

EVIDEN

Software Suites

Jarvice

User Guide

Release V1

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Chapter 0. Contents:

1	Overview	1
2	Getting Started	3
2.1	Logging In	3
2.2	Navigating the Interface	4
3	Compute	7
3.1	File Manager	8
3.2	Application Catalog	10
3.3	Run an application	15
4	Dashboard	19
4.1	Jobs	19
4.2	Stats	31
5	Push To Compute	33
5.1	Docker Registry	34
5.2	Import Application	34
5.3	Access Application	37
5.4	App actions	38
6	Account	41
6.1	Profile	41
6.2	External Projects	42
6.3	Notifications	43
6.4	SSH Keys	43
6.5	Vaults	44
6.6	External Data	44
7	Job Status	49
7.1	Substatus	49

Chapter 1. Overview

JARVICE is an advanced cloud computing platform designed to orchestrate large-scale computational and data-heavy tasks, such as High Performance Computing (HPC) and AI workloads.

It efficiently allocates resources, schedules tasks, scales dynamically, optimizes performance, and provides monitoring and reporting tools. With features like Kubernetes integration, multi-cloud support, enhanced security measures, Jarvice enables users to efficiently manage and deploy complex workloads across public, hybrid, and multi-cloud environments.

Jarvice offers access to a vast application marketplace containing HPC and AI/ML applications. Moreover, users can also build their own applications using the PushToCompute interface. Jarvice caters to the needs of wide range of users such as enterprises, supercomputing centers, and research institutions that need powerful computing capabilities and management of large-scale HPC workloads.

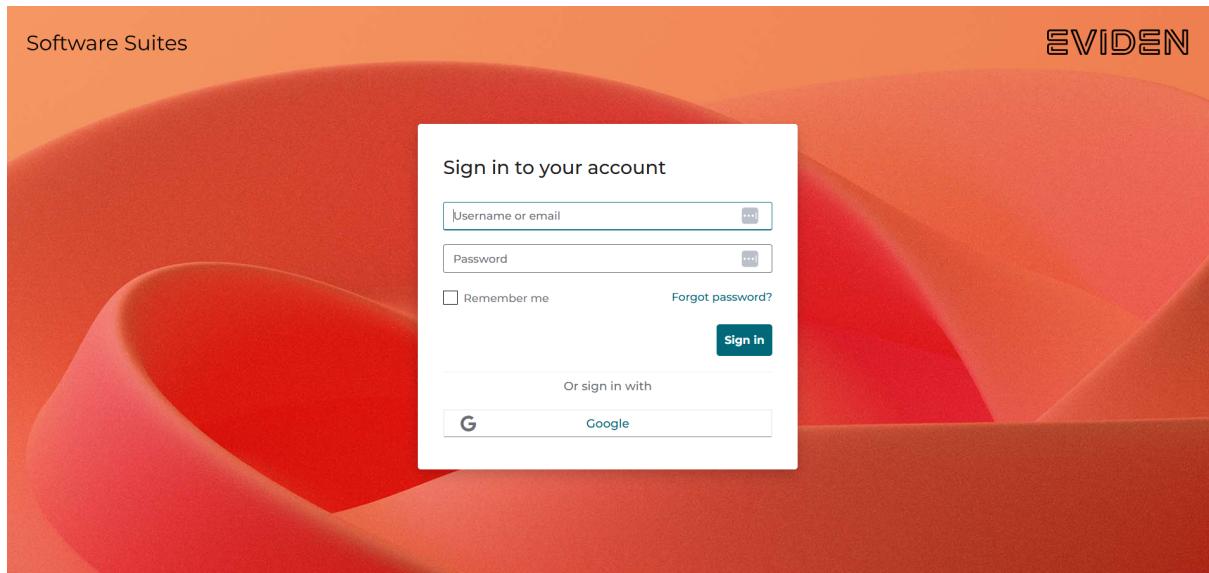
The key features offered by Jarvice are broadly categorized under the following sections of the platform:

- Compute
- Dashboard
- Push To Compute
- Account

Chapter 2. Getting Started

To get started, users must sign in to the platform. This chapter guides new users through the initial steps required to begin working on Jarvice and provides an overview of the interface components that will be used across different sections.

2.1 Logging In



Each user is assigned a unique username and password. To access their account, users must sign in using these credentials. Jarvice also supports Single Sign-On(SSO) through external providers such as Google.

Note:

SSO via other identity providers, such as LDAP, can be configured through Keycloak.

2.2 Navigating the Interface

After signing in, the landing page displays the Compute section by default. The user interface consists of the following:

- Top menubar
- Side navigation menu
- Sub-menu
- Content view

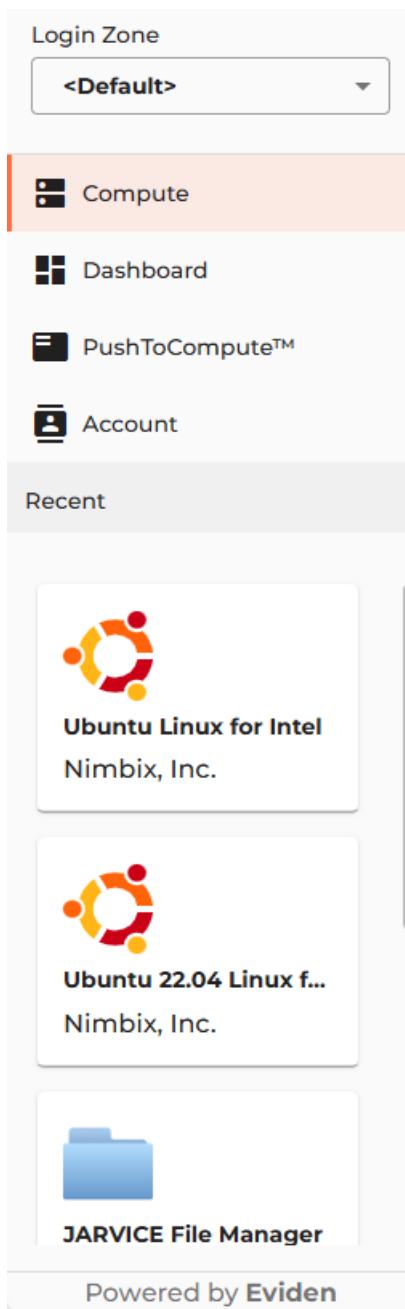
2.2.1 Top Menubar



This menu bar at the top of a page in Jarvice allows users to switch between UI visual modes, view notifications, and access their user profile settings.

- **Collapse menu:** Collapses the left navigation menu and primarily shows icons of the functional areas of Jarvice, and app icons without descriptive text.
- **Switch mode:** Select dark or light theme.
- **Notifications:** Shows the list of system notifications (information, warnings and errors)
- **User Profile:** Consists of user account settings and logout options, specifically:
 - Profile
 - Reset all dialog preferences
 - Enable support helper
 - About
 - Logout

2.2.2 Side Navigation Menu



This navigation pane is the primary way to access various sections of the platform. It consists of the following:

- **Login zone:** A zone is typically a geographical area within which compute and other resources are located. Each user has access to the zones in which the logged-in user has vaults. The dropdown at the top left enables user to choose their zone - when selected, the system logs out and logs in again into the selected zone automatically.

Note:

When a job is launched, only machines belonging to the clusters within the zone can be selected. This ensures that the data accessed in the vault storage does not cross zone boundaries to reach the compute nodes. This is important for performance, network bandwidth conservation, and can also be used as a cordoning system for security.

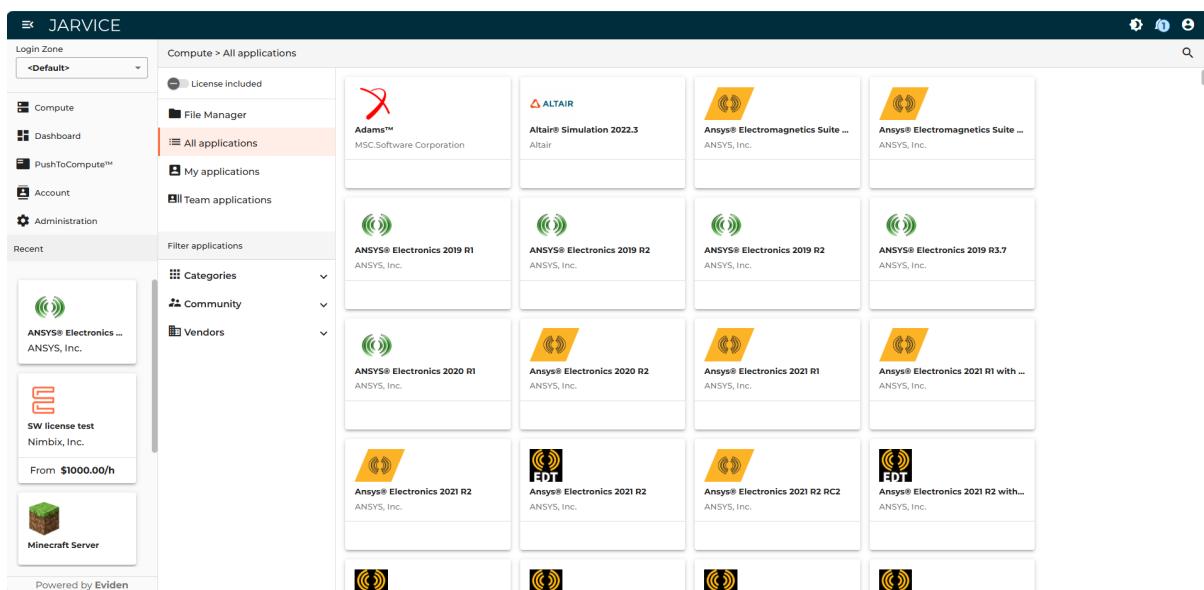
- **Compute:** View and run apps that are available on the Jarvice deployment (these include pre-deployed apps as well as public PushToCompute apps created later).
- **Dashboard:** Monitor and manage jobs running on a cluster.
- **PushToCompute:** Create custom containerized apps in Jarvice which can also be shared with a users team, or published on the deployment (by a system administrator).
- **Account:** Manage user settings, preferences, and credentials.
- **Recent applications:** Displays the five most recently used applications, allowing users to re-launch these applications easily without navigating through the application catalog again.

Note:

For details on sub-menu and content view, refer to the [Compute](#) section.

Chapter 3. Compute

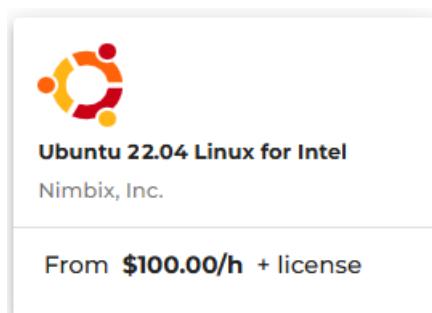
The Compute view shows a catalog of applications predeployed on the Jarvice deployment. Additionally, users can integrate their own applications to the Compute catalog by using the [PushToCompute](#) feature. Users can create tailored processes or workflows to run applications and share these workflows with others.



The screenshot shows the Jarvice Compute view. On the left, there's a sidebar with a 'Login Zone' dropdown set to 'Default', followed by a list of categories: Compute, Dashboard, PushToCompute™, Account, and Administration. Below this is a 'Recent' section with cards for 'ANSYS® Electronics ...', 'SV license test', and 'Minecraft Server'. A 'Powered by Eviden' footer is at the bottom. The main area is titled 'Compute > All applications' and features a search bar. It includes filters for 'License included' (unchecked), 'File Manager', and 'All applications' (which is selected and highlighted in red). There are also 'My applications' and 'Team applications' sections. The main content area displays a grid of application tiles. Each tile contains an icon, the application name, and the vendor. The tiles are arranged in four rows and four columns. The visible applications include Adams™, ALTAIR, Ansys® Electromagnetics Suite, ANSYS® Electronics 2019 R1, ANSYS® Electronics 2019 R2, ANSYS® Electronics 2019 R2, ANSYS® Electronics 2020 R1, ANSYS® Electronics 2020 R2, Ansys® Electronics 2021 R1, Ansys® Electronics 2021 R2, Ansys® Electronics 2021 R2 RC2, and Ansys® Electronics 2021 R2 with ...

