InterSystems™
IRIS Data Platform

UNIX®, Linux, and macOS Installation

Version 2024.1
2024-07-02

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UNIX®, Linux, and macOS Installation Overview

The UNIX®, Linux, and macOS Installation Guide provides guidance on installing kit-based deployments of InterSystems IRIS on UNIX®, Linux, and macOS.

1.1 How to Use This Guide

For all installations, you should begin with the Pre-Installation steps. You can then follow the steps for either an attended or unattended installation. The attended installation process is different depending on the setup type you choose. After following the steps for attended installations, use the documentation for the setup type you've chosen to continue the installation process. After completing the installation, refer to the Post-Installation section for additional tasks that should be completed.

This guide breaks steps into sections titled *Default* and *More*. *Default* includes basic information for a given step, details on what actions need to be taken, and recommendations on which options to choose. *More* includes additional details and other options that can be chosen.

In general, the *Default* sections are sufficient for quickly getting started with InterSystems IRIS. If you are unsure about a particular step or about which option to select you can follow the guidance in the *Default* sections.

1.2 Deploying for Production Systems

Deploying for a live production system is a more involved procedure than deploying for development. In particular, you should carefully consider the resources at your disposal and plan your configuration and deployment accordingly. Before beginning the installation process, you should review the following sections that give detailed guidance on planning and managing your resources:

* System Resource Planning and Management

* Memory and Startup Settings

You can still follow the procedures outlined in this guide, however the procedures outlined in the *Default* sections may not be sufficient for your system. Review each step thoroughly, including the *More* sections, and select the configuration options appropriate for your system.

Additionally, you should consider the following when installing for a production system:

- Unattended installations or the use of configuration merge are recommended for production systems. These methods allow you to easily save your configuration and redeploy with the same settings.

- Large or huge pages are highly recommended for production systems or any systems that will be performing memory intensive processes.

- Properly configuring the number of *maximum user processes* is critical for production and other resource intensive systems.

- Setting the swappiness values of your system to a high enough value can help increase performance.

- You should install with "Locked Down" security settings. This allows for the strongest initial security for your deployment. See Initial InterSystems Security Settings for more details.

- If you are performing an attended installation, the custom installation is recommended. This allows you to only install the components necessary for your deployment.

2

UNIX®, Linux, and macOS Pre-Installation

This page details the pre-installation steps for UNIX®, Linux, and macOS installations.

Before beginning, make sure you review the UNIX®, Linux, and macOS Installation Overview, including:

- How to Use This Guide
- Deploying for Production Systems

2.1 Step 1: Review Supported Platforms

Default:

- Review InterSystems Supported Platforms before installing to make sure the technologies you intend on using are supported.
- Review Supported File Systems for details on optimal file systems and mount options for journaling.

2.2 Step 2: Review Platform Specific Notes

Default:

- Review specific details for your platform:
    - AIX®
    - Red Hat Linux
    - SUSE Linux
    - Ubuntu

2.3 Step 3: Install a Web Server

Default:

- Install the Apache httpd web server. This web server supports auto-configuration during the installation process.

More:

- Install another supported web server (you will have to manually configure this web server).

- Proceed without a web server (you will have to manually configure a web server in order to access web applications, including the Management Portal).

- If you are performing an unattended installation and are not auto-configuring the Apache web server, make sure that you set the parameter `ISC_PACKAGE_WEB_CONFIGURE="N"`.

Important: InterSystems recommends using the Apache httpd web server because it can be automatically configured during the installation process. Make sure it is installed and running before beginning the installation process. In most cases, it is not necessary to manually configure the Apache web server.

2.4 Step 4: Configure Large and Huge Pages (AIX® and Linux)

Default:

- Linux:

  – Huge pages are recommended for most systems. See Configuring Huge Pages on Linux.

More:

- IBM AIX®

  – Large pages should be configured for high-performance environments. See Configuring Large Pages on IBM AIX®.

2.5 Step 5: Maximum User Processes Recommendations

Default:

- This step is primarily recommended for production systems or those that are expected to perform memory intensive processes.

- Ensure that the *maximum user processes* is set high enough to allow all InterSystems IRIS processes for a given user, as well as other default processes, to run on the system.

2.6 Step 6: Determine Owners and Groups

Default:

- Determine or create the user account that you will identify as the *owner of the instance*.

- Determine or create the group you will identify as *group allowed to start and stop the instance*.

More:

- If your operating systems contains the **useradd** and **groupadd** utilities (or **mkgroup** and **mkuser** on AIX®), you can instead create accounts for the *effective user for InterSystems IRIS superserver* and the *effective group for InterSystems IRIS processes* during the installation.

- If your operating system uses Network Information Services (NIS) or another form of network-based user/group database, it may be best to create the InterSystems IRIS effective user and effective group in your network database prior to installing. For details, see Owners and Groups.

- Review Owners and Groups.

- Review UNIX® User and Group Identifications.

Important: InterSystems IRIS must set user, group, and other permissions on files that it installs. To accomplish this, InterSystems IRIS sets **umask** to 022 for the installation process - do *not* modify the **umask** until the installation is complete.

2.7 Step 7: Set Swappiness (Linux)

Default:

- This step is primarily recommended for production systems or those that are expected to perform memory intensive processes.

- For systems with *less* than 64GB of RAM: a swappiness of *5* is recommended.

- For systems with *more* than 64GB of RAM: a swappiness of *1* is recommended.

- The swappiness value determines how frequently your system will swap memory pages between the physical RAM and swap space.

2.8 Step 8: Install the VS Code ObjectScript Development Environment (Linux and macOS)

Default:

- On Linux and macOS environments, install InterSystems ObjectScript extensions for Visual Studio Code.

- This can be done before or after installing InterSystems IRIS.

- The development environment enables you to use VS Code to connect to an InterSystems IRIS server and develop code in ObjectScript.

2.9 Step 9: Acquire an InterSystems IRIS Kit

Default:

• Acquire an installation kit from the WRC InterSystems IRIS kit download site.

2.10 Step 10: Uncompress the Installation Kit

Default:

• If your installation kit is in the form of a .tar file, for example iris-2019.3.0.710.0–lnxrhx64.tar.gz, you should uncompress the file into a temporary directory to avoid permissions issues. See the example provided below.

More:

• The installation files uncompress into a directory with the same name as the .tar file, for example /tmp/iriskit/iris-2019.3.0.710.0–lnxrhx64.

• Because legacy **tar** commands may fail silently if they encounter long pathnames, InterSystems recommends that you use **GNU tar** to untar this file. To determine if your **tar** command is a GNU **tar**, run **tar --version**.

Example:

```
# mkdir /tmp/iriskit
# chmod og+rx /tmp/iriskit
# umask 022
# gunzip -c /download/iris-<version_number>-lnxrhx64.tar.gz | ( cd /tmp/iriskit ; tar xf - )
```

Important: Do not uncompress the file into or run InterSystems IRIS installation from the /home directory, or any of its subdirectories. Additionally, the pathname of the temporary directory cannot contain spaces.

    Do not install InterSystems IRIS into the same directory you used to uncompress the installation kit.

2.11 Step 11: Install the Required Dependencies

Default:

• Run the requirements checker using the following command:

```
/<install-files-dir>/irisinstall --prechecker
```

Note: You must have the permissions necessary to run the command to execute the requirements checker:

    AIX®: **lslpp**

    Red Hat Linux and SUSE: **rpm**

    Ubuntu: **dpkg**

• Install any missing dependencies and ensure the user performing the installation can access all necessary dependencies.

More:

- If you try to install InterSystems IRIS with missing dependencies, the installation will fail with an error in messages.log like the following: `Error: OS Package Requirements Check Failed`.

- The requirements checker always runs during instance startup. The startup fails if the requirements are not met.

2.12 Step 12: Choose Your Installation Strategy

Default:

- Use to run a Development, Server, or Custom installation.

More:

- Use **irisinstall_client** to run a client-only installation.

- Use configuration merge

- Use an Installation Manifest.

- Perform an Unattended Installation.

- Add Unix® Installation Packages to an InterSystems IRIS Distribution.

3

UNIX®, Linux, and macOS Attended Installation

This page details the initial steps for attended installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

- UNIX®, Linux, and macOS Pre-Installation

3.1 Step 1: Log in as root

Default:

- Log in as user ID `root`.

- It is acceptable to **su** (superuser) to `root` while logged in from another account.

More:

- If `root` is unavailable, you can perform a non-standard, limited InterSystems IRIS installation as a nonroot user. See Installing InterSystems IRIS as a Nonroot User before continuing.

3.2 Step 2: Run irisinstall

Default:

- Start the installation by running the **irisinstall** script, located at the top level of the installation files:

  ```
  # /<install-files-dir>/irisinstall
  ```

- `<install-files-dir>` is the location of the installation kit, typically the directory to which you extracted the kit.

3.3 Step 3: System Type

Default:

- The installation script will attempt to automatically detect your system type and validate against the installation type on the distribution media.

- If your system supports more than one type (for example, 32–bit and 64–bit) or if the install script cannot identify your system type, you are prompted with additional questions.

- You may be asked for the "platform name" in the format of the string at the end of the installer kit name.

