Buildship 3.0

Who am I

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Timeline

- 2016.10: ECE presentation
- 2017.01: Buildship 2.0
- 2017.07: Buildship 2.1
- 2017.12: Buildship 2.2
- 2018.11*: Buildship 3.0
    - Inclusion in Eclipse 2018-12

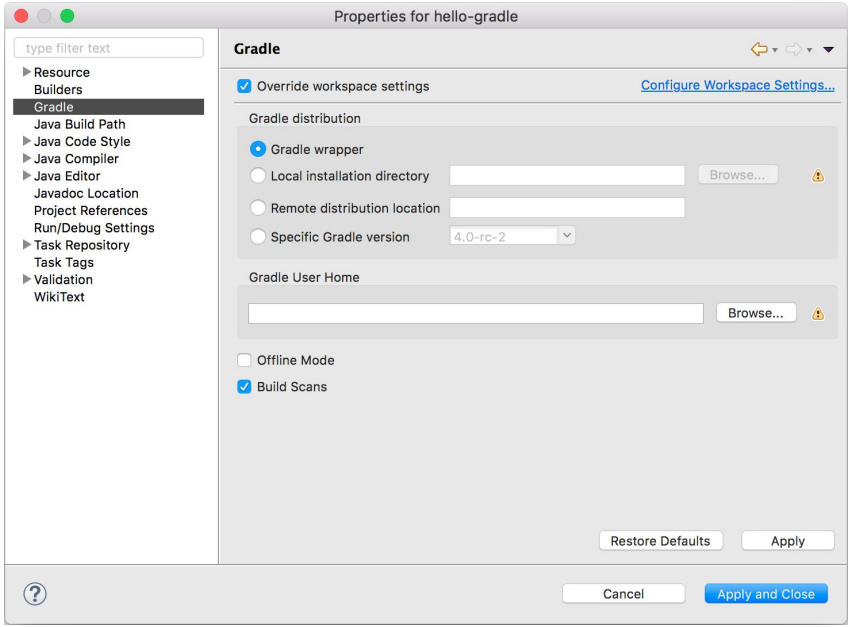
Project activities

- Part of the release train; installed by default in 3 packages
- Active community at discuss.gradle.org and github.com/eclipse/buildship
- Marketplace: around 9K/month, 16th most installed plugin
- Update site: 600.000 installation in September

[2.0.0–3.0.0)

Hierarchical preferences

- Top-level: workspace configuration
- Build configuration can either inherit or override workspace level
- Run configuration can either inherit or override build level

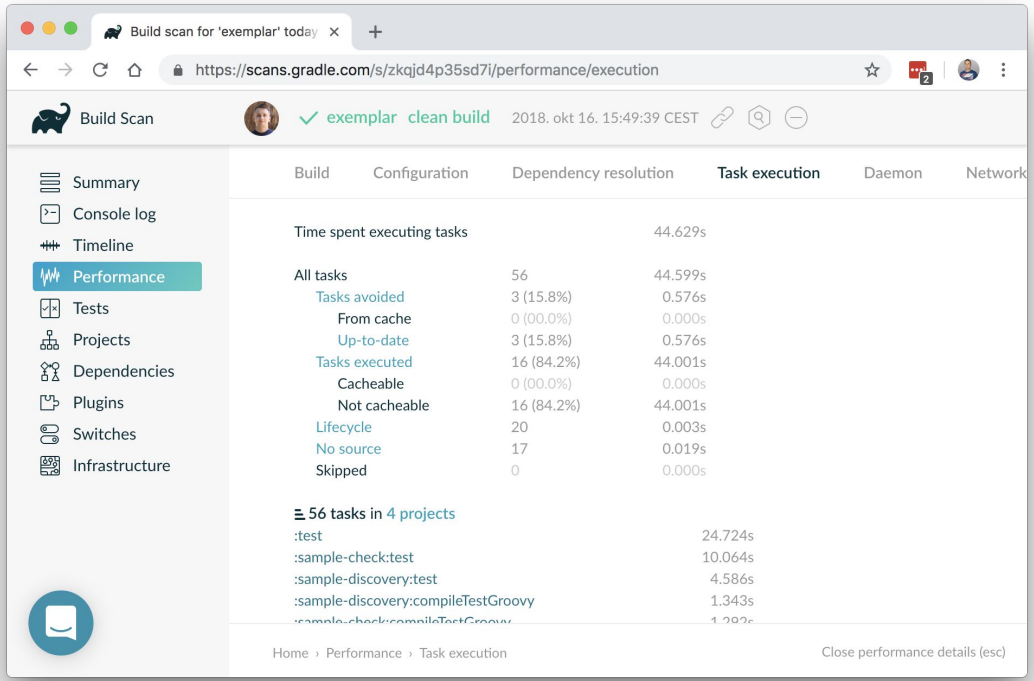


Runtime classpath separation

- The was no classpath separation in Eclipse
- Main and test source set merged
- Blocker for Spring Boot tooling
- Solution: custom runtime classpath provider
- Upcoming: https://github.com/eclipse/buildship/issues/689