This section primarily displays an application catalog with applications shown as individual tiles, and a left pane that lists categories for filtering the catalog.

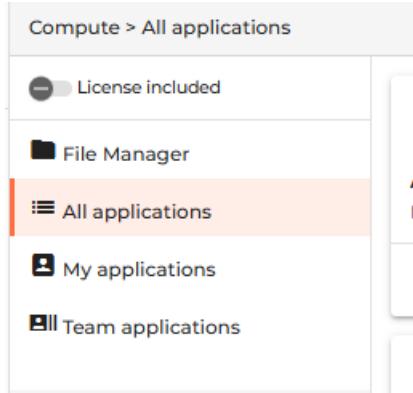
Jarvice provides some applications with pre-included software licenses, meaning the license cost is included in the application's pricing. For other applications, users must have their own paid software licenses. To filter applications with pre-included software license, the **License included** toggle can be enabled. Such applications have the suffix '+ license' displayed on the cost label.



A detailed view of an application card for 'Ubuntu 22.04 Linux for Intel' by Nimbix, Inc. The card features the Ubuntu logo at the top. Below it, the text 'Ubuntu 22.04 Linux for Intel' and 'Nimbix, Inc.' is displayed. At the bottom, the price 'From \$100.00/h + license' is shown in bold black text.

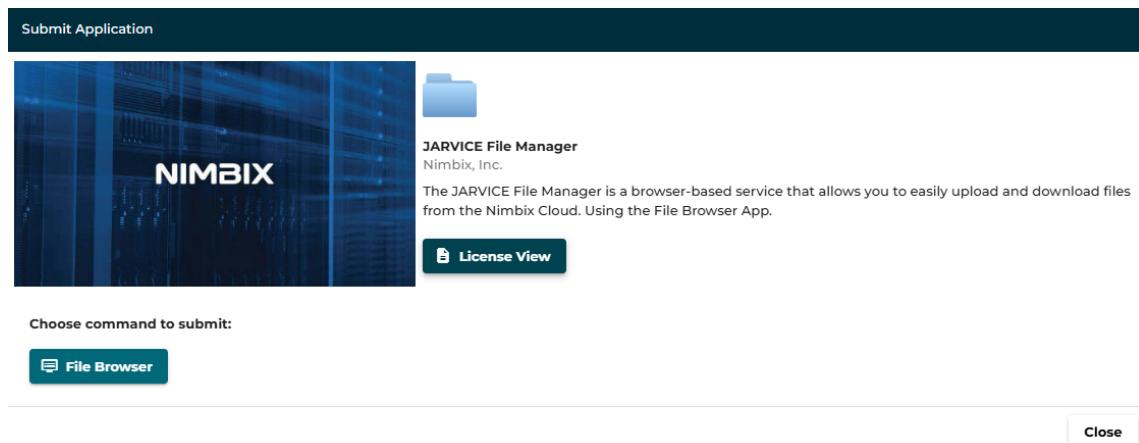
3.1 File Manager

Jarvice File Manager is a web-based file management tool that allows users to easily upload/download and manage files from the Nimbix cloud.



To connect to the File manager, follow these steps:

1. On the left pane, click **File Manager**. The **Submit Application** window opens.



2. Click on **File Browser**.
3. Under the *General* tab, configure the Jarvice-specific options as required.

Submit application

JARVICE File Manager

File Browser
Launch this service to upload and download files via your web browser

General **Optional** **Storage** **Preview Submission JSON**

Projects
Job project — **<None>**

External Projects
Job external project — **<None>**

Machines
Machine type* — **1 core, 4GB RAM (n1-standard-32 fractional) (n0)**

Cores* — **1** **1** **160 \$0.15/h**

Nodes: 1, 4GB RAM, 0 GPUs

Parameters

Use Dark Mode

Back **Close** **Submit**

4. For **Parameters**, select **Dark mode** check box if preferred.
5. Under the *Optional* tab, you can enter the details of Jarvice-specific parameters.

Submit application

JARVICE File Manager

File Browser
Launch this service to upload and download files via your web browser

General **Optional** **Storage** **Preview Submission JSON**

Parameters

Job label

Wall time limit
HH:MMSS

Request Job IP Address
If checked, requests job ip address as well as a connect link to allow for non-HTTPS clients (e.g. SSH, VNC); note that the underlying infrastructure may not support assigning IP addresses to jobs and may ignore this request

Use RSA instead of ED25519 keys for SSH between nodes
Use only if application's SSH services does not support ED25519 keys.

Window size
2533x1232

IP Adress Tag

If your service provider or system administrator provisioned a static IP address for you, and you wish to assign it to this job, please enter the tag name associated with it; note that the behavior for multiple jobs with the same address request is undefined.

Back **Close** **Submit**

Additionally, you can enter the application-specific parameters for File Manager such as Session timeout time, and Starting directory.

License Feature
must be feature:count[,feature:count,...]/[timeout] where count is 1 or higher and timeout is in seconds, 0 or higher, 0 meaning never; count must be specified for each feature, while timeout is optional and defaults to 60

Session Timeout Time
2h
Used to allow for large file uploads. Time must end with either 's', 'm', or 'h' and must be continuous.

Starting Directory

[Back](#) [Close](#) [Submit](#)

6. Under the *Storage* tab, select the desired vault and click **Submit**. The Jarvice File Manager job gets queued and will start running on the cloud in a short time.
7. Once running, the Job status shows **Processing**.
8. Hover the mouse over the job preview pane on the right and click **Connect**. A new browser tab opens with the File Manager user interface.

3.2 Application Catalog

The Application catalog offers a vast list of HPC applications from multiple vendors, providing diverse range of software solutions to enhance the capabilities of the computing environment. Users can browse and search for an application by using the search box on the top right corner of the page.

Compute > All applications

License included

File Manager

All applications

My applications

Team applications

Filter applications

Categories

Community

Vendors

Adams™
MSC.Software Corporation

ALTAIR
Altair® Simulation 2022.3
Altair

Ansys® Electromagnetics Suite ...
ANSYS, Inc.

Ansys® Electromagnetics Suite ...
ANSYS, Inc.

ANSYS® Electronics 2019 R1
ANSYS, Inc.

ANSYS® Electronics 2019 R2
ANSYS, Inc.

ANSYS® Electronics 2019 R2
ANSYS, Inc.

ANSYS® Electronics 2019 R3.7
ANSYS, Inc.

ANSYS® Electronics 2020 R1
ANSYS, Inc.

ANSYS® Electronics 2020 R2
ANSYS, Inc.

Ansyst® Electronics 2021 R1
ANSYS, Inc.

Ansyst® Electronics 2021 R1 with ...
ANSYS, Inc.

Ansyst® Electronics 2021 R2
ANSYS, Inc.

Ansyst® Electronics 2021 R2 RC2
ANSYS, Inc.

Ansyst® Electronics 2021 R2 with...
ANSYS, Inc.

3.2.1 Application Views

To organize the application catalog based on ownership of the applications, select from the following menus on the left pane:

- **All applications:** Displays the complete list of applications available in the application marketplace.
- **My applications:** Displays the list of applications owned by the signed-in user.
- **Team applications:** Displays the list of applications owned by the team that the signed-in user is a part of.

3.2.2 Filter Applications

To filter the application catalog based on type of the applications, select from the following menus on the left pane. The nested folder structure of the menus provides an organised way to navigate and locate relevant applications quickly.

- **Categories:** Contains applications filtered by domain or specific software type. Common categories include AI, Machine Learning, HPC, etc.
- **Community:** Typically contains public domain, open source applications or applications that were created and shared by the users of the Jarvice deployment.
- **Vendors:** Contains a list of vendors to filter the applications by owner of the application.

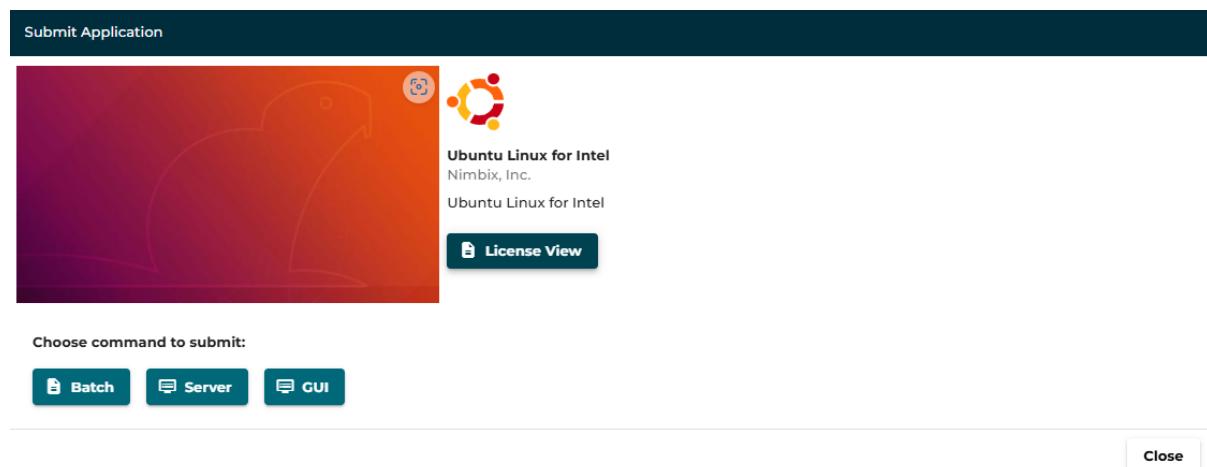
Note:

The category names can be defined in the application definition file by the application provider. For more information, see [PushToCompute](#).

3.2.3 Application Submission Details

From the application catalog, users can run desired applications by providing the configuration details needed to submit and manage an application within the Jarvice computing environment. For example, project information, job priorities, compute requirements, etc.

When you click on any application from the application catalog, if the application includes a EULA from the vendor, a license agreement is shown. User must accept the conditions to proceed. Once accepted, the Submit Application window opens, and the license agreement dialog is not shown again.



This window displays application name, vendor name, a brief description of the application and the following buttons:

- **License View:** Displays licenses used by the application that are mandatory to include (if any). This is applicable for components of the application that may be under some public license.
- **Choose command to submit:** Displays various command options that correspond to different execution environment or modes. These commands are predefined in the application definition file by the application provider. The commands displayed might vary for different applications depending on the type of the application and the compute environment needed to run the command.

Here is an example of the default commands for a Nimbix desktop based application (e.g. Ubuntu Desktop):

- **Batch:** Used to run a command line application that executes and terminates, without any user interaction.
- **Server:** Intended for non-interactive server applications that are meant to run until the user terminates them and provide functionality (typically a network service).
- **GUI:** Similar to Batch, except that the application run is typically an interactive Graphical User Interface (GUI).

The submission information is broadly categorized in the following sections.

3.2.3.1 General

Here the user specifies the required settings for the job execution like resource allocation, and the mandatory parameters for the application. The following are related to the Jarvice platform:

- **Projects:** Project associated with the current job. This is used to group jobs for license based queuing.
- **External Projects:** An external project associated with the current job. Used to track the resource usage and deduct the costs from the related project's budget.
- **Machines:** Machine type and Cores needed for the job. The **Machine type** dropdown lists all machine types authorized for the logged-in user by the system admin or the team admin. Also, users can select cores only within the limit defined by the team admin or system admin. If entered value exceeds the allowed limit, an error message is displayed.

Submit application

ANSYS® Electronics 2019 R3.7

Electronics Desktop (Batch)

Launch a Batch Job for Electronics Desktop

General Optional Storage Preview Submission JSON

Machines

Machine type*

1 core, 4GB RAM (n3khill)

Cores*

3

Value is out of range

2 \$3.00/h

Nodes: 3, 12GB RAM, 0 GPUs

Parameters

ANSYS Version*

2019 R3

Project Input File*

Electronics Desktop Project File

Furthermore, this section may contain parameters specific to the corresponding application. For example, a parameter such as ANSYS Version for Ansys app.

3.2.3.2 Optional

Captures additional information that is optional to launch to a job. The following fields are the optional details related to the Jarvice platform:

- **Job label:** A string attached to the job that can be used to search for or filter the job by. Enter such label name, if any. If the job label is not specified during submission, a default job label can be substituted based on a file type parameter. For more information, refer to [Default job label](#).
- **Time limit:** The time that can be set in HH:MM:SS format for the job to terminate automatically after the scheduled time limit is reached. Enter the required time limit.
- **Request Job IP Address:** Creates a new IP address for a job and allows connection through SSH and VNC. Used for apps having a graphical user interface. Select the checkbox to request for an IP address for the job.
- **RSA:** Specify the SSH key format RSA/ED for SSH between modes.
- **Window size:** Enter the preferred window size, if any.
- **IP Address Tag:** If you have a static address provisioned that you want to assign to this job, enter the tag name associated with it

Furthermore, there are application specific parameters such as licence feature.

- **License feature:** Specify the license feature required for the application (for license based queuing) along with the count and timeout.

3.2.3.2.1 Default Job Label

This is an optional feature that enables applications to assign a default label to jobs, when no label is explicitly provided during submission. The **jobdefaultlabel** field in the AppDef file is used to define the default label.

Optionally one can insert a special substitution placeholder within the label, that will be filled in with the either the full path or filename of a FILE parameter.

The substitution is specified with the following syntax:

- %FILE_<parameter>_NAME% for filename
- %FILE_<parameter>_PATH% for file path

%..% represents a placeholder for dynamic substitution. The substituted value contains the following components:

- `FILE`: Reserved keyword indicating a File type AppDef parameter.
- `_`: Delimiter separating substitution arguments.
 - **first argument:** AppDef parameter name without any leading - symbol before the parameter name in the AppDef.
 - **second argument:** One of the keywords - PATH or NAME.

For example, consider a parameter -ShellScript with the value /test/main/a. You could specify %FILE_ShellScript_NAME% to get a and %FILE_ShellScript_PATH% to get /test/main/a as the substituted job label.

Submit application

Ansys® Electronics 2022 R2.2

Electronics Desktop (Shell Script)

Launch a non-interactive Job with a shell script for Electronics Desktop

General Optional Storage Preview Submission JSON

<None>

Machines

Machine type* Cypress MCO (cypress_0)

Cores* 1

Nodes: 1, 4GB RAM, 0 GPUs

Parameters

Ansys Version* 2022 R2.2

Shell Script* test/main/a

Shell Script to run

Back Cancel Submit

Dashboard > Current

Refresh Every 10s Expand all Collapse all

1–1 of 1 Page 1

**Ansys® Electronics 202...
edtshell**

Job No. 2936 Queued

Machine cypress_0

Submitted 2025-11-05 05:12:22 PM

Cores/Node 1

Label test/main/a

Vault ephemeral

2022 R2.02 Electromagnetics

ANSYS

Electronics Desktop

00:00 x 1 nodes

Note:

You can freely combine arbitrary text and multiple substitutions with different parameter names within the job label if needed.

This setup ensures that the submitted jobs are labeled clearly and consistently.

3.2.3.3 Storage

Captures storage information including details about associated vaults and external data as follows:

- **Vault:** Every user is configured with one or more vaults that provide storage for running jobs. Currently, only one vault can be allocated per job. A vault can be ephemeral or persistent.
 - **Read only:** Select to set the read only permissions to a PVC vault in case of shared vaults.
- **External Data:** External data sources that were added to the Account section of Jarvice can be entered here to link it to a job.

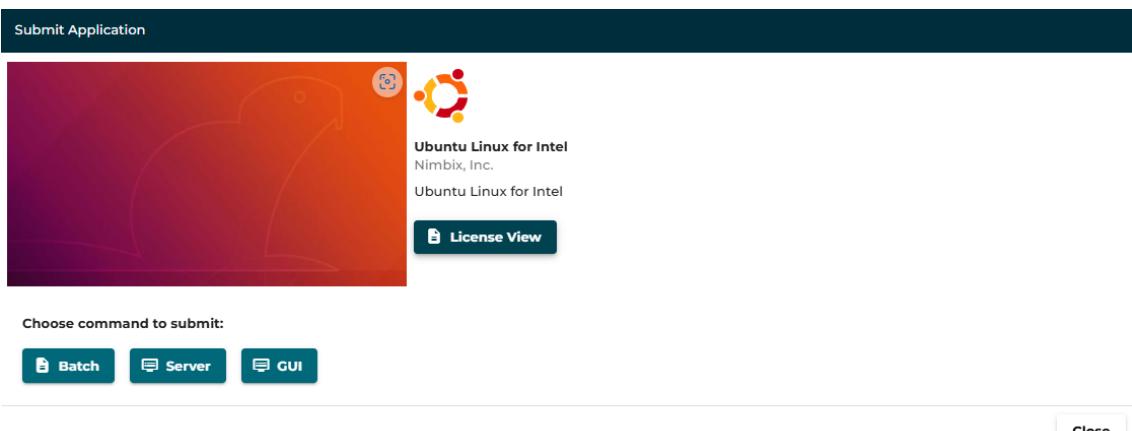
3.2.3.4 Preview Submission

Displays the json code with the compute and storage requirements that were entered. The code can be copied by clicking on the copy icon on the right corner of the tab which can then be saved and used with the Jarvice API.

3.3 Run an application

To run an application from the application marketplace, follow these steps:

1. Click on desired application. For instance, search for and click on **Ubuntu Linux for Intel**. The Submit Application tab opens.



2. Under **Choose command to submit**, click on an execution command of your choice, for instance, **Server**.

Note:

The commands used to run an application are predefined in the application definition file by the author. If the computing environment is not suitable for a command, the command is disabled. Therefore, the commands displayed for different applications might vary depending on the type of the application.

3. In the *General* tab, under **Projects**, select the project associated to the job you want to submit, if any.

Submit application

Ubuntu Linux for Intel

Server

Launch a session with all boot services, including SSH (if installed). Connection address and credentials will appear in your web browser once available.

General Optional Storage Preview Submission JSON

Projects
Job project
<None>

External Projects
Job external project
<None>

Machines
Machine type
Cypress MCO (cypress_0)

Cores*
1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 229 230 231 232 233 234 235 236 237 238 239 239 240 241 242 243 244 245 246 247 248 249 249 250 251 252 253 254 255 256 257 258 259 259 260 261 262 263 264 265 266 267 268 269 269 270 271 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656 657 657 658 658 659 659 660 660 661 661 662 662 663 663 664 664 665 665 666 666 667 667 668 668 669 669 670 670 671 671 672 672 673 673 674 674 675 675 676 676 677 677 678 678 679 679 680 680 681 681 682 682 683 683 684 684 685 685 686 686 687 687 688 688 689 689 690 690 691 691 692 692 693 693 694 694 695 695 696 696 697 697 698 698 699 699 700 700 701 701 702 702 703 703 704 704 705 705 706 706 707 707 708 708 709 709 710 710 711 711 712 712 713 713 714 714 715 715 716 716 717 717 718 718 719 719 720 720 721 721 722 722 723 723 724 724 725 725 726 726 727 727 728 728 729 729 730 730 731 731 732 732 733 733 734 734 735 735 736 736 737 737 738 738 739 739 740 740 741 741 742 742 743 743 744 744 745 745 746 746 747 747 748 748 749 749 750 750 751 751 752 752 753 753 754 754 755 755 756 756 757 757 758 758 759 759 760 760 761 761 762 762 763 763 764 764 765 765 766 766 767 767 768 768 769 769 770 770 771 771 772 772 773 773 774 774 775 775 776 776 777 777 778 778 779 779 780 780 781 781 782 782 783 783 784 784 785 785 786 786 787 787 788 788 789 789 790 790 791 791 792 792 793 793 794 794 795 795 796 796 797 797 798 798 799 799 800 800 801 801 802 802 803 803 804 804 805 805 806 806 807 807 808 808 809 809 810 810 811 811 812 812 813 813 814 814 815 815 816 816 817 817 818 818 819 819 820 820 821 821 822 822 823 823 824 824 825 825 826 826 827 827 828 828 829 829 830 830 831 831 832 832 833 833 834 834 835 835 836 836 837 837 838 838 839 839 840 840 841 841 842 842 843 843 844 844 845 845 846 846 847 847 848 848 849 849 850 850 851 851 852 852 853 853 854 854 855 855 856 856 857 857 858 858 859 859 860 860 861 861 862 862 863 863 864 864 865 865 866 866 867 867 868 868 869 869 870 870 871 871 872 872 873 873 874 874 875 875 876 876 877 877 878 878 879 879 880 880 881 881 882 882 883 883 884 884 885 885 886 886 887 887 888 888 889 889 890 890 891 891 892 892 893 893 894 894 895 895 896 896 897 897 898 898 899 899 900 900 901 901 902 902 903 903 904 904 905 905 906 906 907 907 908 908 909 909 910 910 911 911 912 912 913 913 914 914 915 915 916 916 917 917 918 918 919 919 920 920 921 921 922 922 923 923 924 924 925 925 926 926 927 927 928 928 929 929 930 930 931 931 932 932 933 933 934 934 935 935 936 936 937 937 938 938 939 939 940 940 941 941 942 942 943 943 944 944 945 945 946 946 947 947 948 948 949 949 950 950 951 951 952 952 953 953 954 954 955 955 956 956 957 957 958 958 959 959 960 960 961 961 962 962 963 963 964 964 965 965 966 966 967 967 968 968 969 969 970 970 971 971 972 972 973 973 974 974 975 975 976 976 977 977 978 978 979 979 980 980 981 981 982 982 983 983 984 984 985 985 986 986 987 987 988 988 989 989 990 990 991 991 992 992 993 993 994 994 995 995 996 996 997 997 998 998 999 999 1000 1000

Nodes: 1, 4GB RAM, 0 GPUs

No parameters to display

Back Close Submit

Submit application

 Ubuntu Linux for Intel

Server
Launch a session with all boot services, including SSH (if installed). Connection address and credentials will appear in your web browser once available.

General	Optional	Storage	Preview Submission JSON
Parameters			
<input type="text" value="Job label"/> <input type="text" value="Wall time limit"/> HH:MM:SS			
<input type="checkbox"/> Request Job IP Address <small>If checked, requests job ip address as well as a connect link to allow for non-HTTPS clients (e.g. SSH, VNC); note that the underlying infrastructure may not support assigning IP addresses to jobs and may ignore this request</small>			
<input type="checkbox"/> Use RSA instead of ED25519 keys for SSH between nodes <small>Use only if application's SSH services does not support ED25519 keys.</small>			
<input type="text" value="Window size"/> 2021x944			
<input type="text" value="IP Adress Tag"/> <small>If your service provider or system administrator provisioned a static IP address for you, and you wish to assign it to this job, please enter the tag name associated with it; note that the behavior for multiple jobs with the same address request is undefined.</small>			
Back		Close	Submit

8. Under the *Storage* tab, choose the desired vault and then select the following checkbox as required:
 - Read only: Select to set the read only permissions to a PVC vault in case of shared vaults.
9. For **External Data**, enter the external data sources.

Submit application

 Ubuntu Linux for Intel

Server
Launch a session with all boot services, including SSH (if installed). Connection address and credentials will appear in your web browser once available.

General	Optional	Storage	Preview Submission JSON
Vaults			
<input type="text" value="Vault*"/> persistent			
<input type="checkbox"/> Read only <input type="checkbox"/> Force			
External Data			
<input type="text" value="External Data Sources"/>			
Back		Close	Submit

10. The *Preview Submission JSON* tab displays the JSON code with the compute and storage requirements that were entered. The code can be copied by clicking on the copy icon on the right corner of the tab, saved and used with the Jarvice API.

