## 자바 기반 CoAP 설치 가이드

요약 : JAVA 기반의 Californium Framework를 사용하여 Coap 프로토콜을 사용 한 통신을 할 수 있는 환경을 구축한다.

실행환경 : Windows 7 Enterprise 64bit, JDK 1.7.0\_67, Eclipse Luna X64 (문서 작성자의 실행환경이며, 실제로는 Java를 실행할 수 있는 대부분의 환경에서 구동 가능하다)

> 경북대학교 컴퓨터학부 2009038063 이상준 2009038004 김동민 2009038042 장준희 2009038053 최예찬 2011105108 홍진경

 <u>https://github.com/mkovatsc/Californium</u> 에서 오른쪽 Download ZIP 버튼 을 눌러 원하는 폴더에 CoAP Source를 다운받은 후 압축을 해제한다.

GitHub This repositor	y Search	Explore Features Enterprise Blog	Sign up Sign in
mkovatsc / Califo	ornium		★ Star 57 V Fork 41
Californium (Cf) CoAP fran	mework (Java implementation) http://peo	ople.inf.ethz.ch/mkovatsc/californium.php	<> Code
867 commits	🖗 12 branches 📎	4 releases 🛞 8 contributors	
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mkovatsc authored on Jul 4		latest commit 9a4e43a	84f
alifornium-proxy	Final release for central.	3 months a	ago
alifornium	Final release for central.	3 months a	ago
🖬 cf-api-demo	Extended CoapClient API.	7 months a	ago
cf-benchmark	Final release for central.	3 months a	ago
cf-browser	Final release for central.	3 months a	ago Subversion. (2)
cf-client	Final release for central.	3 months a	ago 🖉 Clone in Desktop
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cf-helloworld-client	Final release for central.	3 months a	ago
cf-helloworld-server	Final release for central.	3 months a	ago
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cf-plugtest-checker	Final release for central.	3 months a	ago
cf-plugtest-client	Final release for central.	3 months a	ago
cf-plugtest-server	Final release for central.	3 months a	ago
cf-proxy	Final release for central.	3 months a	ago

## 2) Eclipse 실행 후 압축 해제한 CoAP Source를 위와 같은 순서로 Import한다.

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 Import하게 될시 Project Explorer에서 위와 같은 모습을 확인 할 수가 있다.
 이 소스들 중에서 Echo Test를 하는데 필요한 Source는 cf-helloworld-client, cf-helloworld-server 두가지다.



4) 먼저 서버를 실행해 보자. 위와 같이 Source를 Open한 후 실행을 시키자



5) 서버 실행 시 위의 그림과 같은 실행 결과를 확인할 수가 있으며 현재 상황은 Server가 Client의 접속을 기다리고 있는 상황이다. (기본 포트 UDP/5683)



6) 이제 Client를 실행하는 법을 알아보자. 실행법이 간단한 Server와 달리 Client 의 실행법은 실행시 매개변수를 전달하여야 하기 때문에 차이가 있다. 먼저 위와 같이 Project Explorer창의 cf-helloworld-client소스 위에서 오른쪽 클릭후 Run As->Run Configurations 를 선택한다.

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6) Run configuations 창이 열리게 되면 오른쪽 창에서 우리가 실행하고자 하는 GETClient를 선택 후 Arguments 탭으로 이동한다. 이 탑에서 실행 시 전달할 매게변수를 지정할 수가 있다. Server와 Client의 Echo Test를 위해선 이곳에 coap://127.0.0.1/helloWorld를 입력한 후 Run으로 Client를 실행한다.

🔘 Run Configurations	×
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7) 위와 같은 방법으로 실행 시 Client Console에서 'Hello World!' 라는 문장을 Server로부터 receive한 것을 확인할 수가 있다.

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10월 15, 2014 8:19:12 오후 ch.ethz.inf.vs.californium.network.CoAPEndpoint start	
정보: Starting Endpoint bound to 0.0.0.0/0.0.0.0:0	
10월 15, 2014 8:19:12 오후 ch.ethz.inf.vs.californium.network.EndpointManager createDefaultEndpoint	
정보: Created default endpoint 0.0.0.0/0.0.0.0:49825	
ACK-2.05 MID= 7388, Token=[97ac4f81], OptionSet=[Content-Format=0], "Hello World!"	
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