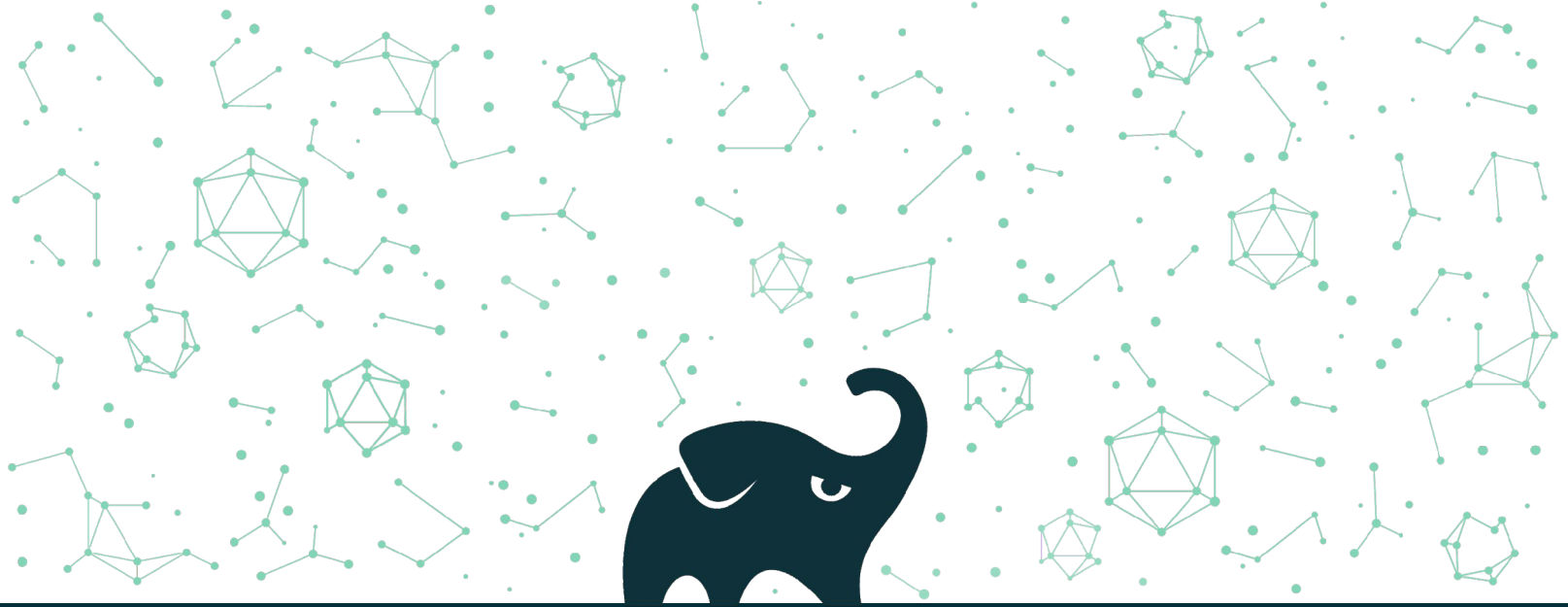
Build scans

- Recording of a build providing insights
- Analyze environment, executed tasks, performance, etc.
- Free central service
- On-premise enterprise version with extra features



Build scans integration

- Convenience features
  - Auto-publish
  - Open action on toolbar
  - Add links to console output



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Import broken projects

- Root project always imported
- Error markers on
  - line number
  - build script
  - root project

Public APIs

- Based on community feedback: https://github.com/eclipse/buildship/issues/676
- Let Buildship extensions
  - Execute tasks
  - Synchronize Gradle projects

Project synchronization

- “My plugin wants to import Gradle projects”
- New API lets clients
  - Import new projects
  - Synchronize existing projects

