The versions of Laravel, from 8 to 11, have evolved significantly, introducing new features, improvements, and breaking changes. Here's a breakdown of the key differences between each version:

Laravel 8

- **JIT Compilation:** Introduced Just-in-Time (JIT) compilation for improved performance in specific scenarios.
- Tailwind CSS Integration: Built-in integration with Tailwind CSS for rapid UI development.
- Query Builder Improvements: Enhancements to the query builder for more concise and expressive queries.
- New Authentication Features: Additional features for password reset, email verification, and more
- Improved Testing: Enhanced testing capabilities with new features and improvements.

Laravel 9

- **PHP 8 Support:** Full support for PHP 8, including new language features and performance improvements.
- New Blade Directives: Introduced new Blade directives for more flexible templating.
- **Improved Eloquent Relationships:** Enhancements to Eloquent relationships for better data management.
- Flysystem 2 Integration: Integration with Flysystem 2 for more flexible file storage.
- Symfony 6 Upgrade: Upgraded to Symfony 6, benefiting from its latest features and bug fixes.

Laravel 10

- PHP 8.1 Support: Full support for PHP 8.1, including new language features and performance improvements.
- **New Authentication Features:** Additional features for authentication, such as password hashing and validation.
- **Improved Testing:** Further enhancements to testing capabilities, including new features and improvements.
- **Symfony 6.1 Upgrade:** Upgraded to Symfony 6.1, benefiting from its latest features and bug fixes.
- **Dependency Injection Improvements:** Improvements to dependency injection for better code organization.

Laravel 11

- PHP 8.2 Support: Full support for PHP 8.2, including new language features and performance improvements.
- New Blade Components: Introduced new Blade components for more reusable UI elements.
- **Improved Eloquent Query Builder:** Enhancements to the Eloquent query builder for more expressive and efficient queries.

- **Symfony 6.2 Upgrade:** Upgraded to Symfony 6.2, benefiting from its latest features and bug fixes.
- **Dependency Injection Improvements:** Further improvements to dependency injection for better code organization.

Key Differences Summary:

| Feature | Laravel 8 | Laravel 9 | Laravel 10 | Laravel 11 |
|----------------------------|-------------------|--------------------|--------------------|-----------------|
| PHP Version Support | 8.0 | 8.1 | 8.2 | 8.2 |
| Blade Directives | New directives | More directives | More directives | More components |
| Eloquent Relationships | Improved | Improved | Improved | Improved |
| Authentication Features | New features | New features | New features | New features |
| Testing Capabilities | Improved | Improved | Improved | Improved |
| Symfony Version | 5.3 | 6.0 | 6.1 | 6.2 |
| Dependency Injection | Improved | Improved | Improved | Improved |

Additional Considerations:

- **Breaking Changes:** Each new Laravel version introduces breaking changes that may require updates to your existing code.
- **Backwards Compatibility:** Laravel generally maintains good backwards compatibility, but it's essential to consider breaking changes when upgrading.
- **Feature Set:** The specific features and improvements in each version may vary based on the needs and priorities of the Laravel development team.

Choosing the Right Version:

The best Laravel version for you depends on your project requirements, the PHP version you're using, and your team's preferences. If you're starting a new project, it's generally recommended to use the latest stable version (Laravel 11 as of October 2024). However, if you have an existing project on an older version, consider the benefits and costs of upgrading before making a decision.