More:

- If your system type does not match that on the distribution media, the installation stops.

- Contact the InterSystems Worldwide Response Center (WRC) for help in obtaining the correct distribution.

3.4 Step 4: Begin Installation

Default:

- The script displays a list of any existing InterSystems IRIS instances on the host.

- At the **Enter instance name:** prompt, enter an instance name.

- Use only alphanumeric characters, underscores, and dashes.

- If an instance with this name already exists, the program asks if you wish to upgrade it.

  Note: If you select an existing instance that is of the same InterSystems IRIS version as the installation kit, the installation is considered an upgrade, and you can use the `Custom` selection, described in the following step, to modify the installed client components and certain settings.

  The InterSystems IRIS registry directory, /usr/local/etc/irissys, is always created along with the InterSystems IRIS installation directory.

- If no such instance exists, it asks if you wish to create it and asks you to specify its installation directory.

- If the directory you specify does not exist, it asks if you want to create it. The default answer to each of these questions is `Yes`.

More:

- Review Installation Directory for important information about choosing an installation directory.

3.5 Step 5: Choose Installation Type

Default:

- Select the Development type from the choices:

```
Select installation type.
    1) Development - Install IRIS server and all language bindings
    2) Server only - Install IRIS server
    3) Custom - Choose components to install
Setup type <1>?
```

- Continue reading the documentation for a Development setup type.

More:

- Choose any setup type. Review Choosing a Setup Type for details on the different setup types.

- Continue reading the documentation for the setup type you choose:

    – Development

    – Server

    – Custom

- If the CSP Gateway is already installed on your system when you install the Web Gateway, the installer automatically upgrades the CSP Gateway to the Web Gateway. For details, see Preexisting CSP Gateway.

4

UNIX®, Linux, and macOS Development Installation

This page details the steps for attended development installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

- UNIX®, Linux, and macOS Pre-Installation
- UNIX®, Linux, and macOS Attended Installation (initial steps)

4.1 Development Installation Overview

Default:

- A development installation installs only the components of InterSystems IRIS that are required on a development system.

- The installation script, **irisinstall**, does the following:

    - Installs the InterSystems IRIS system manager databases.

    - Starts InterSystems IRIS in installation mode.

    - Installs InterSystems IRIS system manager globals and routines.

    - Shuts down InterSystems IRIS and restarts using the default configuration file (iris.cpf). Upgrade installations restart using their updated configuration files.

More:

- Standard InterSystems IRIS installation consists of a set of modular package scripts. The scripts conditionally prompt for information based on input to previous steps, your system environment, and whether or not you are upgrading an existing instance.

- The first stage of the installation stores all gathered information about the install in a parameter file.

- You then confirm the specifics of the installation before the actual install takes place.

- The final phase performs the operations that are contingent upon a successful install, such as instance startup.

- Development installations include the following component groups:

- – InterSystems IRIS Database Engine (including user database, Language Gateways, and Server Monitoring Tools)

- – InterSystems IRIS launcher

- – Studio

- – Database drivers

- – InterSystems IRIS Application Development (including language bindings)

- – Web Gateway

- For details on these component groups, see Choosing a Setup Type.

Important: If the profile of the user executing **irisinstall** has a value set for the *CDPATH* variable, the installation fails.

4.2 Step 1: Choose Security Settings

Default:

- You are prompted for initial security settings.

- Input (2) to choose Normal security settings.

More:

- You can choose from the following initial security settings:

- – Minimal (1)

- – Normal (2)

- – Locked Down (3)

- Minimal is only available for InterSystems IRIS installations. If you choose this, you can skip the next step; the installer sets the owner of the instance as root.

- There are additional security settings that you can choose only through a custom install. See InterSystems IRIS Custom Installation for details.

- See Initial InterSystems Security Settings for details on the different security settings and choosing one for your system.

4.3 Step 2: Define Instance Owner

Default:

- If you selected Minimal or Locked Down in the previous step, you are prompted for additional information:

- – Instance owner — Enter the username of the account under which to run InterSystems IRIS processes. See Determining Owners and Groups for information about this account. Once InterSystems IRIS is installed, you cannot change the owner of the instance.

- – Password for the instance owner — Enter the password for username you entered at the previous prompt, and enter it again to confirm it. A privileged InterSystems IRIS user account is created for this user with the %All role.

This password is used not only for the InterSystems IRIS privileged user account, but also for the _SYSTEM, Admin, and SuperUser predefined user accounts. For more details on these predefined users, see Predefined User Accounts.

– Password for the CSPSystem predefined user.

More:

• The passwords must meet the criteria described in the Initial User Security Settings table. Passwords entered during this procedure cannot include space, tab, or backslash characters; the installer reject such passwords.

