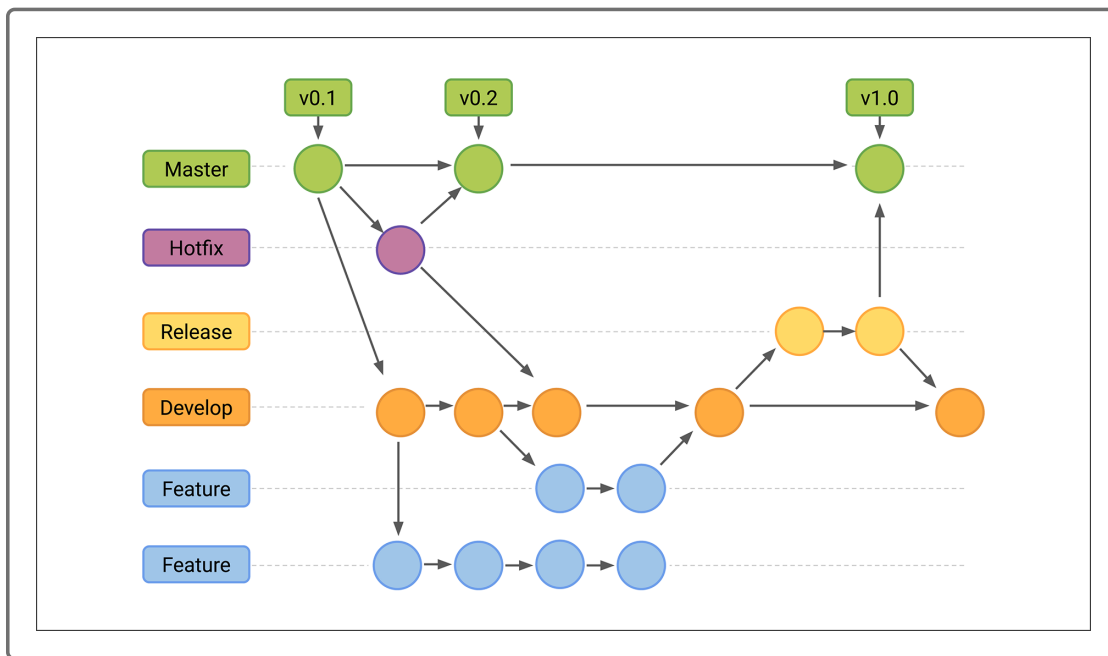## 2.1.4   Learn About Feature Branches

Features are additions or changes to a significant part of the codebase. For instance, a major upgrade to a header, footer, or section would be considered a feature. A feature is typically developed in a separate branch called a `feature` branch.

Creating separate branches to do work in gives us the ability to essentially create a copy of our code so we can work on a new feature without affecting or potentially breaking our already working code. Think of it as creating a new environment to perform our work in, as this video expands upon:

As you can see in the image, several feature branches can be branched off of the `develop` branch. Once the feature is complete, it's merged back into the `develop` branch.

There are several important reasons to work on the codebase in a separate `feature` branch and not in the `develop` branch:

- Developing code in a separate branch preserves a stable, working version that other team members can branch from.

- Working on separate branches allows team members to develop features simultaneously, increasing productivity and accountability.

- Features can be added independently, meaning a `feature` branch can be started separately and merged into the `develop` branch without waiting for other team members to finish their work on other feature branches.

- Testing the feature branch in isolation helps find errors or bugs more quickly because the changes in the codebase will be unique to the feature.

To further test your understanding of Git, take the following knowledge check:

It's time to switch gears. Let's go to our GitHub repo and create a `README.md` file for Run Buddy version 2.0.

Advanced CSS

Multiple Development Environments

0:00   3:03   1x

We just created a `develop` branch as a development environment to protect and isolate our production environment. We want to further isolate each feature that we develop as well. This allows multiple developers to work on and test different features in isolation.

In this step, we'll branch from the `develop` branch to create a new `feature` branch where the feature development work will be done.

The following image depicts the concept of feature branches: