instance, which comes with a free license. You can provision a public cloud node hosting a containerized instance or download an image from the Docker Store and deploy your own container. This document explains how to get your cloud node or container image, and how to interact with your InterSystems IRIS instance.

- [Getting Your InterSystems IRIS Community Edition Cloud Node](#)
- [Deploying InterSystems IRIS Community Edition on Your Own System](#)
- [Exploring Your InterSystems IRIS Community Edition Instance](#)
- [Next Steps](#)

1 Getting Your InterSystems IRIS Community Edition Cloud Node

To get started,

1. Log into your Google Public Cloud, Amazon Web Services, or Microsoft Azure account. If neither you nor your employer have one yet, you can go to the [GCP](#), [AWS](#), or [Azure](#) portal page to quickly create a free account. Select or create a project (GCP), an IAM user and credentials (AWS), or a resource group (Azure).
2. Find the InterSystems IRIS Community Edition page for your cloud provider by going to the [Get InterSystems IRIS Today!](#) page and selecting the appropriate link. (You can also go to the cloud provider's marketplace page and search for **InterSystems IRIS**.) Get InterSystems IRIS Today! also includes links to short video tutorials on getting started with a cloud node.
3. On the listing page, click **Launch** (GCP), **Continue to Subscribe** (AWS), or **Create** (Azure), then follow the prompts and fill in the required fields.

Note: On AWS, for a more streamlined experience, choose **Launch through EC2** at the first prompt on the **Launch this software** page. If you continue on the website, be sure to select **Create New Based On Seller Settings** from the **Security Group Settings** drop-down,)

That's it! You are the proud owner of an InterSystems IRIS Community Edition instance on a cloud node. The instance comes with a free built-in license (there are some [limitations](#)) that expires a year after the product version's release date.

Once your node is deployed, go to the page listing your nodes — **Compute Engine > VM Instances** (GCP), **EC2 > Running instances** (AWS), or **Virtual machines** (Azure) — then continue with the instructions in [Exploring Your InterSystems IRIS Community Edition Instance](#).

Note: You can also get immediate access to a free InterSystems IRIS Community Edition instance, with an integrated IDE and sample data to work with, on the [InterSystems Learning Labs](#) web page. See [InterSystems IRIS on the Web](#) for more information.

2 Deploying InterSystems IRIS Community Edition on Your Own System

You can also deploy a containerized instance of InterSystems IRIS Community Edition on your own public cloud, private cloud, or hardware system by downloading the Docker container image from the Docker Store. To do this,

1. Ensure that Docker is installed on your system. (Docker images from InterSystems comply with the OCI support specification, and are supported on Docker Enterprise Edition and Community Edition, version 18.03 and later. Only Docker EE is supported for production environments.)
2. Load the Docker Store's [InterSystems IRIS data platform page](#) in your browser. Click **Community Edition** in the upper right-hand corner, then click the **Setup Instructions** button that appears immediately below it to display instructions for pulling the image and running the container.
3. At your system's shell prompt, follow the instructions displayed. Make a note of the host ports to which you publish the InterSystems IRIS instance's superserver and web server ports. For example, the instructions contain the following options:

```
--publish 52773:52773  
--publish 51773:51773
```

These options publish the instance's superserver port and web server port as 51773 and 52773 on the host, respectively.

4. Execute the **docker ps -a** command to see the status of the container, which is called try-iris, and ensure that it is running.

Once the container is running, you must secure the InterSystems IRIS instance running in the container by changing the default password, as described in [Changing the InterSystems IRIS Password](#). Once this is done, you can continue with the instructions in [Interacting with InterSystems IRIS](#).

Note: The provided setup instructions are valid for most Docker environments; if you encounter any problems, see [Creating and Running InterSystems IRIS Docker Containers](#) and [Additional Docker/InterSystems IRIS Considerations in Running InterSystems Products in Containers](#). For information specific to Docker for Windows, see [Using InterSystems IRIS Containers with Docker for Windows](#) on InterSystems Developer Community.

3 Exploring Your InterSystems IRIS Community Edition Instance

Before you do anything else, you must secure your InterSystems IRIS instance by changing the default password. To do this on a cloud node, you need to open a shell on the node by securely connecting to it using SSH.