4.4 Step 3: Determine Group to Start or Stop the Instance

Default:

• You are prompted which group should be allowed to start and stop InterSystems IRIS.

• Only one group can have these privileges, and it must be a valid group on the machine.

• Enter the name or group ID number of an existing group; InterSystems IRIS verifies that the group exists before proceeding.

• See Determining Owners and Groups for more information.

4.5 Step 4: Install Unicode Support

Default:

• Indicate whether to install InterSystems IRIS with 8-bit or Unicode character support.

• On upgrade, you can convert from 8-bit to Unicode, but not the reverse.

4.6 Step 5: Configure Web Server

Default:

• If a local web server is detected, you will be asked if you would like to use the web server to connect to your installation.

• Enter y. This will allow the web server to be connected automatically.

If you enter n, the web server will not be connected automatically and you will have to configure it manually after the installation finishes.

More:

• If a web server is not detected, you will be asked if you would like to abort. If you choose to continue the installation, you will have to configure your web server manually after the installation finishes.

Important: InterSystems recommends using the Apache httpd web server because it can be automatically configured during the installation process. Make sure it is installed and running before beginning the installation process. In most cases, it is not necessary to manually configure the Apache web server.

4.7 Step 6: Activate License Key

Default:

- If the script does not detect an iris.key file in the mgr directory of an existing instance when upgrading, you are prompted for a license key file.

- If you specify a valid key, the license is automatically activated and the license key copied to the instance's mgr directory during installation and no further activation procedure is required.

- If you do not specify a license key, you can activate a license key following installation. See Activating a License Key for information about licenses, license keys and activation.

- On macOS, you may receive a prompt regarding network connections for **irisdb**. If so, select **Allow**.

4.8 Step 7: Review Installation

Default:

- Review your installation options and press enter to proceed with the installation. File copying does not begin until you answer Yes.

- When the installation completes, you are directed to the appropriate URL for the Management Portal to manage your InterSystems IRIS system. See Using the Management Portal for more information.

- Continue to Post-Installation Tasks.

5

UNIX®, Linux, and macOS Server Installation

This page details the steps for attended server installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

• UNIX®, Linux, and macOS Pre-Installation

• UNIX®, Linux, and macOS Attended Installation (initial steps)

5.1 Server Installation Overview

Default:

• A server installation installs only the components of InterSystems IRIS that are required on a server system.

• The installation script, **irisinstall**, does the following:

– Installs the InterSystems IRIS system manager databases.

– Starts InterSystems IRIS in installation mode.

– Installs InterSystems IRIS system manager globals and routines.

– Shuts down InterSystems IRIS and restarts using the default configuration file (iris.cpf). Upgrade installations restart using their updated configuration files.

More:

• Standard InterSystems IRIS installation consists of a set of modular package scripts. The scripts conditionally prompt for information based on input to previous steps, your system environment, and whether or not you are upgrading an existing instance.

• The first stage of the installation stores all gathered information about the install in a parameter file.

• You then confirm the specifics of the installation before the actual install takes place.

• The final phase performs the operations that are contingent upon a successful install, such as instance startup.

• Server installations include the following component groups:

- InterSystems IRIS Database Engine (including user database, Language Gateways, and Server Monitoring Tools)

  - InterSystems IRIS launcher

  - Web Gateway

- For details on these component groups, see Choosing a Setup Type.

5.2 Step 1: Choose Security Settings

Default:

- You are prompted for initial security settings.

- Input (2) to choose `Normal` security settings.

More:

- You can choose from the following initial security settings:

  - `Minimal(1)`

  - `Normal(2)`

  - `Locked Down (3)`

- Minimal is only available for InterSystems IRIS installations. If you choose this, you can skip the next step; the installer sets the owner of the instance as `root`.

- There are additional security settings that you can choose only through a custom install. See InterSystems IRIS Custom Installation for details.

- See Initial InterSystems Security Settings for details on the different security settings and choosing one for your system.

5.3 Step 2: Define Instance Owner

Default:

- If you selected Minimal or Locked Down in the previous step, you are prompted for additional information:

  - Instance owner — Enter the username of the account under which to run InterSystems IRIS processes. See Determining Owners and Groups for information about this account. Once InterSystems IRIS is installed, you cannot change the owner of the instance.

  - Password for the instance owner — Enter the password for the username you entered at the previous prompt, and enter it again to confirm it. A privileged InterSystems IRIS user account is created for this user with the %All role.

    This password is used not only for the InterSystems IRIS privileged user account, but also for the _SYSTEM, Admin, and SuperUser predefined user accounts. For more details on these predefined users, see Predefined User Accounts.