The screenshot shows the Jarvice application submission interface. At the top, there is a dark header bar with the text "Submit application". Below it, there is a section for "Ubuntu Linux for Intel" with a logo. The main area has a title "Server" with a small icon. A note below says "Launch a session with all boot services, including SSH (if installed). Connection address and credentials will appear in your web browser once available." There are four tabs at the top of the main form: "General", "Optional", "Storage", and "Preview Submission JSON". The "Preview Submission JSON" tab is currently selected, and its content is displayed in a large text area. The JSON code is as follows:

```
{
  "app": "jarvice-ubuntu",
  "staging": false,
  "application": {
    "command": "Server",
    "geometry": "2021x944"
  },
  "machine": {
    "type": "cypress_0",
    "nodes": 1
  },
  "vault": {
    "name": "persistent",
    "readonly": false,
    "force": false
  },
  "job_ext_data": "",
  "user": {
    "username": "████████",
    "apikey": "████████████████"
  }
}
```

At the bottom of the interface, there are three buttons: "Back", "Close", and a green "Submit" button.

11. Click **Submit**. The job starts running. Then, the Dashboard opens and the job tile is displayed along with the job status.

Chapter 4. Dashboard

Dashboard serves as a centralized interface for tracking and managing computational jobs running on a cluster. It gathers real time data and provides a clear view of job statuses, resource utilization, and system performance in one place.

The screenshot shows the JARVICE dashboard interface. On the left is a sidebar with navigation links for Compute, Dashboard, PushToCompute™, and Account. Below the sidebar are three recent projects: Ubuntu 22.04 Linux Server, Ubuntu Linux for Intel, and JARVICE File Manager. The main content area displays two active jobs:

Job Type	Machine	Status	Submitted	Start Time	Job No.
Ubuntu 22.04 Linux for Intel Server	cypress_0	Processing	5/16/2025 7:16:47 AM	5/16/2025 7:17:28 AM	6004439
JARVICE File Manager filebrowser	n0	Processing	5/16/2025 7:16:11 AM	5/16/2025 7:16:45 AM	6004438

On the right side, there are sections for Jobs (Current), History, By Label, Ext Projects Team Jobs, Reports, and Stats. The Stats section includes metrics like Team total (0), JOBS RUN (0), CPU TIME (0), and a network status bar (@nimbix.net).

The dashboard can be broadly categorized under two sections - jobs and stats.

4.1 Jobs

A job is an instance of a schedulable process on the Jarvice platform. After an application is submitted, a job is launched, queued, and then begins running. The Jobs section includes various views such as current jobs, job history, job filters, and reports. These views are categorized under the following menu items.

The screenshot shows the Jarvice dashboard interface. On the left, a sidebar titled 'Jobs' contains the following options: Current (highlighted with a red border), History, By Label, Team Jobs, Ext Projects Team Jobs, and Reports. Below the sidebar is a 'Stats' section. Under 'Stats', there is a dropdown menu set to 'Team total (3)'. Below the dropdown are two sections: 'JOBS RUN' with a value of '3' and 'CPU TIME' with a value of '80:41:20'. The CPU time is displayed with a blue background and white icons for clock, dollar sign, and computer monitor.

4.1.1 Current

Displays all submitted jobs that are actively running.

This screenshot shows the 'Current' tab of the Jarvice job list. At the top, there are refresh and expand/collapse buttons, and a page navigation bar indicating '1 - 3 of 3'. The main area displays three job entries in a table format:

Job Details	Status	Job Number	Actions
JARVICE File Manager filebrowser Machine n0 Cores/Node 1 Label label1	Status: Queued (yellow exclamation mark)	Job No. 6004018	
00:00 x 1 nodes	Resource limits reached for this account		
JARVICE File Manager filebrowser	Status: Queued (yellow exclamation mark)	Job No. 6004017	1 nodes
JARVICE File Manager filebrowser	Status: Processing	Job No. 6004016	00:02 1 nodes ...

Dashboard > Current

C Refresh Every 10s ▾ Expand all Collapse all 1 – 3 of 3 Page 1

JARVICE File Manager filebrowser	Status Queued !	Job No. 6004018 1 nodes
JARVICE File Manager filebrowser	Status Resource limits reached for this account	Job No. 6004017 1 nodes
JARVICE File Manager filebrowser	Status Processing	Job No. 6004016
Machine n0 Cores/Node 1 Label label1	Submitted 5/7/2025 7:59:48 PM Started 5/7/2025 8:01:12 PM CPU Usage 0% Memory 4.00 GB Address 34.57.248.140	

00:02 x1 nodes

Each job in the dashboard is displayed as job tile, summarizing key information. Job tiles offer two display modes: collapsed view and expanded view.

4.1.1.1 Collapsed View

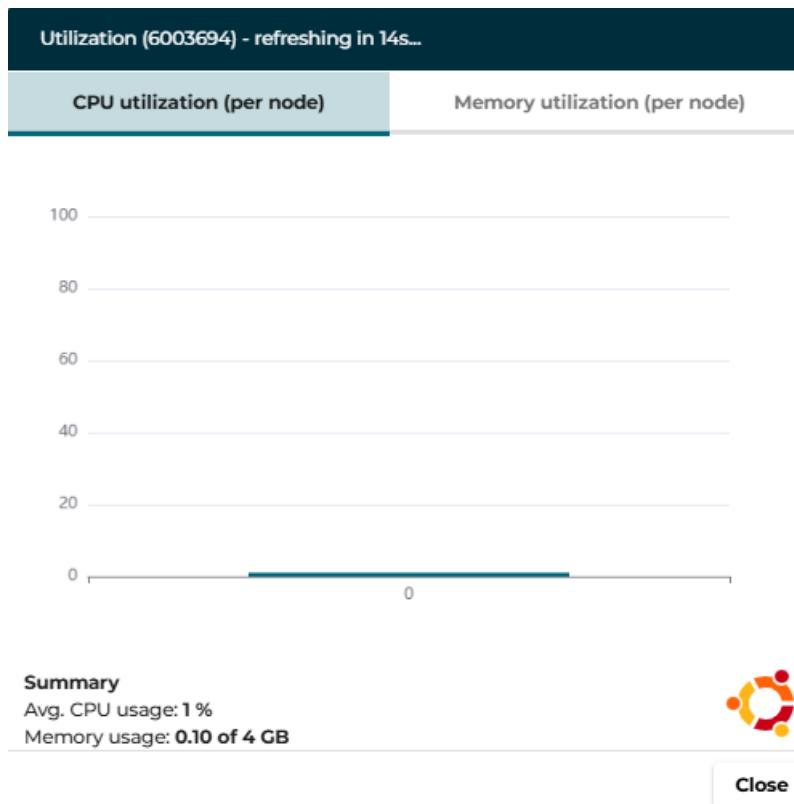
Each job tile displays the following details and quick actions in collapsed view:

Details shown

- **Application name:** Name of the application
- **Status:** The current state of the job. After job submission, the status moves through stages such as queued, processing, and completed. For complete information on job statuses and substatuses, refer to [Job Status](#).
- **Job No:** A unique identifier assigned to a job at submission for tracking purposes
- **Nodes:** Number of nodes selected

Quick actions

-  **Show Job Metrics:** Shows a bar graph of CPU and Memory utilization per node by the job. Appears only after job starts processing.



- **Copy job:** Opens the General configurations section of the application submission dialog, enabling cloning of the job.

The screenshot shows the "Submit application" dialog for "Ubuntu Linux for Intel".

- General Tab:**
 - Projects:** Job project: test!
 - Machines:** Machine type*: 1 core, 8GB RAM (CPU only) (micro)
 - Cores***: Sliders for Cores and Threads both set to 1. Total cost: 8 \$1.01/h.
 - Nodes:** 1, 8GB RAM, 0 GPUs
- Optional Tab:** No parameters to display.
- Storage Tab:** Not visible in the screenshot.
- Preview Submission JSON:** Not visible in the screenshot.

Back Close Submit

- **Shutdown job:** Terminates the job. Appears only after the job starts processing.
- **Cancel:** Appears only when the state of the job is queued and shutdown the job when selected.

4.1.1.2 Expanded View

Along with the collapsed view information, each job tile displays submission time details, runtime details, and quick actions in expanded view.

Submission time Details

- **Machine:** The selected Machine type
- **Cores/Node:** Number of cores selected
- **Label:** A string attached to the job that can be used to search for or filter the job by. If an application has a file parameter, a **Use file as job label** checkbox appears. It can be used to set the content of the first file parameter as the job label
- **Project:** Name of the project associated with the job
- **External Project:** Name of the external project associated with the job, if any

Runtime Details

- **Submitted:** Date and time at which the application is submitted
- **Started:** Date and time at which the job starts running
- **CPU Usage:** Percentage of processing power used
- **Memory:** Storage space allocated to the job
- **Address:** Public IP address of the job. Appears only if address is requested prior, and is used for apps with graphical user interface
- **Time limit:** The job will be terminated after the set time limit is reached

Quick actions

-  **Connect:** Provides a way to access the job's user interface through VNC or webpage.
-  **Copy password to clipboard:** The password is used to authenticate with VNC to establish the connection for GUI jobs.



-  **Open job information dialog:** Opens an information window that enlists alternative ways of connecting to the application environment through TigerVNC client and secure shell.

Job information

Click Here to Connect

Alternatively, you may connect securely with a TigerVNC client:

VNC server: none:
Password:

Please note that the password is case sensitive and should not contain any leading or trailing spaces when entered. It is recommended that you copy and paste it from above directly into the TigerVNC Viewer password prompt to ensure accuracy.

[Click here to download TigerVNC Viewer](#)

Alternative Connection Methods

You may also connect via Secure Shell:

Address: bird_user1@none
Password:

You may optionally install an SSH public key for password-less access by clicking on your username in the top right of the portal, then Account Settings, then SSH Keys to manage your SSH keys.

[Close](#)

- **Copy public remote access link:** Provides access to the job through a public link.

Note:

These quick actions appear only after the job starts running.

Click to Connect

When you hover over the application image on the right side of the tile, **Click to connect** button appears. It allows you to access the running application in a new window.



Note:

The Click to connect option is available only for interactive jobs*. An interactive job can either be VNC view of a GUI application or a web application. For non-interactive jobs, the standard output is displayed in form of text in the same job tile.

4.1.2 History

Displays the list of jobs that were run in the past along with essential job details such as job number, application name, status, and substatus.

Dashboard > History

1–25 of 1285 | < > | Page 1

Job No.: 127333		JARVICE File Manager filemanager	Status: Terminated	□ ▼	
Job No.: 124923		JARVICE File Manager filemanager	Status: Terminated	□ ▼	
Job No.: 124922		JARVICE File Manager filemanager	Status: Terminated	□ ▼	
Job No.: 121869		Ubuntu Linux for Intel Server	Status: Terminated	□ ▼	
Job No.: 121868		ubuntu Server	Status: Completed with error	□ ▼	
Job No.: 121867		Hello World App Hello	Status: Completed	□ ▼	
Job No.: 121646		rep_movsd-nf_v2.shell nextflow_shell	Status: Terminated	□ ▼	
Job No.: 121645		jarvice-batch Batch	Label: voluminous_stonebreaker	Status: Completed	□ ▼
Job No.: 121644		jarvice-batch Batch	Label: voluminous_stonebreaker	Status: Completed	□ ▼
Job No.: 121643		jarvice-batch Batch	Label: voluminous_stonebreaker	Status: Completed	□ ▼

By default the job tiles are collapsed, you can expand the job tile to see the complete job output, start time, end time, and wall time.

Furthermore, you can clone the job by clicking on the clone icon. This opens the job submission dialog autofilled with the submission parameters. If required, users can make minimal changes in the input parameters and run the job, to reduce the time needed to fill all the input parameters while running a new job.

