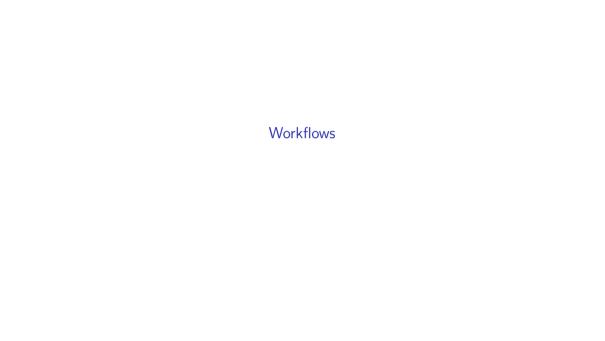
CI/CD

Alexander Zerpa





Workflows

```
.github/workflows/<workflow>.yaml
name: <name>
on: [<event>]
jobs:
  <job>:
    runs-on: <runner>
    steps:
      - name: <step>
        uses: <action>
      - run: <cmd>
```

On Events

Runners

- ► Ubuntu
- Windows
- ► macOS
- self-host

Using Actions

Dependencies

```
jobs:
    <job>:
    needs: [<dependency>]
```

Variables

Secrets

```
${{ secrets.<SECRET> }}
Set up on repository settings.
```

Environments

Set up on repository settings.

- Secrets
- Variables
- Permissions

```
jobs:
    <job>:
        environment: <environment>
```

Artifacts

- actions/upload-artifact.
- ▶ actions/download-artifact.
- ► Manual download.

Service Containers

```
jobs:
 <job>:
    services:
      <service>:
        image: <image>:<tag>
        env:
          <VAR>: <val>
        ports:
          - <hport>:<cport>
        options: >-
          --<option> <arg>
```

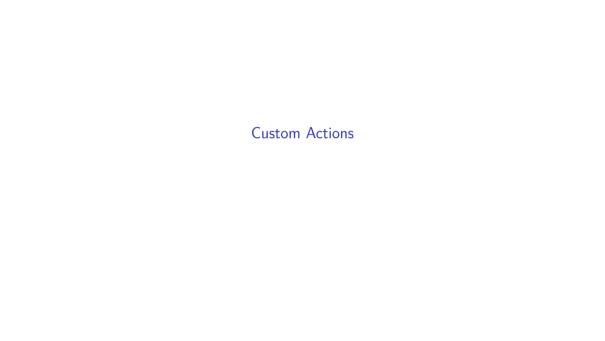
Caching

```
steps:
  - name: <name>
    uses: actions/cache
    with:
        key: <cache-key>
        path: <path>

${{ hashFile('<file>') }}
```

Matrix Strategy

```
${{ matrix.<key> }}
jobs:
  <job>:
    continue-on-error: ${{ matrix.<boolkey> }}
    strategy:
      max-parallel: <num>
      fail-fast: <true/false>
      matrix:
        <key>: [<vals>]
          include:
            - <key>: <include>
          exclude:
            - <key>: <exclude>
```



Custom Actions

```
Docker
name: <name>
description: <description>
runs:
   using: 'docker'
   image: '<dockerfile>'
   args:
        - <args>
```

```
javascript
name: <name>
description: <description>
runs:
   using: '<node-runner>'
   main: '<app>'
```

Environment Variables

- ► **GITHUB_TOKEN:** temporary GitHub token.
- ► GITHUB_REPOSITORY: repo owner and name.
- ► GITHUB_EVENT_PATH: path to event payload file.

Metadata

Required

- ► Action name
- Description
- Commands

Optional

- Author
- ► Inputs
- Outputs
- Branding

Composite Actions

```
name: <name>
descripton: <description>
runs:
   using: "composite"
   steps:
    - name: <step>
        uses: <action>
```





Packaging Workspace

```
rpmdev-setuptree
~/rpmbuild/
|-- BUILD
|-- RPMS
|-- SOURCES
|-- SPECS
-- SRPMS
```

Spec File

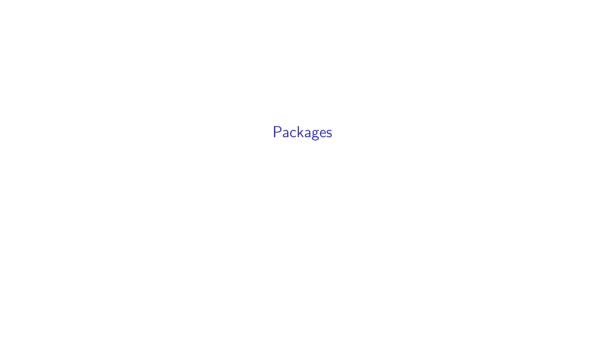
rpmdev-newspec

Preamble

- Name
- Version
- Release
- Summary
- License
- ▶ URL
- ► Source0
- ► Patch0
- ► BuildArch
- BuildRequires
- Requires

Body

- %description
- ▶ %prep
- %build
- %install
- %files
- %changelog



Packages

Source Packages

rpmbuild -bs <specfile>

Binary Packages

rpmbuild -bb <specfile>
rpmbuild --rebuild <srpm>