  - Password for the CSPSystem predefined user.

More:

- The passwords must meet the criteria described in the Initial User Security Settings table. Passwords entered during this procedure cannot include space, tab, or backslash characters; the installer reject such passwords.

5.4 Step 3: Determine Group to Start or Stop the Instance

Default:

- You are prompted which group should be allowed to start and stop InterSystems IRIS.

- Only one group can have these privileges, and it must be a valid group on the machine.

- Enter the name or group ID number of an existing group; InterSystems IRIS verifies that the group exists before proceeding.

- See Determining Owners and Groups for more information.

5.5 Step 4: Configure Additional Security Options

Default:

- If you chose `Normal` or `Locked Down` for your initial security settings, you are asked if you want to configure additional security options.

- Input `N` to continue with the installation using the defaults for the initial security settings you chose.

More:

- If you choose `Y`, you are prompted to configure additional settings:

  - *Effective group for InterSystems IRIS* — InterSystems IRIS internal effective group ID, which also has all privileges to all files and executables in the installation. For maximum security, no actual users should belong to this group. (Defaults to `irisusr`.)

  - *Effective user for the InterSystems IRIS superserver* — Effective user ID for processes started by the superserver and Job servers. Again, for maximum security, no actual users should have this user ID. (Defaults to `irisusr`.)

- See Determining Owners and Groups for additional information.

5.6 Step 5: Install Unicode Support

Default:

- Indicate whether to install InterSystems IRIS with 8–bit or Unicode character support.

- On upgrade, you can convert from 8-bit to Unicode, but not the reverse.

5.7 Step 6: Configure Web Server

Default:

- If a local web server is detected, you will be asked if you would like to use the web server to connect to your installation.

- Input y. The web server will be connected automatically.

- Input 1 to specify the Apache **WebServer type**.

- Enter the location of the Apache configuration file. The default path is /etc/httpd/conf/httpd.conf.

- Specify an **Apache httpd port number**. The default is 80 (8080 on macOS). Upgrade installs do not offer this choice; they keep the port numbers of the original instance.

  Important: Specifying a custom web server port number during installation only modifies the WebServerPort CPF parameter. This should be the port number that your web server is configured to listen over. The default web server port number is 80 (8080 on macOS). Unless, you've configured your web server to listen over a different port number, you shouldn't change this setting from the default.

- Specify a **SuperServer port number**. This is 1972 by default (or, if 1972 is taken, this is 51733 or the first available subsequent number). The port number cannot be greater than 65535.

More:

- If a web server is not detected, you will be asked if you would like to abort. If you choose to continue the installation, you will have to configure your web server manually after the installation finishes.

- If you choose not to connect a detected web server or set **WebServer type** to None, you will have to configure your web server manually after the installation finishes.

Important: InterSystems recommends using the Apache httpd web server because it can be automatically configured during the installation process. Make sure it is installed and running before beginning the installation process. In most cases, it is not necessary to manually configure the Apache web server.

5.8 Step 7: Activate License Key

Default:

- If the script does not detect an iris.key file in the mgr directory of an existing instance when upgrading, you are prompted for a license key file.

- If you specify a valid key, the license is automatically activated and the license key copied to the instance's mgr directory during installation and no further activation procedure is required.

- If you do not specify a license key, you can activate a license key following installation. See Activating a License Key for information about licenses, license keys and activation.

- On macOS, you may receive a prompt regarding network connections for **irisdb**. If so, select **Allow**.

5.9 Step 8: Review Installation

Default:

- Review your installation options and press enter to proceed with the installation. File copying does not begin until you answer `Yes`.

- When the installation completes, you are directed to the appropriate URL for the Management Portal to manage your InterSystems IRIS system. See Using the Management Portal for more information.

- Continue to Post-Installation Tasks.

6

UNIX®, Linux, and macOS Custom Installation

This page details the steps for attended custom installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

- UNIX®, Linux, and macOS Pre-Installation

- UNIX®, Linux, and macOS Attended Installation (initial steps)

6.1 Custom Installation Overview

Default:

- A custom installation allows you to select specific InterSystems IRIS components to install on the system. Some selections require that you install other components.

- If you choose a custom installation, you must answer additional questions throughout the installation procedure about installing several individual components. The defaults appear in brackets before the question mark (?); press **Enter** to accept the default.

- The installation script, **irisinstall**, does the following:

    – Installs the InterSystems IRIS system manager databases.

    – Starts InterSystems IRIS in installation mode.

    – Installs InterSystems IRIS system manager globals and routines.

    – Shuts down InterSystems IRIS and restarts using the default configuration file (iris.cpf). Upgrade installations restart using their updated configuration files.