4.1.3 By Label

Displays the jobs filtered by the job label. For more information refer to *Optional Parameters*.

Dashboard > By Label

Jobs without label
1 job

Test
1 job

Dashboard > By Label

Jobs without label					Terminate all	
<input type="checkbox"/>	Job No.	Application	Command	Start time	Status	
<input type="checkbox"/>	6003781	Ubuntu Linux for Intel	Server	2025-04-29 09:48:01	Processing starting	□

Test					Terminate all	
<input type="checkbox"/>	Job No.	Application	Command	Start time	Status	
<input type="checkbox"/>	6003782	Hello World App	Hello	-::-	Submitted	□

4.1.4 Team Jobs

Displays all the jobs that are run by team members of the logged-in user.

4.1.5 Ext Projects Team Jobs

Displays jobs grouped by external projects owned by the logged-in user.

4.1.6 Reports

Enables users to view billing reports for any time period with various filtering options.

The screenshot shows the 'Reports' section of the Jarvice dashboard. At the top, there's a header bar with 'Dashboard > Reports'. Below it is a form titled 'Choose Time Period'. It includes dropdown menus for 'Select a time range' (set to 'Current Month') and 'Time Offset from UTC' (set to '+00:00'). There are also two radio buttons: one selected for 'Normally billed Jobs' and another for 'External Project Jobs'. Below these are two more radio buttons: 'Compute Usage' (selected) and 'External Resource Usage'. At the bottom right of the form are two buttons: 'Generate Report' and 'Generate Itemized Report'. In the center of the page is a large magnifying glass icon with a search symbol inside, and below it is the text 'Click Generate to fetch report'.

4.1.7 Choose Time Period

Reports can be generated for predefined timeframes or for arbitrary time periods by specifying the start and end dates manually as follows:

- Current month
- Previous month
- Custom date range

4.1.7.1 Using Filters

Reports can be generated by filtering jobs based on their type, such as regular jobs and external project jobs.

The screenshot shows the 'Reports' section of the Jarvice dashboard. It includes a 'Choose Time Period' dropdown set to 'Current Month' and a 'Time Offset from UTC' dropdown set to '+00:00'. Below these are two radio button groups: 'Normally billed Jobs' (selected) and 'External Project Jobs'. A dropdown menu under 'External Project' shows options like 'External Project' and '<All Projects>'. At the bottom, there are two radio buttons: 'Compute Usage' (selected) and 'External Resource Usage'. On the right, there are 'Generate Report' and 'Generate Itemized Report' buttons.



Click Generate to fetch report

4.1.7.2 Generating Report

A report is a summary of job activity, resource usage, and billing details, generated either on a per user or per job basis. The reports can be generated based on the type of jobs such as normally billed jobs and external project jobs.

4.1.8 Normally Billed Jobs

Select Normally Billed Jobs to generate team based billing reports for the standard jobs that were run in the selected time period. Moreover, the reports can be categorized depending on type of resources used: Compute and External Resource.

4.1.8.1 Compute Usage

Utilization of compute resources is billed and grouped by users or jobs. Users can click on any of the following buttons accordingly:

- Generate Report:** Displays the usage and billing of compute resources on a per user basis.

The screenshot shows the 'Compute Usage' report. It includes a 'Choose Time Period' section with 'Current Month' and '+00:00' selected. Below this are radio buttons for 'Normally billed Jobs' (selected) and 'External Project Jobs'. At the bottom, there are buttons for 'Export as CSV', 'Generate Report' (disabled), and 'Generate Itemized Report'.

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
2022:51:53	22297:38:50	248	\$26,981.59	\$26,899.44	\$0.00	\$53,881.03

Report

User	Billing Code	Email	Job Count	Compute Time	CPU Time	Compute Cost	App Cost
[Redacted]	0	@nimbix.net	1	00:01:28	00:01:28	\$0.00	\$0.00
[Redacted]	0	@nimbix.net	1	00:02:00	00:02:00	\$0.01	\$0.00
[Redacted]	0	@nimbix.net	4	00:03:50	00:03:50	\$0.02	\$0.00
[Redacted]	0	@nimbix.net	4	00:05:59	00:05:59	\$0.01	\$0.00

- **Generate Itemized report:** Displays the project details, machine details, and billing costs on a per job basis.

The screenshot shows the 'Reports' section of the Jarvice dashboard. At the top, there are dropdowns for 'Choose Time Period' (set to 'Current Month') and 'Time Offset from UTC' (set to '+00:00'). Below these are two radio button groups: 'Normally billed Jobs' (selected) and 'External Project Jobs'. Underneath are two more radio button groups: 'Compute Usage' (selected) and 'External Resource Usage'. On the right, there are three buttons: 'Export as CSV', 'Generate Report', and 'Generate Itemized Report' (which is highlighted).

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
2022:51:53	22297:38:50	248	\$26,981.59	\$26,899.44	\$0.00	\$53,881.03

Itemized Report

Start Time	Job Number	Owner	Payer	External Project	Billing Code	App	Label	Project	Machine	Compute Time	CPU Time	Compute Cost	App Cost
5/1/2025 9:31:38 AM	6003867	[REDACTED]			99	[REDACTED]-ubuntu		cypress_0		00:01:56	00:01:56	\$0.01	\$0.00
5/1/2025 9:31:38 AM	6003868	[REDACTED]			99	[REDACTED]-ubuntu		cypress_0		00:01:56	00:01:56	\$0.01	\$0.00
5/1/2025 9:53:29 AM	6003870	[REDACTED]			0	jarvice-ubuntu		cypress_0		31:47:21	31:47:21	\$12.40	\$0.00
5/1/2025 10:47:24 AM	6003871	[REDACTED]			0	jarvice-ubuntu	Test label	cypress_0		30:53:12	30:53:12	\$12.05	\$0.00

4.1.8.2 External Resource Usage

Utilization of external resources is billed and grouped by resources or individual instance of usage. The cost incurred is a supplementary cost, which is calculated as an aggregate over the billing period. Users can click on any of the following buttons as required:

- **Generate Report:** Displays the usage and aggregate cost of external resources used, on a per resource basis.

The screenshot shows the 'Reports' section of the Jarvice dashboard. At the top, there are dropdowns for 'Choose Time Period' (set to 'Current Month') and 'Time Offset from UTC' (set to '+00:00'). Below these are two radio button groups: 'Normally billed Jobs' (selected) and 'External Project Jobs'. Underneath are two more radio button groups: 'Compute Usage' and 'External Resource Usage' (selected). On the right, there are three buttons: 'Export as CSV', 'Generate Report' (which is highlighted), and 'Generate Itemized Report'.

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
2022:51:53	22297:38:50	248	\$26,981.59	\$26,899.44	\$314,546.00	\$368,427.03

Report

Resource	Price	Usage	Cost
kns_cpu	200	643.49	\$128,698.00
kns_ram	100	1858.48	\$185,848.00

- **Generate Itemized Report:** Displays the resource details and billing costs per individual instance of usage.

Choose Time Period

Select a time range: Current Month | Time Offset from UTC: +00:00

Normally billed Jobs External Project Jobs

Compute Usage External Resource Usage

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
2022-51:53	22297:38:50	248	\$26,981.59	\$26,899.44	\$314,546.00	\$368,427.03

Itemized Report

Payer	Resource	Timestamp	Price	Unit	Usage	Cost
[redacted]	kns_cpu	5/6/2025 10:11:25 AM	200	cpu/h	0.49	\$98.00
[redacted]	kns_ram	5/6/2025 10:11:25 AM	100	Gb/h	1.45	\$145.00
[redacted]	kns_cpu	5/7/2025 9:29:06 AM	200	cpu/h	1.21	\$242.00
[redacted]	kns_ram	5/7/2025 9:29:06 AM	100	Gb/h	3.45	\$345.00

4.1.9 External Project Jobs

Select Externally Billed Jobs to generate reports of billing for external project jobs that were run in the selected time period.

The reports on resource utilization of these jobs can be categorized under:

4.1.9.1 Compute usage

Utilization of compute resources in external project jobs is tracked and billed per project or per job basis.

- **Generate Report:** Displays the usage and aggregate cost of compute resources used on a per external project basis.

Choose Time Period

Select a time range: Current Month | Time Offset from UTC: +00:00

Normally billed Jobs External Project Jobs

<All Projects>

Compute Usage External Resource Usage

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
39:50:28	39:50:28	7	\$5.98	\$0.00	\$0.00	\$5.98

Report

Ext project	Job Count	Compute Time	CPU Time	Compute Cost	App Cost
test2	1	29:17:19	29:17:19	\$4.39	\$0.00
asdfsadfs	6	10:33:09	10:33:09	\$1.58	\$0.00

- **Generate Itemized Report:** Displays the usage and billing of compute resources on a per job basis. Each job's metrics will be an individual entry.

Dashboard > Reports

Choose Time Period

Select a time range: Current Month | Time Offset from UTC: +00:00

Normally billed Jobs External Project Jobs

External Project: <All Projects>

Compute Usage External Resource Usage

[Export as CSV](#) [Generate Report](#) [Generate Itemized Report](#)

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
39:50:28	39:50:28	7	\$5.98	\$0.00	\$0.00	\$5.98

Itemized Report

Start Time	Job Number	Owner	Payer	External Project	Billing Code	App	Label	Project	Machine	Compute Time	CPU Time	Compute Cost	App Cost
5/1/2025 9:42:16 AM	6003869	[REDACTED]	[REDACTED]	test2	jarvice-filmanager	label1	cfdf1	n0	29:17:19	29:17:19	\$4.39	\$0.00	
5/5/2025 3:48:32 AM	6003890	[REDACTED]	[REDACTED]	asdfasdfs	jarvice-filmanager	label1	cfdf1	n0	05:55:57	05:55:57	\$0.89	\$0.00	
5/5/2025 9:42:38 AM	6003891	[REDACTED]	[REDACTED]	asdfasdfs	jarvice-filmanager	label1	cfdf1	n0	01:44:09	01:44:49	\$0.19	\$0.00	
5/5/2025 11:36:43 AM	6003896	[REDACTED]	[REDACTED]	asdfasdfs	jarvice-filmanager	label1	cfdf1	n0	01:59:16	01:59:16	\$0.30	\$0.00	

4.1.9.2 External Resource usage

Utilization of external resources in external project jobs is tracked and billed per project or an individual instance of usage.

Dashboard > Reports

Choose Time Period

Select a time range: Current Month | Time Offset from UTC: +00:00

Normally billed Jobs External Project Jobs

External Project: <All Projects>

Compute Usage External Resource Usage

[Generate Report](#) [Generate Itemized Report](#)

Summary

Compute Time	CPU Time	Job Count	Compute Cost	App Cost	External Resource Cost	Total Cost
00:00:00	00:00:00	0	\$0.00	\$0.00	\$0.00	\$0.00



- Generate Report:** Displays the usage and aggregate cost of compute resources used on a per project basis.
- Generate Itemized Report:** Displays the resource details and billing costs per individual instance of usage.

The Summary view pane appears on the top of the report view and summarizes the costs for both compute and external resources. After the reports are generated, they can be exported in the CSV file format.

4.2 Stats

The Stats section provides an overview of various performance statistics related to the user's and the team's job activities in the last billing period.

The screenshot shows the 'Jobs' section of the Jarvice interface. On the left, there is a sidebar with the following options:

- Current** (highlighted with a red box)
- History
- By Label
- Team Jobs
- Ext Projects Team Jobs
- Reports

Below the sidebar is a card titled 'Stats' with an orange border. The card contains the following information:

- A dropdown menu set to 'Team total (3)'.
- A 'JOBS RUN' count of 3.
- Icons for CPU time (clock), Cost (dollar sign), and Wall time (monitor).
- A 'CPU TIME' of 80:41:20.

When **Team total** is selected from the dropdown, the aggregate statistics for all jobs run by the entire team is displayed. Similarly, when **individual total** is selected from the dropdown, the statistics specific to user's activities is displayed.