3.1 Connecting to the Cloud Node Using SSH

The GCP and Azure interfaces include a built-in SSH connection option (Azure uses the credentials you provided when deploying the node). On AWS, and as an alternative on the others, you can connect using a separate program such as PuTTY. The cloud portals provide help on connecting with SSH using both the built-in options and third-party programs; for instructions for using PuTTY to connect to an AWS node, see [Connecting to AWS Using PuTTY](#).

3.2 Changing the InterSystems IRIS Password

At the shell prompt on a cloud node, change the default instance password by issuing the command **iris password**. Note the [predefined user accounts](#) that are displayed; you will use one of these with the new password you just entered to log into the InterSystems IRIS instance.

If you connect to the instance using the Management Portal (see [Interacting Using the Management Portal](#) and [Interacting Using the InterSystems IRIS Terminal](#)), you can use one of the [predefined accounts](#), for example **_SYSTEM** and the default password **sys**. For security reasons, you are immediately prompted to change the password; this happens after every first login (using either the Management Portal or the **iris terminal** command) to a predefined account on a containerized InterSystems IRIS instance.

3.3 Interacting with InterSystems IRIS

Several ways to interact with your containerized InterSystems IRIS instance are listed in the following. The ones you'll use depend on what InterSystems IRIS features you want to explore. For detailed information about using a containerized InterSystems IRIS instance, see [Running InterSystems Products in Containers](#).

3.3.1 Interacting from the Shell

At the shell prompt on a cloud node only, you can

- Use the special **iris** command:
 - **iris status** displays the status of the InterSystems IRIS instance.
 - **iris info** shows information about connecting to the instance.
 - **iris load** loads data into the instance from a specified github repo.
 - **iris help** lists these InterSystems IRIS commands.
- Review the Docker compose file that was used to create the InterSystems IRIS container, located at /opt/ISC/docker-compose.yml.

At the shell prompt on any system hosting the InterSystems IRIS container, cloud node or otherwise, you can

- See how containerization makes upgrades a snap by exploring the [instance-specific data](#) stored outside the InterSystems IRIS container.
 - On the cloud node's file system, it is in /opt/ISC/dur.
 - On the system hosting the container you ran from the downloaded image, it is on the volume you specified with the **--volume** option, in the directory you specified in the ISC_DATA_DIRECTORY environment variable. For example, suppose your **docker run** command included these options:

```
--volume /home/pmartinez/iris:/external
--env ISC_DATA_DIRECTORY=/external/dur
```

In this case, the instance-specific data would be located in /home/pmartinez/iris/dur outside the container and /external/dur inside the container.

- Issue Docker commands, including the following **docker exec** command to open a shell within the InterSystems IRIS container, which is called try-iris. (The **-i** option makes the command interactive and **-t** allocates a text terminal.)

```
docker exec -it try-iris bash
```

Using the container command line you can interact directly with the containerized InterSystems IRIS instance, as described in the next section, and also explore the instance's installation directory structure.

Note: All Docker commands issued in the cloud node shell must be prefixed with **sudo**.

3.3.2 Interacting Using the InterSystems IRIS Terminal

Open a shell within the container using the **docker exec** command described in the previous section), then execute the **iris** command to connect to and manage the InterSystems IRIS instance. For example, to open a Terminal session for the instance (which is called **IRIS**), issue the command **iris terminal iris**. You can also do this directly from the container host's shell with the command **docker exec -it try-iris iris terminal IRIS**.

When your Terminal session begins, log in using **_SYSTEM** or one of the other **predefined accounts** and the new password you provided when changing the password. (If the instance is running on any system other than a cloud node, use the default password **sys**; you are immediately prompted to change it.) You can also open the InterSystems IRIS **SQL Shell** by logging in as **sqluser/sqluser**.

3.3.3 Interacting Using the Management Portal

To open the InterSystems IRIS Management Portal for your instance, load this URL in your browser.

http://host-IP:52773/csp/sys/UtilHome.csp

where *host-IP* is the IP address of the cloud node or other system hosting the container, for example **http://35.192.00.154:52773/csp/sys/UtilHome.csp**. You can see the specific link for your cloud node instance by using the **iris info** command in the shell, as previously described. If the container is running on your local system, you can use **127.0.0.1** or **localhost** in place of *host-IP*. (If you published another host port for 52773 when you started the container, for example **--publish 9999:52773**, you need to use that host port instead.)

