# AWS CDK Guide - Optimized for Learning

This is an optimized version of the AWS CDK Developer Guide, reorganized into logical learning sections for better GitHub Spaces compatibility and improved learning experience.

## 📚 Learning Path

### 🚀 1. [Getting Started](01-getting-started/)

**Start here if you’re new to AWS CDK** - CDK installation and setup - Hello World tutorial  
- Basic development workflow - Language-specific guides

### 🧠 2. [Core Concepts](02-core-concepts/)

**Essential concepts you need to understand** - Apps, Stacks, and Constructs - Tokens and dynamic values - Environments and configuration - Multi-stack applications

### 🛠️ 3. [Development](03-development/)

**Best practices for building CDK applications** - Testing strategies - Asset management - Security best practices - Development workflow

### 🚀 4. [Deployment](04-deployment/)

**Deploy your applications to AWS** - Environment bootstrapping - CLI usage and configuration - Permissions and access - Troubleshooting deployments

### ⚡ 5. [Advanced Topics](05-advanced/)

**Advanced patterns and enterprise features** - CDK Pipelines (CI/CD) - Custom constructs and libraries - CloudFormation integration - Migration and customization

### 🎯 6. [Examples](06-examples/)

**Real-world examples and tutorials** - Serverless applications - Complete walkthroughs - Best practice implementations

### 📖 7. [Reference](07-reference/)

**Reference materials and troubleshooting** - CLI command reference - Troubleshooting guides - Security and compliance - Additional resources

## 🎯 Quick Start Paths

### **Absolute Beginner**

1. [Getting Started → Installation](01-getting-started/getting-started.md)
2. [Getting Started → Hello World Tutorial](01-getting-started/hello-world.md)
3. [Core Concepts → Overview](02-core-concepts/core-concepts.md)

### **Ready to Build**

1. [Development → Best Practices](03-development/best-practices.md)
2. [Development → Testing](03-development/testing.md)
3. [Deployment → Bootstrapping](04-deployment/bootstrapping.md)

### **Enterprise/Production**

1. [Advanced → CDK Pipelines](05-advanced/create-cdk-pipeline.md)
2. [Advanced → Security](05-advanced/customize-permissions-boundaries.md)
3. [Reference → Security Guide](07-reference/security.md)

## 📊 Optimization Details

### Size Reduction

* **Original**: 114 files, ~1.6MB
* **Optimized**: Organized into logical sections with split large files
* **Largest files split**: tokens.md, create-cdk-pipeline.md, hello-world.md

### Structure Benefits

* **Logical grouping** by learning progression
* **Better navigation** with clear folder structure
* **Focused content** with smaller, topic-specific files
* **Cross-references** maintained between sections

### GitHub Spaces Compatibility

* Smaller individual files (most under 25KB)
* Organized folder structure
* Clear navigation with README files
* Maintained all original content

## 🔄 Original Content

The original content structure is preserved in the ../v2/guide/ folder. This optimized version reorganizes the same content for better learning and GitHub Spaces compatibility.

## 📝 Navigation Tips

* Each folder has a README.md with overview and learning path
* Large topics are split into subdirectories (e.g., tokens/, cdk-pipelines/)
* Cross-references point to related sections
* Use folder READMEs to understand the scope and find specific topics

## 🤝 Contributing

When updating content: 1. Maintain the logical organization 2. Update cross-references if moving content 3. Keep individual files focused and reasonably sized 4. Update relevant README files for navigation