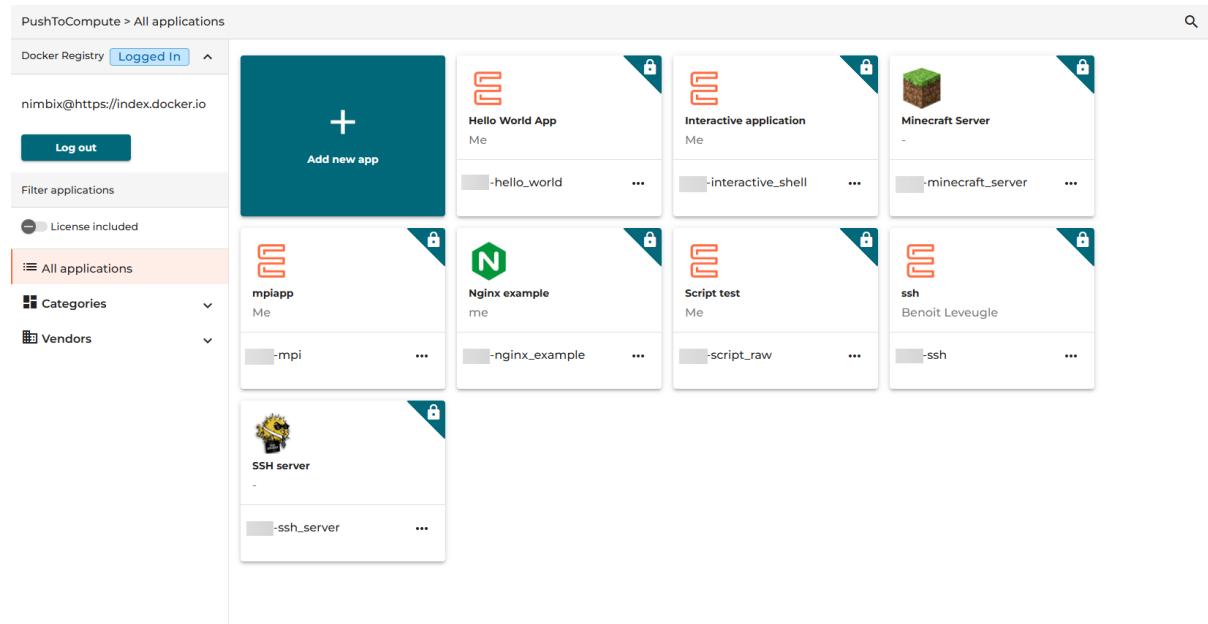
For both individual and team total, the following job metrics are displayed:

- **Jobs run:** Total number of jobs executed
- **CPU time:** Total amount of CPU time consumed by the jobs, indicating the amount of processing power utilized
- **Cost:** Total cost incurred from running the jobs
- **Wall time:** Total running time of the job

Chapter 5. Push To Compute

The Push To Compute feature enables users to create and import their own containerized applications in Jarvice. This feature is enabled to the users who have developer access, provided by the system admin.

To run these jobs on the Jarvice platform, applications must be packaged as docker images and stored in a container registry of user's choice. Alternatively, users can also use the Jarvice platform to build these images directly from a git repository. Once the image is available, it can be pulled into the Jarvice platform by using the PushToCompute interface. After the image is pulled, the application is imported and is ready to be used on the platform.



The screenshot shows the PushToCompute interface with the following layout:

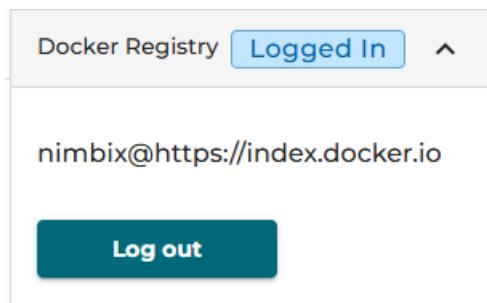
- Left Sidebar:** Includes "Log out", "Filter applications", "License included", and dropdown menus for "Categories" (selected) and "Vendors".
- Header:** "PushToCompute > All applications" and "Logged in" status.
- Content Area:** A grid of application cards. The first card is a large teal box with a plus sign and "Add new app". Other cards include:
 - "Hello World App" by "Me" (locked)
 - "Interactive application" by "Me" (locked)
 - "Minecraft Server" (locked)
 - "mpiapp" by "Me"
 - "Nginx example" by "me" (locked)
 - "Script test" by "Me" (locked)
 - "ssh" by "Benoit Leveugle"
 - "SSH server" (locked)

5.1 Docker Registry

To import an application container image from a container registry, firstly, the user must be logged-in to their docker or artifact registry. There are two ways to login to a registry:

5.1.1 Using Password

1. In the **Server field**, specify the docker registry. The default is <https://index.docker.io>
2. Enter the **username**.
3. Enter the **password** and click **Login**. `Username@ServerLocation` is displayed under Docker Registry, and the user is logged in.



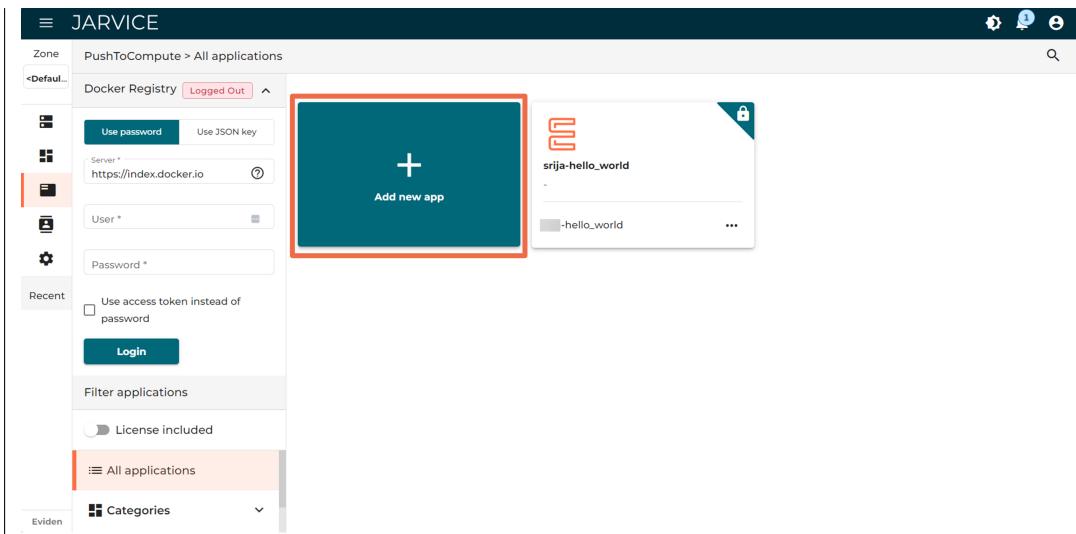
5.1.2 Using JSON key

1. The **Server** field is autofilled to be <https://us-docker.pkg.dev>.
2. Upload the **key** (typically json authentication file).
3. Click **Login**.

5.2 Import Application

To add an application to Jarvice, firstly, the application entry must be created and then the corresponding container image in the docker registry must be imported into the Jarvice deployment. To do so, follow these steps:

1. Click **Add new app**.



- Under the **General** tab, in the Id field, enter a unique identifier for the application.

The screenshot shows the 'Add Application' form. The 'General' tab is selected. In the 'Id' field, 'hello_world' is entered. In the 'Docker Repository' field, 'docker.io/ /app-hello_world:v1' is entered. Other fields like 'Team Visible', 'Git Source URL', and 'System Architecture' are also visible.

- For existing docker image, enter the **Docker Repository** location. Alternatively, to build the container from source, for **Git Source URL**, enter the URL for a Git repository containing the source for a Jarvice Application.
- Under the **Details** tab, you can enter the name, short description of the application, author name, and category manually.

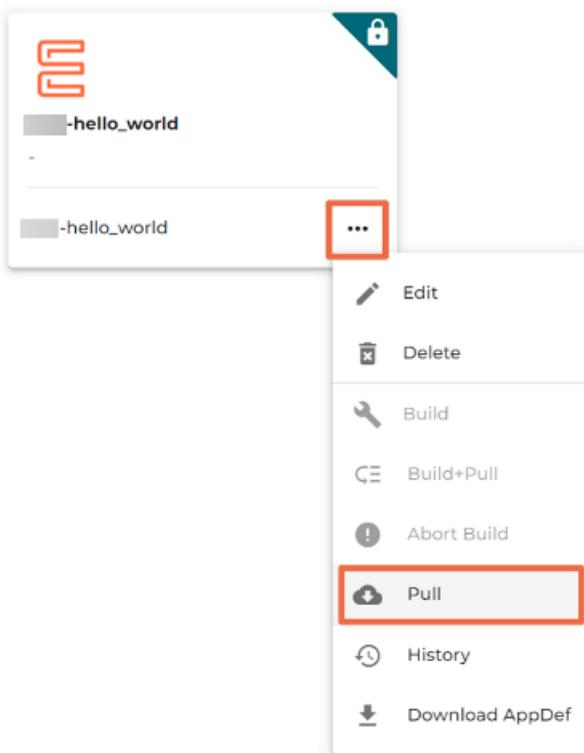
The screenshot shows the 'Edit Application' form. The 'Details' tab is selected. Fields include 'Name' (Hello World App), 'Description', 'Author', and 'Categories' (Select/Add category...). The 'General' and 'APPDEF' tabs are also visible at the top.

- Alternatively, you can upload the **appdef.json** file from your system and save the file to autofill the details.

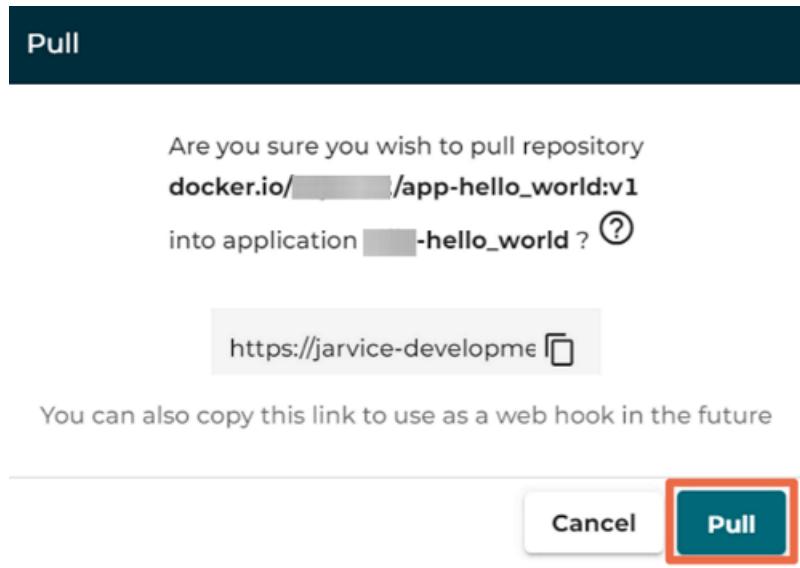
Note:

If you have manually updated the image icon from the UI, the icon from the uploaded appdef will overwrite it.

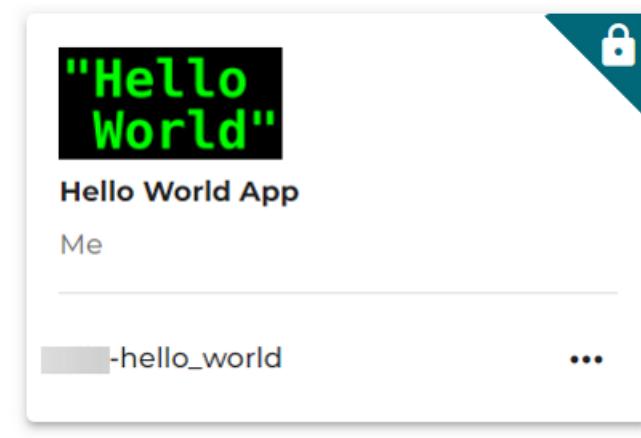
6. Then click **Save**. The application is now registered in Jarvice.
7. On the hamburger menu of the application card, click one of the following depending on whether you want to build the image or pull the docker image from repository.
 - Click **Pull** to pull the application image from chosen docker repository.