When the portal opens, log in using **_SYSTEM** or one of the other **predefined accounts** and the new password you provided when changing the password. If the instance is not running on a cloud node, or it is on a cloud node but you have not yet **changed the default password**, use the default password **sys**; you are immediately prompted to change it.)

The **Management Portal** is the comprehensive web-based user interface to an InterSystems IRIS instance. Load it in your browser to configure and manage the instance and to access the InterSystems IRIS data platform features you are interested in. For example, you can create a custom **namespace and database**, create resources, roles, and users for **authorization** and manage other InterSystems IRIS **security and encryption** features, and configure connectivity, **national language support**, and other settings. You can also explore the pages used to create and manage interoperability productions, and use the **System Explorer** page to examine tables, views, and stored procedures on the instance, execute SQL queries and review query plans, and review the code on the instance and the globals that provide direct programmatic access to its data.

You can also **search the documentation** from the Management Portal, allowing you to review everything InterSystems IRIS has to offer on a topic of interest to you.

3.3.4 Connecting an Integrated Development Environment (IDE)

To connect an IDE to the InterSystems IRIS instance, you'll need some or all of the following information:

- The hostname or external IP address of the container's host (as in the Management Portal link).
- The instance's superserver port, 51773, and web server port, 52773. (If you published different host ports for these InterSystems IRIS ports when you started the container, you need to use those host ports instead.)
- Credentials for the instance — either **_SYSTEM** or one of the other **predefined accounts** and the new password you provided when changing the password, or a user account you created using the Management Portal.

The [Atelier](#) plug-in from InterSystems enables you to take advantage of the widely-known Eclipse open-source development environment to develop applications using InterSystems technology. The extensive array of plug-ins and extensions available for Eclipse means you can use whatever additional technologies your project requires, all in a single development environment. Eclipse also provides plug-ins exist for virtually all widely-used version control systems (VCS) and a powerful built-in debugging capability that is fully exploited by Atelier.

InterSystems IRIS application developers can also the [Studio](#) IDE, a client application running on Windows systems. Studio can connect to any InterSystems IRIS instance regardless of the platform the instance is running on.

Of course you can easily use other IDEs such as Eclipse, NetBeans, IntelliJ, and Microsoft Visual Studio. For details, see [InterSystems IRIS Basics: Connecting an IDE](#).

3.3.5 Connecting with Java

To load data onto the InterSystems IRIS instance using JDBC, use this connection string:

`jdbc:IRIS://host-IP:superserver-port/namespac`

where the host IP and superserver port are as described in the previous sections, for example

`jdbc:IRIS://35.192.00.154:51773/USER`

InterSystems IRIS provides a fully compliant (JDBC 4.2), pure Java, type 4 JDBC driver, which is a single standalone JAR file with no dependencies. You can download the JAR file, `intersystems-jdbc-3.0.0.jar` from <https://github.com/intersystems-quickstarts-java/tree/master/lib>.

When you use InterSystems IRIS JDBC to connect to a local Windows machine, the connection automatically uses a special, high-performance local connection, called a [shared memory connection](#).

Find more information about connecting InterSystems IRIS and Java in the [InterSystems Programming Tools Index](#).

3.3.6 Connecting with .NET

InterSystems IRIS provides two different but complementary ways to access InterSystems databases from a .NET application:

- The ADO.NET Managed Provider is the InterSystems implementation of the ADO.NET data access interface, which provides easy relational access to data using the standard ADO.NET Managed Provider classes.
- The Entity Framework Provider is the InterSystems implementation of the object-relational mapping (ORM) framework for ADO.NET, enabling .NET developers to work with relational data using domain-specific objects.

Find more information about connecting InterSystems IRIS and .NET in the [InterSystems Programming Tools Index](#).

4 Next Steps

Where to go from here? Take your choice of a wide range of destinations. And remember, you can always [contact us](#) for information about or help with InterSystems products, including InterSystems IRIS.

4.1 InterSystems IRIS Learning Services

InterSystems IRIS data platform is supported by an extensive set of learning materials.

4.1.1 An Introduction to InterSystems IRIS

For high-level views of InterSystems IRIS and its capabilities, see [InterSystems IRIS Overview](#) (article) and the [What is InterSystems IRIS? QuickStart](#).