More:

- Standard InterSystems IRIS installation consists of a set of modular package scripts. The scripts conditionally prompt for information based on input to previous steps, your system environment, and whether or not you are upgrading an existing instance.

- The first stage of the installation stores all gathered information about the install in a parameter file.

- You then confirm the specifics of the installation before the actual install takes place.

- The final phase performs the operations that are contingent upon a successful install, such as instance startup.

6.2 Step 1: Choose Security Settings

Default:

- You are prompted for initial security settings.

- Input (2) to choose Normal security settings.

More:

- You can choose from the following initial security settings:

  - Minimal(1)

  - Normal(2)

  - Locked Down (3)

- Minimal is only available for InterSystems IRIS installations. If you choose this, you can skip the next step; the installer sets the owner of the instance as root.

- There are additional security settings that you can choose only through a custom install. See Configure Additional Security Options for details.

- See Initial InterSystems Security Settings for details on the different security settings and choosing one for your system.

6.3 Step 2: Define Instance Owner

Default:

- If you selected Minimal or Locked Down in the previous step, you are prompted for additional information:

  - Instance owner — Enter the username of the account under which to run InterSystems IRIS processes. See Determining Owners and Groups for information about this account. Once InterSystems IRIS is installed, you cannot change the owner of the instance.

  - Password for the instance owner — Enter the password for the username you entered at the previous prompt, and enter it again to confirm it. A privileged InterSystems IRIS user account is created for this user with the %All role.

    This password is used not only for the InterSystems IRIS privileged user account, but also for the _SYSTEM, Admin, and SuperUser predefined user accounts. For more details on these predefined users, see Predefined User Accounts.

  - Password for the CSPSystem predefined user.

More:

- The passwords must meet the criteria described in the Initial User Security Settings table. Passwords entered during this procedure cannot include space, tab, or backslash characters; the installer reject such passwords.

6.4 Step 3: Determine Group to Start or Stop the Instance

Default:

- You are prompted which group should be allowed to start and stop InterSystems IRIS.

- Only one group can have these privileges, and it must be a valid group on the machine.

- Enter the name or group ID number of an existing group; InterSystems IRIS verifies that the group exists before proceeding.

- See Determining Owners and Groups for more information.

6.5 Step 4: Configure Additional Security Options

Default:

- If you chose `Normal` or `Locked Down` for your initial security settings, you are asked if you want to configure additional security options.

- Input `N` to continue with the installation using the defaults for the initial security settings you chose.

More:

- If you choose `Y`, you are prompted to configure additional settings:

  - *Effective group for InterSystems IRIS* — InterSystems IRIS internal effective group ID, which also has all privileges to all files and executables in the installation. For maximum security, no actual users should belong to this group. (Defaults to `irisusr`.)

  - *Effective user for the InterSystems IRIS superserver* — Effective user ID for processes started by the superserver and Job servers. Again, for maximum security, no actual users should have this user ID. (Defaults to `irisusr`.)

- See Determining Owners and Groups for additional information.

6.6 Step 5: Install Unicode Support

Default:

- Indicate whether to install InterSystems IRIS with 8–bit or Unicode character support.

- On upgrade, you can convert from 8-bit to Unicode, but not the reverse.

6.7 Step 6: Configure Web Server

Default:

- If a local web server is detected, you will be asked if you would like to use the web server to connect to your installation.

- Input `y`. The web server will be connected automatically.

- Input `1` to specify the Apache **WebServer type**.

- Enter the location of the Apache configuration file. The default path is /etc/httpd/conf/httpd.conf.

- Specify an **Apache httpd port number**. The default is 80 (8080 on macOS). Upgrade installs do not offer this choice; they keep the port numbers of the original instance.

  Important: Specifying a custom web server port number during installation only modifies the WebServerPort CPF parameter. This should be the port number that your web server is configured to listen over. The default web server port number is 80 (8080 on macOS). Unless, you've configured your web server to listen over a different port number, you shouldn't change this setting from the default.

- Specify a **SuperServer port number**. This is 1972 by default (or, if `1972` is taken, this is `51733` or the first available subsequent number). The port number cannot be greater than `65535`.

More:

- If a web server is not detected, you will be asked if you would like to abort. If you choose to continue the installation, you will have to configure your web server manually after the installation finishes.

- If you choose not to connect a detected web server or set **WebServer type** to `None`, you will have to configure your web server manually after the installation finishes.

Important: InterSystems recommends using the Apache httpd web server because it can be automatically configured during the installation process. Make sure it is installed and running before beginning the installation process. In most cases, it is not necessary to manually configure the Apache web server.