- Click **Build+Pull** to build an image from the source code of the docker file and then pull the image.
8. In the popup that appears, click **Pull**. This operation runs in the background and usually takes a while to complete.



- Once the image is pulled, the application logo is updated.



- To monitor the status of the Build and Pull operations, choose the **History** option described below.

The creator of the application can run it from the PushToCompute view in the same way as on the Compute view. For more information, refer to [Application Submission Process](#) and [Dashboard](#).

Once created, the application can be [edited](#) as needed. All settings, except for the application ID, can be freely modified.

5.3 Access Application

Note that the application is private to the user who created it and is only accessible from their PushToCompute page. There are two ways to make it available to other users:

- The user must select the **Team Visible** option when creating/editing the app. This makes it available to other members of the user's team on the Compute page.
- A system administrator must mark the application as public, which makes it available to all users on the platform.

For security and stability reasons, if an application is edited, its public status is reverted until the system admin marks it public. The typical best practice is for a system admin to completely validate any new or changed application before making it public.

5.4 App actions

5.4.1 Edit / Delete Application

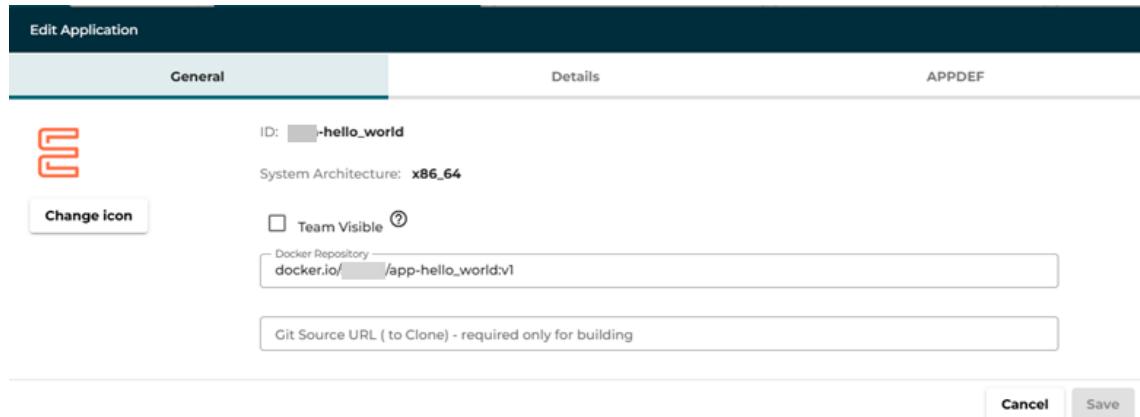
The application details can be edited by clicking on the hamburger menu, and then selecting **Edit**.

Under the **General** tab, you can edit the following:

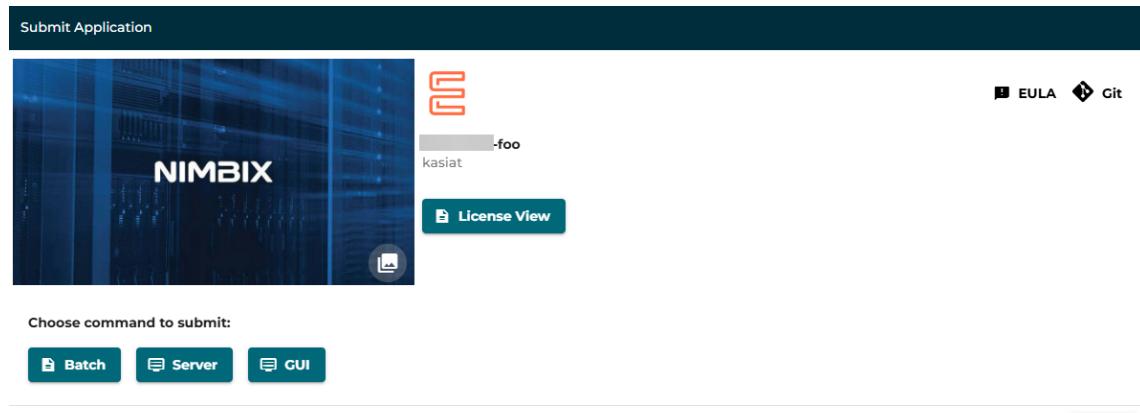
- **Change icon:** App icon image can be modified by uploading a new image from the filesystem.
- **Team Visible:** When selected, the application will be visible to the team members in their compute page. Public applications are visible to team members regardless.
- **Docker Repository:** Address of the docker image of the app in a container registry can be modified.
- **Git Source URL:** Address of the app image in a git repository can be modified.

Under the **Details** tab, along with the name, description, author name, you can configure the following:

- **Licensed:** If the app is licensed, the check box can be selected.
- **Categories:** Add or modify the category of the application by which it can be filtered amongst other applications.



Furthermore, you can also edit end user license agreement and GitHub Source URL from the Submit application window.



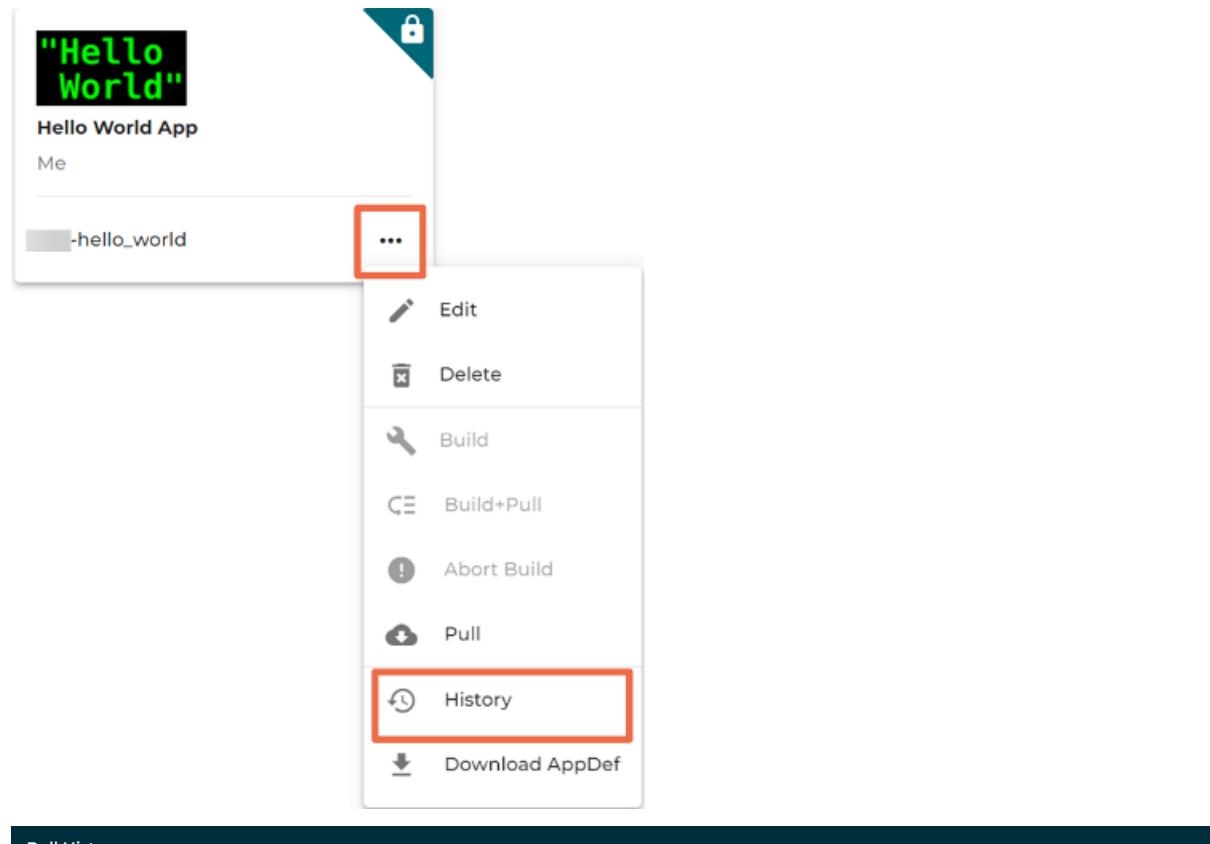
- **EULA:** Click on EULA to change, delete, or download the end user license agreement.

- **GitHub:** Click on Git to reproduce the application. The app's source code from the git repository that is specified earlier in the Git Source URL textbox, can be cloned. Alternatively, you can also pull the container image from the docker container that was given earlier in the docker repository textbox.

Similarly, to delete an application, click **Delete**.

5.4.2 Check Application History

The application's pull/build logs can be viewed by clicking on the burger menu, and then selecting **History**.



The screenshot shows the 'Hello World App' details page. A dropdown menu is open, with the 'History' option highlighted. The 'History' section displays a log of pull operations:

```

Output will refresh automatically every 15 seconds:

20 minutes ago: Pull completed - docker.io/ /app-hello_world -> hello_world.app
20 minutes ago: Pull status - docker.io/ /app-hello_world -> hello_world.app: /etc/NAE/AppDef.json is valid.
20 minutes ago: Pull status - docker.io/ /app-hello_world -> hello_world.app: Validating /etc/NAE/AppDef.json.
20 minutes ago: Pull started - docker.io/ /app-hello_world:v1 -> hello_world.app
21 minutes ago: Pull scheduled - docker.io/ /app-hello_world:v1 -> hello_world.app
6 days ago: Pull failed - docker.io/ /app-hello_world -> hello_world.app: Authorization required or image manifest does not exist
6 days ago: Pull started - docker.io/ /app-hello_world:v1 -> hello_world.app
6 days ago: Pull scheduled - docker.io/ /app-hello_world:v1 -> hello_world.app

```

A 'Close' button is visible at the bottom right of the history window.

5.4.3 Download AppDef

The application definition file can be downloaded directly by clicking on the burger menu, and then clicking **Download AppDef**.

Note:

For the complete guide on building an application from scratch, refer to [applications tutorial](#)¹.

¹ https://jarvice.readthedocs.io/en/latest/apps_tutorial/

Chapter 6. Account

The Account view provides users with the access to manage their personal settings, integrations, and preferences related to their profile and data access. It allows users to configure their profile, create external projects, manage SSH keys, set up notifications, securely store credentials, and integrate external data sources.

The account menu contains the following menu items in the left navigation pane:

- *Profile*
- *External Projects*
- *Notifications*
- *SSH Keys*
- *Vaults*
- *External Data*

6.1 Profile

This section allows users to view and update user details, regenerate API key for authentication, and choose active notification types. The personal details of the user such as Full Name, Company, Phone can be added in this section.

The screenshot shows the 'Account > Profile' page. On the left is a sidebar with links: Profile (selected), External Projects, Notifications, SSH Keys, Vaults, and External Data. The main area has three sections: 'Profile' (with fields for Full Name*, Company, and Phone), 'Authentication' (with fields for Username and API Key, and a 'Regenerate' button), and 'Active Notification Types' (a list of checkboxes for various events like Job submitted, Job started, etc.).

Active Notification Types	
<input checked="" type="checkbox"/>	Notification Event
<input checked="" type="checkbox"/>	Job submitted
<input checked="" type="checkbox"/>	Job started
<input checked="" type="checkbox"/>	Job cancelled
<input checked="" type="checkbox"/>	Job completed
<input checked="" type="checkbox"/>	Job completed with error
<input checked="" type="checkbox"/>	Job terminated
<input checked="" type="checkbox"/>	Pull started
<input checked="" type="checkbox"/>	Pull completed
<input checked="" type="checkbox"/>	Pull completed with error
<input checked="" type="checkbox"/>	Build started
<input checked="" type="checkbox"/>	Build completed
<input checked="" type="checkbox"/>	Build completed with error
<input checked="" type="checkbox"/>	Long running jobs
<input checked="" type="checkbox"/>	External project budget at warning level
<input checked="" type="checkbox"/>	External project budget exhausted

6.1.1 Authentication

This section displays the credentials used to access Jarvice via API. The credentials including Username and and API Key are greyed-out in the view.