Project synchronization API

```
GradleWorkspace workspace = GradleCore.getWorkspace();
BuildConfiguration configuration = BuildConfiguration
    .forRootProjectDirectory(new File("path/to/project"))
    .overrideWorkspaceConfiguration(true)
    .gradleDistribution(GradleDistribution.forVersion("4.10.2"))
    .autoSync(true)
    .build();
GradleBuild newBuild = workspace.createBuild(configuration);
newBuild.synchronize(monitor);
IProject project = ...
GradleBuild existingBuild = workspace.getBuild(project).get();
existingBuild.synchronize(monitor);
```

Task execution API

- “My plugin needs to execute Gradle tasks”
  - Technically possible with Tooling API
- Convenience API
  - `GradleBuild.withConnection()`
  - Input, outputs, progress reporting, cancellation automatically hooked in the IDE
  - Use-cases documented in the javadoc

```
File projectRoot = new File("/path/to/root")

ProjectConnection connection =
    GradleConnector.newConnector()
    .forProjectDirectory(projectRoot)
    .connect();

connection.newBuild()
    .forTasks("build")
    .setStandardOutput(System.out)
    .run();
```

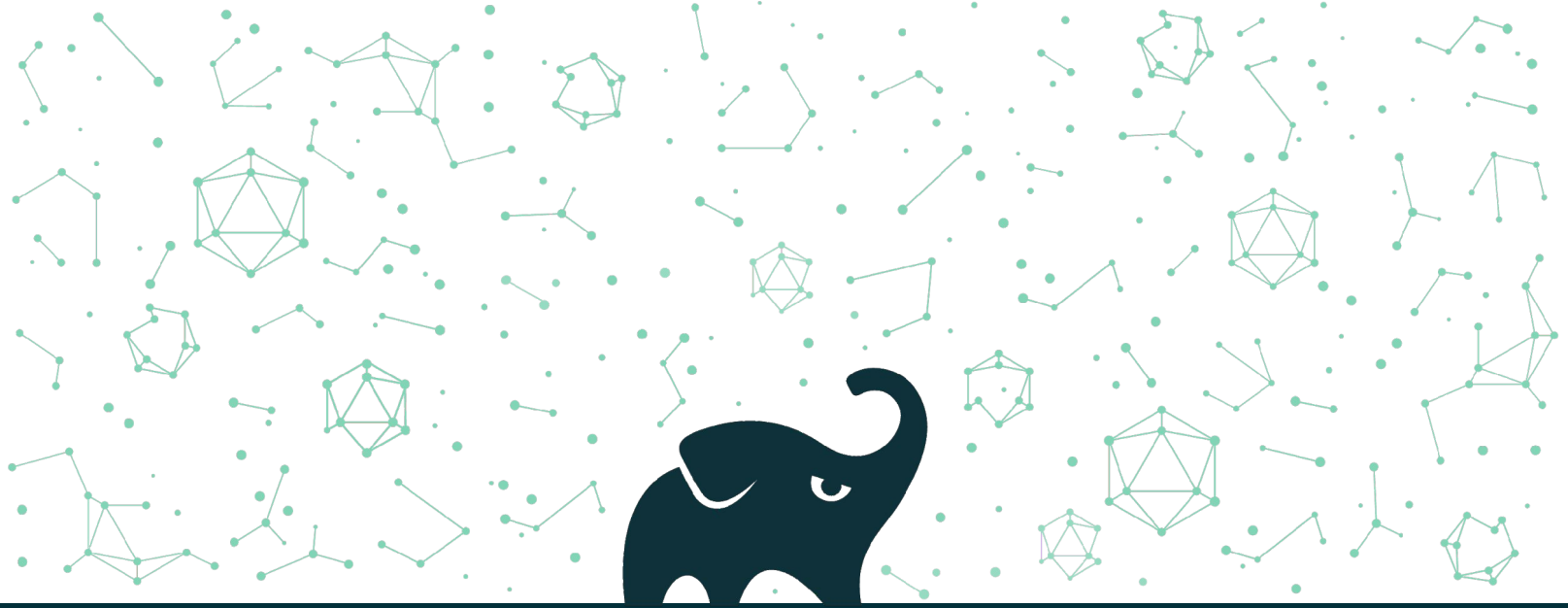
Task execution API

```
IProject project = …
GradleWorkspace workspace = GradleCore.getWorkspace();
GradleBuild build = workspace.getBuild(project).get();
build.withConnection(connection -> {
     connection.newBuild().forTasks("build").run();
}, monitor)
```

Project configurators

- “My plugin wants to add configure additional tooling support for all Gradle projects”
- Extension point
- Yet to come: configurator ordering

```
public interface ProjectConfigurator {
    void init(InitializationContext context, IProgressMonitor monitor);
    void configure(ProjectContext context, IProgressMonitor monitor);
    void unconfigure(ProjectContext context, IProgressMonitor monitor);
}
public interface InitializationContext {
    GradleBuild getGradleBuild();
}
public interface ProjectContext {
    IProject getProject();
}
```



