SW development

Development Environments

Aspect	Development Server	Stage Server	Preproduction Server
Purpose	Active development and debugging of features	Feature and functionality testing	Production-readiness validation
Configuration	Loosely configured, may not mimic production	Similar to production, but not exact	Identical to production
Data	Mock data, test data, or local databases	Mock or sanitized data	Real or anonymized production data
Testing	Unit tests, local integration tests	Functional, UI, and regression testing	Performance, load, and end-to-end testing
Access	Developers only	Developers, QA, and stakeholders	Operations, release teams, and performance testers
Changes Allowed	Frequent, active debugging and code changes	Flexible (debugging permitted)	Locked down (minor fixes only)
Deployment Frequency	Continuous (frequent builds)	Regular updates during the testing phase	Rare, only near final release
Tools/Processes	Local development tools, CI/CD pipelines	Testing frameworks, bug tracking tools	Monitoring tools, deployment scripts

Setup reacat app:

.env.development
.env.staging
.env.production

npm run build # uses production
NODE_ENV=staging npm run build

Option 2 (better for containers - docker, kubernetes): Runtime environment variables
public/config.json

```
{
  "apiUrl": "https://prod.example.com"
}
```

```
fetch('/config.json')
  .then(r => r.json())
  .then(config => {
  window.APP_CONFIG = config;
  // render app here
  });
window.APP_CONFIG.apiUrl
```

Option 3: Inject env variables via the hosting server (Nginx, Node)

```
<script src="/env.js"></script>
window.env = {
  API_URL: "https://prod.example.com"
};
window.env.API_URL
```

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