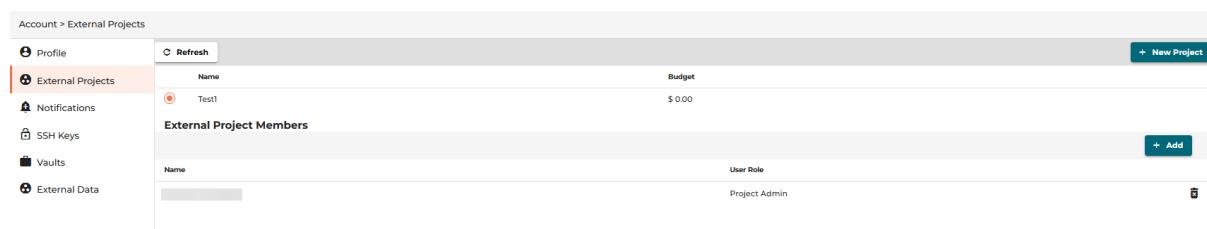
The API Key is a secure token used to authenticate requests to Jarvice API. For security reasons, if you want to invalidate the current key and generate a new one, click the **Regenerate** button. It disables the old key and replaces it with the new one.

6.1.2 Active Notification Types

This section lists various events during and after the job submission process for which notifications can be set up. The Notification events can be selected as required.

6.2 External Projects

External projects are designed to group multiple users who are allocated a common budget to the projects. They provide a billing model where the usage costs are tracked and deducted from the project's overall budget.



The screenshot shows the 'External Projects' section of the account settings. On the left, there's a sidebar with links: Profile, External Projects (which is selected and highlighted in orange), Notifications, SSH Keys, Vaults, and External Data. The main area has a 'Refresh' button and a '+ New Project' button. A table lists one project: 'Test1' with a budget of '\$ 0.00'. Below this is a 'External Project Members' section with a table showing one member: 'Project Admin' with the name 'Test1'.

This view displays the projects that the logged-in user is the owner of. The project name, budget, members, and roles of the members are displayed.

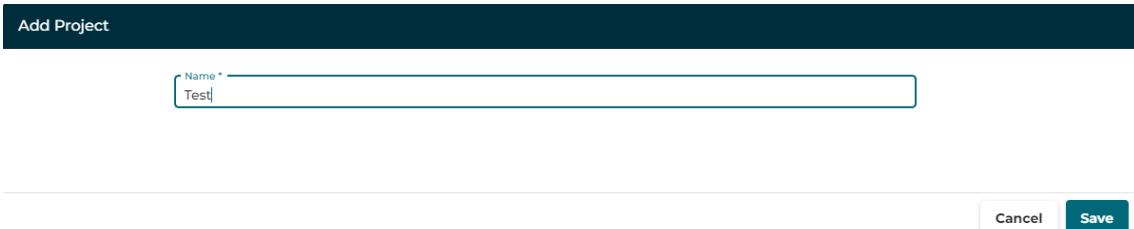
Note:

If the logged-in user is a member of a project but not an admin or the project owner, the project is not displayed here.

6.2.1 Create new project

To create a new project, follow these steps:

1. Click the **New Project** button on the top-right corner of the page. The **Add Project Popup** appears.



The screenshot shows a dark blue 'Add Project' dialog box. At the top is a 'Name *' input field containing 'Test'. At the bottom right are 'Cancel' and 'Save' buttons.

2. In the popup, enter the **name** of the project.
3. Click **Save**.

To add more members to an existing project, click on **Add** button under the **External Project Members**, look for the selected project, and then add the name of the user. To provide the Project Admin role to the added user, enable the **Project Admin** checkbox.

6.3 Notifications

Notifications related to application events as configured in the *Profile* section will be notified to the user through email.

In this view, users can add their email addresses by clicking on the **Add** button.

The existing email addresses can also be deleted by enabling the checkbox and then clicking on the **Delete** button.

6.4 SSH Keys

Enables users to deploy SSH public keys onto jobs. Generally, when a job is launched, the SSH key will be copied to the job environment.

6.4.1 Add New SSH Key

Users can add a new SSH key using the following steps:

1. Click on the **New** button. The **Add SSH Key** popup appears.

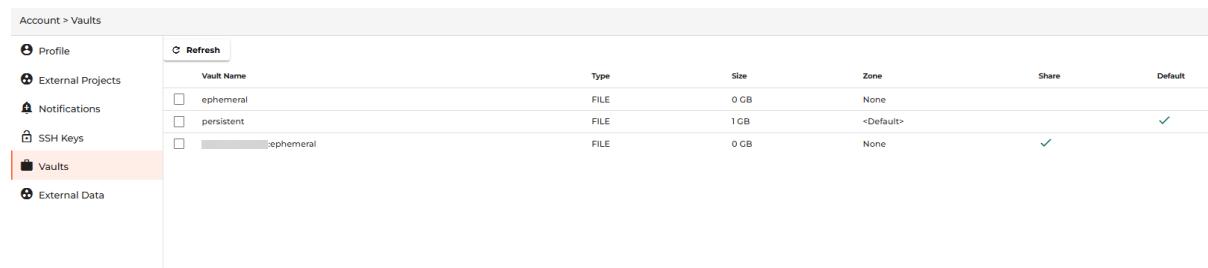
2. Click **Load from file**, and select the public key file from the local system.
3. Click **Save**.

6.4.2 Deploy Key

While adding an application using the PushToCompute feature, when user provides source repository such as Git or bitbucket, it often needs authentication (for private repositories). Deploy key is a public key that authorizes Git pulls from the user account. To view the deploy key, click on the **Fetch deploy key** button.

6.5 Vaults

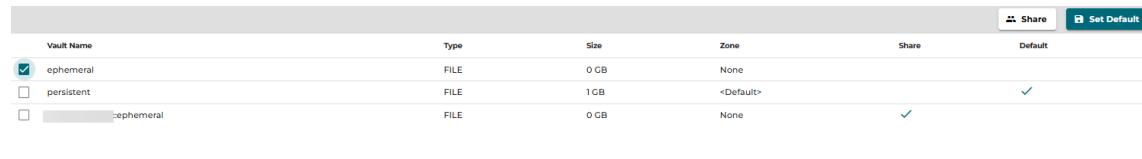
This view displays existing vaults and their details such as type, size, and zone.



Account > Vaults						
Profile	External Projects	Notifications	SSH Keys	Vaults	External Data	
				Refresh		
Vault Name	Type	Size	Zone	Share	Default	
<input type="checkbox"/> ephemeral	FILE	0 GB	None			
<input type="checkbox"/> persistent	FILE	1 GB	<Default>			
<input type="checkbox"/> ephemeral	FILE	0 GB	None			

Furthermore, users can select a vault and perform the following actions:

- **Share:** Enables sharing the vault with team members. Users will be able to read and write file to this vault.



Vault Name	Type	Size	Zone	Share	Default	
<input checked="" type="checkbox"/> ephemeral	FILE	0 GB	None			
<input type="checkbox"/> persistent	FILE	1 GB	<Default>			
<input type="checkbox"/> ephemeral	FILE	0 GB	None			

- **Set Default:** Sets the selected vault as the default vault.



Select the users on this team who are allowed to attach this vault. These users will be able to read and write files to this vault if they select it for jobs.

User Name	Email
<input checked="" type="checkbox"/>	cypress+@nimbix.net
<input type="checkbox"/>	cypress+@nimbix.net
<input type="checkbox"/>	cypress+@nimbix.net
<input type="checkbox"/>	cypress+@nimbix.net

Cancel **Save**

6.6 External Data

This view displays the external data sources outside the Jarvice platform and allows addition of new external data sources.

The screenshot shows the Jarvice web interface. On the left is a sidebar with a 'Recent' section containing a 'JARVICE File Manager' item. The main content area is titled 'Account > External Data'. It features a table with two columns: 'Name' and 'Type'. There is one entry in the table: 'External Projects'. At the top right of the table is a blue '+ Add' button.

For instance, apps in the AI or genetic domain often require access to large data sets that are stored on a public storage and are too large to be stored in a vault. In such cases, information related to the storage mechanisms can be passed to the jobs, allowing apps to access external data more flexibly. The information passed to the jobs is exposed to the apps as environment variables, making integration seamless.

6.6.1 Adding External Data

To add a new external data source, follow these steps:

1. Navigate to **Account > External Data**.
2. Click **Add**. The Add External Data popup appears.

The screenshot shows a modal dialog titled 'Add External Data'. Inside the dialog, there are four input fields: 'Name*' (with 'External Project' typed in), 'Type*' (a dropdown menu), 'default_key' (with 'mykey' typed in), and 'Value' (an empty field). At the bottom right of the dialog are 'Cancel' and 'Save' buttons.

3. In the popup, enter the following details:
 - **Name:** Unique identifier for the name of external data source.
 - **Type:** Predefined types of the external data sources - gcs, s3, custom.
 - **default_key:** Value of the default key.
4. Based on type of the external data source selected, enter the following details:
 - If GCS is selected, enter the values of google_application_credentials and google_cloud_project keys.

Add External Data

Name*	data1
Type*	gcs
Key google_application_credentials	Value SOME_GCS_CRED
Key google_cloud_project	Value SOME_GCP_PROJECT

Cancel **Save**

- If S3 is selected, enter the values of access_key_id, secret_access_key, default_region keys.

Add External Data

Name*	
Type*	s3
access_key_id	Value
secret_access_key	Value
default_region	Value

Cancel **Save**

- If custom is selected, enter the custom code in the text box.

Add External Data

Name*	data2
Type*	custom
<pre>{ "foo_id": "someid@someservice/somepath", "foo_cred": "qwertv123" }</pre>	

Cancel **Save**

- Click **Save**. An external data source can be linked to a job by entering the name of the data source in the external data field under the Storage tab of the application submission process.

Submit application

Ubuntu 22.04 Linux for Intel

Batch
Run a batch command using /bin/bash. The output may be monitored directly in your web browser.

Storage

Vaults
Vault* ephemeral
Selected Vault is not listable

Read only
 Force

External Data
External Data Sources
Add external data source(s)

data1
data2

Buttons: Back, Close, Submit

6.6.2 Types of External Data Sources

The drop-down under **Type** displays predefined types of external data sources/mechanisms that hold datasets of files that an application may need during execution.

- **gcs:** Google Cloud Storage
- **s3:** Amazon Simple Storage Service
- **custom:** Other Custom Storage Service

Chapter 7. Job Status

Once an application is submitted and a job is launched, the job will be queued, then starts processing and then completed. At any given moment, a job can be in one of the following statuses:

- **Queued:** Initial status of the job after the job is submitted.
- **Processing:** After the required resources and licenses are available, when the job starts running, the status changes to processing.
- **Completed:** After the job runs successfully, the status changes to completed.
- **Completed with error:** When a job finishes running but with an error, then the status changes to completed with error.
- **Terminated:** When a job is forcefully shutdown, then the status of the job appears as terminated.
- **Canceled:** When a submitted job is stopped forcefully before the job starts processing, then the status of the job changes to canceled.

7.1 Substatus

A job can have various substatuses that provide further specific information about the current status of a job. The substatus of a job is indicated by the icon beside the status.

7.1.1 Queued

-  - Resource limits reached for this account
-  - Requested license features currently available
-  - Suspended by user
-  - Temporarily suspended by license manager
-  - Job crossed external project budget warning level

7.1.2 Terminated

-  - Termination requested by user
-  - Job shutdown due to external project overrun