

Prototyping distributed sensor networks with AWS IoT

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Agenda

1. Levels of IoT maturity
2. Why use AWS?
3. Quick start: Dash button prototype
4. Explore the AWS IoT console
5. Reference architectures
6. Slow start: Generic thing prototype
7. Next steps: Fog prototype

Levels of IoT maturity

1. Tracking

- **Where are my things?**
 - Compliance and auditing
- **How many things do I have?**
 - Device management

2. Sensing

3. Tuning

4. Coordinating

Levels of IoT maturity

1. Tracking

2. Sensing

- **Is my thing operating as expected?**
 - Predictive maintenance
 - Production assurance forecasting
- **Are other environmental factors performing as expected?**
 - Replace or augment remote sensing
 - Reduce truck rolling

3. Tuning

4. Coordinating

Levels of IoT maturity

1. Tracking

2. Sensing

3. Tuning

- **Can my thing be operated more efficiently?**
 - Tuning individual thing to optimize instance operational efficiency
- **Can I simplify operational concerns of a thing by using additional information?**
 - Modify operational profile due to weather forecasting

4. Coordinating

Levels of IoT maturity

1. Tracking

2. Sensing

3. Tuning

4. Coordinating

- **Can I distribute work across my things?**
 - Load balancing to optimize fleet operation efficiency
- **Can I rely on other things to simplify operational profile?**
 - Sharding sensors

Why use AWS?

1. Device management
2. Gateway
3. Pay only for usage
4. Free tier to get started
5. Robust analytics and ML offerings
6. Easy to send your data elsewhere

Quick start: Dash button prototype

1. Order an AWS IoT Button for \$20 from [Amazon.com](https://www.amazon.com)
2. Register for an [AWS free tier](#) account
3. Download AWSIoT Button app for [iOS](#) or [Android](#)
4. Launch the AWSIoT Button app and follow the wizard

Explore the AWS IoT console

1. Registry

- Things
- Types

2. Security

- Certificates
- Policies
- CAs

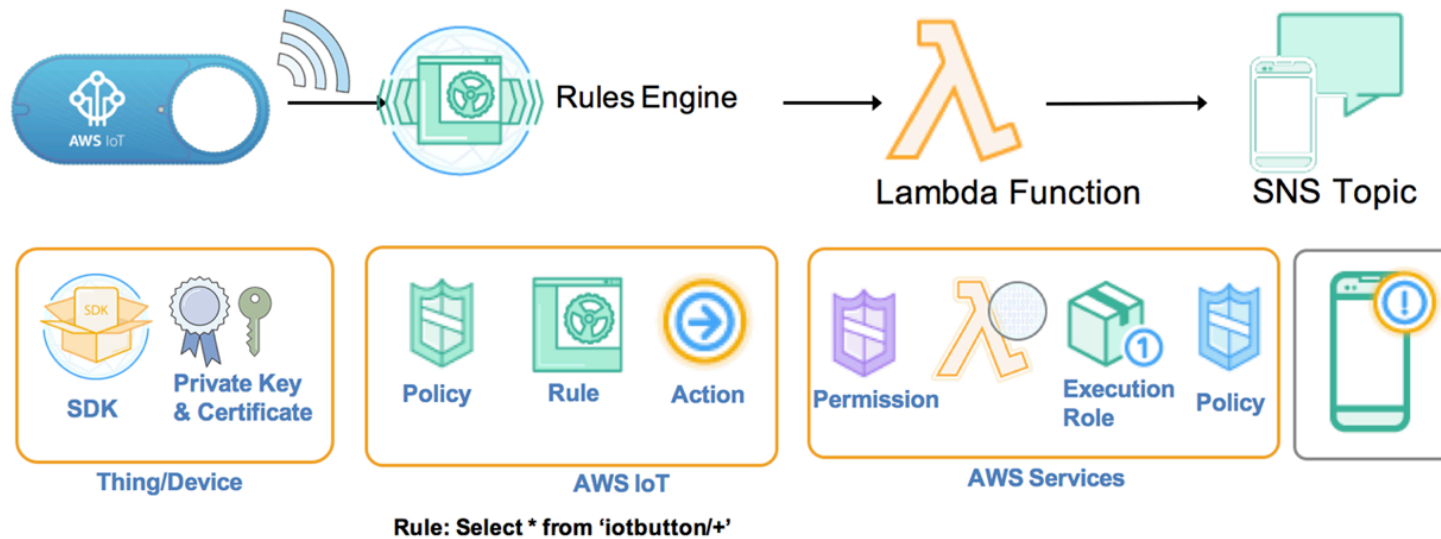
3. Rules

- Query
- Actions

4. Test

- Subscribe
- Publish

Reference architectures: IoT Button



Slow start: Generic thing prototype

1. Follow the AWS [getting-started guide](#)
2. Check my [GitHub repository](#) for more information

Next steps: Fog prototype

1. Browse the [AWS IoT Starter Kits](#)
2. Look for [example projects](#) and labs

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