Open Robotics Infrastructure

Who we are · What we build · How that's going

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The current incarnation of the infrastructure project began in 2020.

Before then, infrastructure was built by and for the core teams and community.

This is ideal, but incomplete. Adding individual features to fit specific needs results in large, Katamari tools.

Building the thing you need and sustaining it require different talents at different times.

Provide the tools and expertise in computer infrastructure needed to sustain and grow the Open Robotics projects.

ROS and Gazebo build farms
ros-buildfarm cookbook • ros2ci cookbook • osrf-buildfarm cookbook • osrf terraform project • ros_buildfarm • createrepo-agent

ROS developer tools
rosdep • colcon • bloom • catkin_pkg • rosdoc2 • rosinstall_generator

Supporting python modules
rospkg • rosdistro

Specialized tools
superflore

Community infrastructure
- ROS package repositories
- Gazebo package repositories
- ROS and Gazebo docker images
- ROS Snapshots repository

Gazebo tools
- Gazebo release script
- gzdev

A **server farm** is a collection of servers.
A **build farm** is a server farm dedicated to executing builds.

OSRF's build farms are the backbone of CI/CD infrastructure for ROS and Gazebo.

build.osrfoundation.org "Gazebo build farm" `build.o.o`
Multi-platform continuous integration and binary packaging for Gazebo.

ci.ros2.org "ROS 2 CI"
Multi-platform Continuous integration and binary archives for ROS 2.

build.ros2.org "ROS 2 build farm"
CI and binary package builds for ROS 2 distributions.

build.ros.org "ROS build farm"
CI and binary package builds for ROS Noetic.
Decomissioning in 2025

What keeps the build farm busy

As of Friday 2024-10-18, there are 43925 individual jenkins jobs on build.ros2.org.

In ten days on build.ros2.org we've run:

- 3989 source package builds
- 11339 binary package builds
- 712 repository dev builds
- 148 repository pr builds

Greenness reports help the core teams:

- Identify recurring problems
- Notice when a small problem starts growing
- Prioritize fixes based on overall impact

Analysis for project: GAZEBO

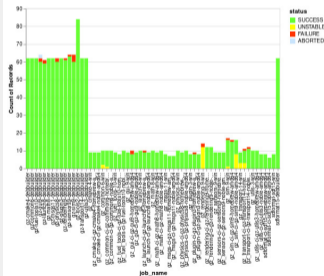**Collection: ionic**

Average greenness (monthly comparison):
96.30%   +6.21%

Total builds count:
1461

Status chart

status
- SUCCESS
- UNSTABLE
- FAILURE
- ABORTED

Analyzed jobs
- gz-tools2-debbuilder
- gz-sim9-debbuilder
- gz-sensors9-debbuilder
- gz-gui9-debbuilder
- sdformat15-debbuilder
- gz-utils3-debbuilder
- gz-transport14-debbuilder
- gz-rendering9-debbuilder
- gz-plugin3-debbuilder
- gz-physics8-debbuilder
- gz-msgs11-debbuilder
- gz-math8-debbuilder

- Most OSRF Infrastructure is built on Ubuntu LTS.
- ROS distributions are released in sync with Ubuntu LTS releases.
- Major infrastructure migrations are performed with every-other LTS (Once every four years.)

What's involved in such a migration

- Run test build farm deployments in parallel to the main build farm to validate that builds run as expected.
- Switch to Jenkins plugin installation manager.
- Update of Jenkins plugins which were blocked by our Jenkins / Java version on 20.04.
- Update configuration of Jenkins jobs in ros_buildfarm.
- Compare build logs and perform further plugin or configuration changes as needed.
- Extract more of our infrastructure cookbooks into open source repositories so they can be used by the community.
- Prepare for final syncs, snapshots, and wind-down of Noetic on build.ros.org

- Re-provision build farm machines in fresh VMs.
- Hold all pending rosdistro syncs and PRs.
- Back-up and shut down current build farm.
- Mount data storage from the current build and repository hosts to the new VMs and copy packages and job history.
- Boot jenkins in shutdown mode and re-configure all jobs to match the new configuration.
- Bring jenkins back online and slowly release rosdistro holds.

Hold on to your butts.

- Tools and python modules like rosdep, bloom, and catkin_pkg have been API stable for many years.
- Releasing 1.0 versions is a commitment from the infrastructure team to maintain that stability while also preparing for our future ability to make and communicate breaking changes or major updates clearly.
- `catkin_pkg` 1.0.0 released 13 September 2023
  `rosdistro` 1.0.0 released 11 October 2024

ROS Answers archive Answers Archive

This is the static archive of questions from ROS Answers archive Answers.

Many questions were migrated to Robotics StackExchange but those that were not, as well as other links and information related to the Q&A sites are archived here.

All questions

tf synchronization | 2 answers | 0 votes | Asked by *miltos* in *2011-05-19 05:59:57 UTC*

How to run "larks" package | 2 answers | 0 votes | Asked by *venu_gandhe* in *2011-05-19 06:30:01 UTC*

Calibrating Kinect with surroundings | 7 answers | 1 votes | Asked by *Aslund* in *2011-05-19 10:58:07 UTC*

- ROS and Gazebo Answers are now read-only
- Many questions have been migrated to Robotics StackExchange
- Preserve migrated content via redirects and provide a static home for unmigrated content.

Package-based repository configuration for ROS and Gazebo

```
$ wget https://repo.ros2.org/ros-keyring-archive.deb
$ sudo dpkg -i ros-keyring-archive.deb
$ sudo apt update
$ sudo apt install ros-humble-desktop
```

- Simplified first time setup for Ubuntu and Enterprise Linux.
- End-user transparent updates of repository signing keys and configuration.
- Allow more frequent signing key rotation without disrupting ROS users.

* This is not yet available and is coming with or before the 24.04 migration.

- Build tools that suit *your* workflows; share them with the community
- Review changes and provide feedback on ROS developer packages
- Ask questions on Robotics StackExchange and the OSRF Discord server *#infra-help* for support and *#infra-general* for discussion
- You don't need to be a roboticist to contribute to infrastructure!