4.1.2 InterSystems IRIS First Looks

These short documents introduce you to an InterSystems feature or technology and give you the chance to try it for yourself on your InterSystems IRIS cloud instance. For example, you can try the hands-on exercises in these First Looks:

- [First Look: InterSystems IRIS Native API for Java](#) — Access InterSystems globals from a Java application using InterSystems IRIS Native.
- [First Look: .NET Object Persistence with XEP](#) — Use the XEP API for fast .NET storage and retrieval on InterSystems IRIS
- [First Look: InterSystems SQL](#) — Use InterSystems SQL
- [First Look: Connecting Systems Using Interoperability Productions](#) — Connecting systems together using InterSystems IRIS data platform integration productions

There are lots more! For a full list of First Looks, see [InterSystems First Looks](#); the cloud icon indicates those you can use with a cloud or other containerized instance. And the [InterSystems IRIS documentation](#) thoroughly covers everything InterSystems IRIS has to offer.

4.1.3 InterSystems IRIS QuickStarts

With InterSystems Learning Services [QuickStarts](#), you can see how InterSystems IRIS data platform can be used to improve your systems and benefit your applications, and access informative hands-on encounters with InterSystems technology. You can also consult a wide range of other [online learning](#) materials

4.1.4 Experience InterSystems Technology

Ready to try InterSystems technology for yourself? [Choose an experience in your area of interest](#) and get started.

4.2 InterSystems Developer Community

On the [InterSystems Developer Community](#), you can read about and discuss InterSystems products and technologies, including InterSystems IRIS. Posts include articles, questions and answers, announcements, new feature descriptions, and videos. Both InterSystems employees and community members participate. Register on the Developer Community to ask questions about InterSystems IRIS functionality and architecture and get answers from the people who know!

4.3 Worldwide Response Center

The [Worldwide Response Center \(WRC\)](#) provides expert technical assistance with InterSystems products. The center is on call 24x7x365 with staff fluent in 15 languages.

5 InterSystems IRIS on the Web

You can also get immediate access to a free InterSystems IRIS Community Edition instance (with a few modifications) on the [InterSystems Learning Labs web page](#), and use it to build an application with one of the many supported languages. Your InterSystems Labs instance comes with an integrated IDE, and several projects with sample data and step-by-step instructions. You can also connect your own IDE to the instance and use that to work with the sample data, or create data of your own that more closely reflects the specific needs of your application. The InterSystems Labs instance comes with a free built-in 90-day license, with [functionality limitations](#) similar to those of the Community Edition cloud instance and Docker Store image.

6 InterSystems IRIS Community Edition Limitations

The InterSystems IRIS instance on the Community Edition cloud node is subject to certain limitations, as follows:

- All InterSystems IRIS functionality is included except the following:
 - [Mirroring](#)
 - [Enterprise Cache Protocol \(ECP\) and distributed caching](#)
 - [Sharding](#)
- Resource usage is limited to the following:
 - Total data: 10 GB
 - Connections: 5
 - Cores: 8

7 Connecting to AWS Using PuTTY

As part of launching a node on AWS, you must designate or create an AWS public-private key pair for use in connecting to it. When you connect using SSH, you must supply the program you are using with the private key from this pair, as downloaded when you created the key pair or as supplied to you by your security administrator. Connect using PuTTY with these steps:

1. Open the PuTTYgen key generator program that is installed with PuTTY and do the following:
 - a. Use the **Load** button to load the .pem private key file provided by AWS. (Remember to set the file type selector in the file browser dialog to **All files (*.*)** to display the .pem file you want to load.)
 - b. Use the **Save private key** button to save the key in .ppk format.
2. Open the PuTTY program itself and do the following:
 - a. In the **Host Name** box, enter **ubuntu@host**, where *host* is either the DNS name or the IP address, for example **ubuntu@ec2-34-000-53-213.compute-1.amazonaws.com** or **ubuntu@34.000.53.213**.
 - b. In the navigation tree on the left, expand **SSH** and select **Auth**, and at the **Private key file for authentication** prompt browse for the .ppk file you saved in the previous step.
 - c. Click **Open**.

Once you have successfully connected, you can save the connection settings in PuTTY so that fewer steps will be required to connect in the future.

