Web Development Guide

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Web Development adalah proses pembuatan aplikasi web dan website.

Frontend Development:
- HTML: Struktur halaman web
- CSS: Styling dan layout
- JavaScript: Interactivity dan dynamic behavior

HTML Basics:
- Tags dan elements
- Semantic HTML
- Forms dan input
- Tables dan lists
- Media elements (img, video, audio)

CSS Fundamentals:
- Selectors
- Box model
- Flexbox dan Grid
- Responsive design
- Animations dan transitions

JavaScript Essentials:
- Variables dan data types
- Functions dan scope
- DOM manipulation
- Event handling
- Asynchronous programming (Promises, async/await)
- ES6+ features

Backend Development:
- Server-side programming
- Database integration
- API development
- Authentication dan authorization
- Security considerations

Popular Frontend Frameworks:
- React: JavaScript library untuk UI
- Vue.js: Progressive JavaScript framework
- Angular: Full-featured framework by Google
- Svelte: Compile-time framework

Popular Backend Frameworks:
- Express.js (Node.js)
- Django (Python)
- Flask (Python)
- Spring Boot (Java)
- Laravel (PHP)
- Ruby on Rails (Ruby)

Web Development Process:

1. Planning dan requirement analysis
2. Design dan wireframing
3. Frontend development
4. Backend development
5. Database design
6. Testing
7. Deployment
8. Maintenance

Modern Web Development Tools:
- Version Control: Git, GitHub, GitLab
- Package Managers: npm, yarn, pip
- Build Tools: Webpack, Vite, Parcel
- CSS Preprocessors: Sass, Less
- Task Runners: Gulp, Grunt
- Bundlers: Webpack, Rollup, Parcel

Web Development Best Practices:
- Responsive design
- Performance optimization
- Security considerations
- SEO optimization
- Accessibility (WCAG guidelines)
- Clean code dan maintainability
- Progressive Web Apps (PWA)
- Mobile-first design

HTTP Methods:
- GET: Retrieve data
- POST: Create new resource
- PUT: Update entire resource
- PATCH: Partial update
- DELETE: Remove resource

Web Security:
- HTTPS/SSL
- Cross-Site Scripting (XSS) prevention
- SQL Injection prevention
- Cross-Site Request Forgery (CSRF) protection
- Authentication dan authorization
- Input validation dan sanitization