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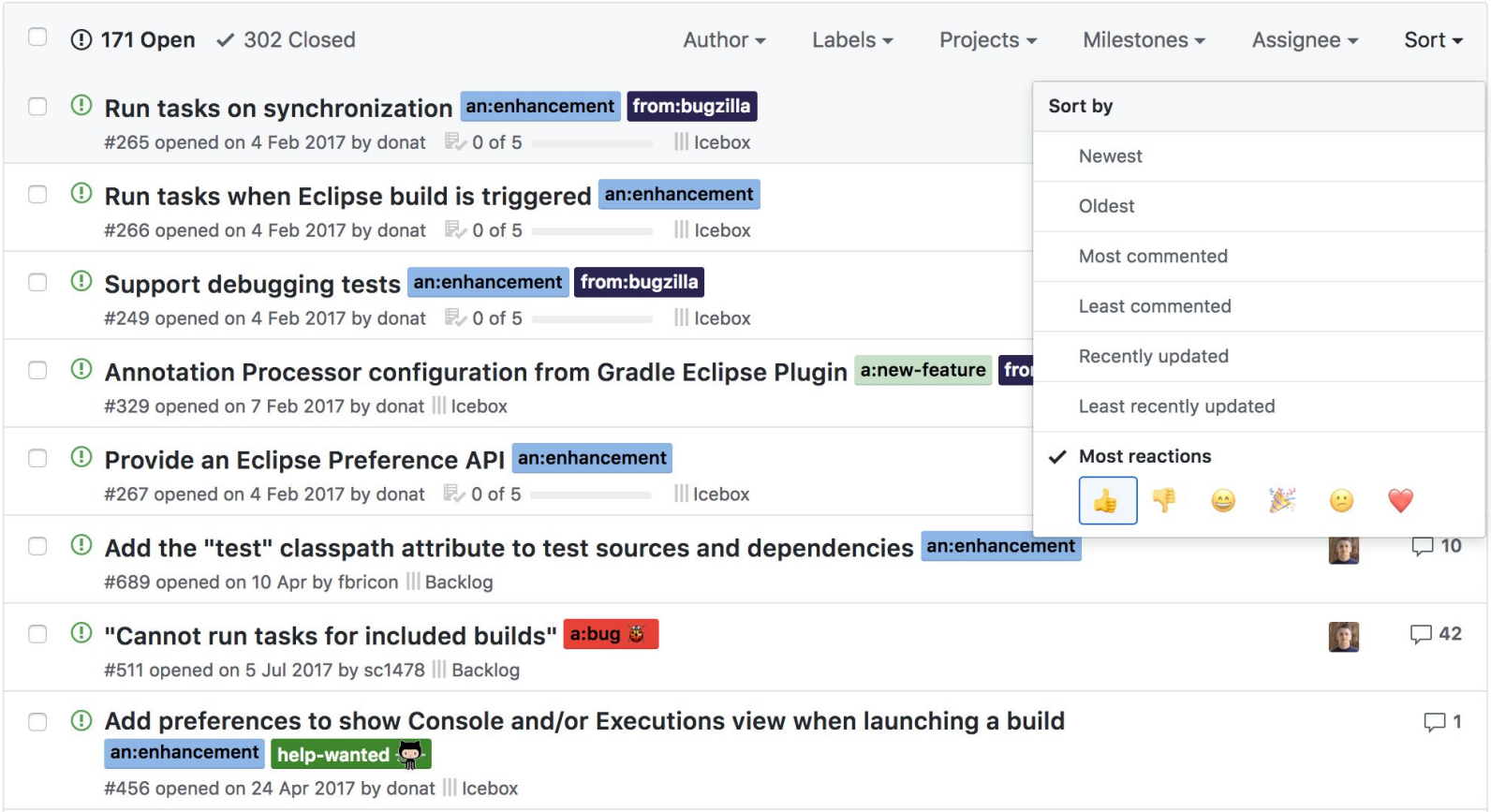
Your 👍 matters



Wrap-up

- Try the latest Buildship snapshot: github.com/eclipse/buildship/blob/master/docs/user/Installation.md
- Build scans: scans.gradle.com
- Gradle Enterprise: gradle.com/enterprise/get-started
- Reach out to us: discuss.gradle.org
- We're hiring: gradle.com/careers

Thank you!