6.8 Step 7: Activate License Key

Default:

- If the script does not detect an iris.key file in the mgr directory of an existing instance when upgrading, you are prompted for a license key file.

- If you specify a valid key, the license is automatically activated and the license key copied to the instance's mgr directory during installation and no further activation procedure is required.

- If you do not specify a license key, you can activate a license key following installation. See Activating a License Key for information about licenses, license keys and activation.

- On macOS, you may receive a prompt regarding network connections for **irisdb**. If so, select **Allow**.

6.9 Step 8: Review Installation

Default:

- Review your installation options and press enter to proceed with the installation. File copying does not begin until you answer `Yes`.

- When the installation completes, you are directed to the appropriate URL for the Management Portal to manage your InterSystems IRIS system. See Using the Management Portal for more information.

- Continue to Post-Installation Tasks.

7

UNIX®, Linux, and macOS Client-only Installation

This page details the steps for attended client-only installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

- UNIX®, Linux, and macOS Pre-Installation
- UNIX®, Linux, and macOS Attended Installation (initial steps)

7.1 Client-only Installation Overview

Default:

- A client installation installs only the components of InterSystems IRIS that are required on a client system.

More:

- Client installations include the following component groups:

    - InterSystems IRIS launcher

    - Studio

    - Database drivers

    - InterSystems IRIS Application Development (including language bindings)

- For details on these component groups, see Choosing a Setup Type.

7.2 Step 1: Log in

Default:

- Log in as any user. You do not need to install as `root`.

- The files from this install have the user and group permissions of the installing user.

7.3 Step 2: Run irisinstall_client

Default:

- Start the installation by running the **irisinstall_client** script, located at the top level of the installation files:

    ```
    # /<install-files-dir>/irisinstall_client
    ```

- `<install-files-dir>` is the location of the installation kit, typically the directory to which you extracted the kit.

7.4 Step 3: System Type

Default:

- The installation script will attempt to automatically detect your system type and validate against the installation type on the distribution media.

- If your system supports more than one type (for example, 32–bit and 64–bit) or if the install script cannot identify your system type, you are prompted with additional questions.

- You may be asked for the "platform name" in the format of the string at the end of the installer kit name.

More:

- If your system type does not match that on the distribution media, the installation stops.

- Contact the InterSystems Worldwide Response Center (WRC) for help in obtaining the correct distribution.

7.5 Step 4: Specify Installation Directory

Default:

- At the **Enter a destination directory for client components** prompt, specify the installation directory.

- If the directory you specify does not exist, it asks if you want to create it. The default answer is `Yes`.

More:

- Review Installation Directory for more important information about choosing an installation directory.

- The InterSystems IRIS registry directory, /usr/local/etc/irissys, is always created along with the InterSystems IRIS installation directory.

7.6 Step 5: Complete Installation

Default:

- After specifying the directory, the installation proceeds automatically. You should see **Installation completed successfully**.

- Continue to Post-Installation Tasks.

8

UNIX®, Linux, and macOS Unattended Installation

This page details the steps for unattended installations on UNIX®, Linux, and macOS.

Make sure you have completed the following before performing the steps on this page:

*   UNIX®, Linux, and macOS Pre-Installation

8.1 Unattended Installation Overview

Default:

*   You can perform unattended installation of InterSystems IRIS instances on your systems using the irisinstall_silent script.

*   An unattended installation gets configuration specifications from the configuration parameters and the packages specified on the irisinstall_silent command line.

*   Each specified package represents an InterSystems IRIS component; the installation scripts for each component are contained in the packages directory below the directory containing the irisinstall_silent script.

*   The general format for the irisinstall_silent command line is to precede the command itself by setting environment variables to define the installation parameters. See the example for details.

Example:

```
sudo ISC_PACKAGE_INSTANCENAME="<instancename>"
 ISC_PACKAGE_INSTALLDIR="<installdir>"
 ISC_PACKAGE_PLATFORM="<platform>" ISC_PACKAGE_UNICODE="Y"│"N"
 ISC_PACKAGE_INITIAL_SECURITY="Minimal"│"Normal"│"Locked Down"
 ISC_PACKAGE_MGRUSER="<instanceowner>" ISC_PACKAGE_MGRGROUP="<group>"
 ISC_PACKAGE_USER_PASSWORD="<pwd>"   ISC_PACKAGE_CSPSYSTEM_PASSWORD="<pwd>"
 ISC_PACKAGE_IRISUSER="<user>" ISC_PACKAGE_IRISGROUP="<group>"
 ISC_PACKAGE_CLIENT_COMPONENTS="<component1> <component2> ..."
 ISC_PACKAGE_STARTIRIS="Y"│"N"
 ./irisinstall_silent [<pkg> ...]
```

8.2 Step 1: Before Beginning

Default:

- Before beginning your installation, perform the necessary pre-installation steps.

- Determine your strategy for installing an external web server:

    – The easiest option is to install the Apache httpd web server before beginning the installation. The installer can auto-configure this web server.

    – If you intend on using a different web server or manually configuring the IIS web server, review Installing a Web Server for necessary steps that must be performed prior to the installation.

8.3 Step 2: Log in as root

Default:

- Log in as user ID `root`.

- It is acceptable to **su** (superuser) to `root` while logged in from another account.

More:

- If `root` is unavailable, you can perform a non-standard, limited InterSystems IRIS installation as a nonroot user. See Installing InterSystems IRIS as a Nonroot User before continuing.

8.4 Step 3: Determine Parameters to Specify

Default:

- Include the required unattended installation parameters:

    – `ISC_PACKAGE_INSTANCENAME=`“*<instancename>*”

    – `ISC_PACKAGE_INSTALLDIR=`“*<install-dir>*” (New instances only)

    – `ISC_PACKAGE_USER_PASSWORD=`“*<password>*” (Required for installations with `Normal` or `Locked Down` security levels)

- For details on these required parameters see Unattended Installation Parameters.

- The installation uses the default for any parameter that is not included. The installation fails if a required parameter is not included.

More:

- Include any other parameters. See Unattended Installation Parameters for details.

8.5 Step 4: Unattended Installation Packages

Default:

- Do not include a package name or include the `standard_install` package.

More:

- The installation scripts for each component are contained in the packages directory below the directory containing the irisinstall_silent script.

- Each package is in its own directory, and each package directory contains a manifest.isc file defining prerequisite packages for the package in that directory.

- The standard_install package is the starting point for a server install in which all packages are installed.

- You can include one or more of these packages in your installation.

- You can also define a custom package for your installation. See Unattended Installation Packages for details.

- For details on more complex custom installation packages, see Adding UNIX® Installation Packages to an InterSystems IRIS Distribution.

8.6 Step 5: Create Installation Command

Default:

- Create an installation command using the following format:

```
sudo ISC_PACKAGE_INSTANCENAME="<instance-name>" ISC_PACKAGE_INSTALLDIR=<install-dir> [PARAMETERS]
  ./irisinstall_silent [PACKAGES]
```

- Include any additional parameters separated by spaces.

- Include any specific packages separated by spaces.

Examples:

- In this example, all packages are installed with minimal security:

```
sudo ISC_PACKAGE_INSTANCENAME="MyIris" ISC_PACKAGE_INSTALLDIR="/opt/MyIris1" ./irisinstall_silent
```

  If the MyIris instance already exists, it is upgraded; otherwise, it is installed in the /opt/MyIris1 directory.

- In this example, the installation is aborted and an error is thrown if the instance named MyIris does not already exist:

```
sudo ISC_PACKAGE_INSTANCENAME="MyIris" ./irisinstall_silent
```

- In this example, only the `database_server` and `odbc` packages and the `odbc` client binding are installed with minimal security:

```
sudo ISC_PACKAGE_INSTANCENAME="MyIris" ISC_PACKAGE_INSTALLDIR="/opt/MyIris2"
ISC_PACKAGE_CLIENT_COMPONENTS="odbc" ./irisinstall_silent database_server odbc
```

8.7 Step 6: Execute Command

Default:

- Execute the command you created in the above steps.

- Proceed to Post-Installation.

9

UNIX®, Linux, and macOS Post-Installation

This page details the post-installation steps for installations on UNIX®, Linux, and macOS.

- UNIX®, Linux, and macOS Pre-Installation.

- Successfully performed an attended or unattended installation.

9.1 Post-Installation Tasks

Get started:

- Start InterSystems IRIS.

- Install a development environment.

Web Server Setup:

- If you did not configure your web server automatically during the installation process, you will need to connect it manually.

- If your web server is using a port number other than 80, you will need to change the CPF WebServerPort and WebServerURLPrefix parameters to your web server's port number in order to connect with your IDE.

- In order for your web server to implement any configuration changes, you should restart your web server after the installation finishes.

Advanced Setup:

- If you will be performing memory intensive activities, allocate system memory accordingly.

- Review details on how InterSystems IRIS interacts with third-party software.

- Migrate data from a different database to your newly installed InterSystems IRIS instance.

Special Considerations:

- If you are running multiple InterSystems IRIS instances, review Configuring Multiple InterSystems IRIS Instances.

- Change the InterSystems IRIS language.

- If your system requires a large number of processes or telnet logins, review Adjustments for Large Number of Concurrent Processes on macOS.