

## [12주차 - 강의 예제]

### ● 수업 깃허브 경로

<https://github.com/topmentor/JSClass>

### ● 실습파일 제출 요령

1) 실습파일들은 1개 파일로 압축해서 첨부 (파일명은 학번.zip)

-Node-Red 실습은 flow JSON파일로 제출

2) **topmentor@daum.net** 이메일 작성

. 제목은 '[학번 - 이름] x주차 실습'으로 지정

ex) [2021432345 홍길동] 12주차 실습

### ● DB 실습 방법

1) Mysql Workbench로 DB 접속

2) 쿼리 에디팅 창에서 쿼리 입력 + 쿼리 행에 커서를 두고 'Ctrl+Enter'

The screenshot shows the MySQL Workbench interface. The top pane displays a SQL query in the 'Query Editor'. The bottom pane shows the 'Result Grid' with a table of city data.

**SQL Query:**

```
1 select *, rowid from city;
2
3 SELECT * FROM city;
4
5 SELECT * FROM city WHERE Population > 700000;
6
7 SELECT Name, Population FROM city WHERE Population > 700000;
8
9 SELECT * FROM city WHERE Population >= 100000 AND Population <= 700000;
10
11 SELECT * FROM city WHERE population BETWEEN 500000 AND 700000;
12
13 SELECT * FROM country WHERE Name IN ('Aruba', 'Belgium', 'Cuba');
14
```

**Result Grid:**

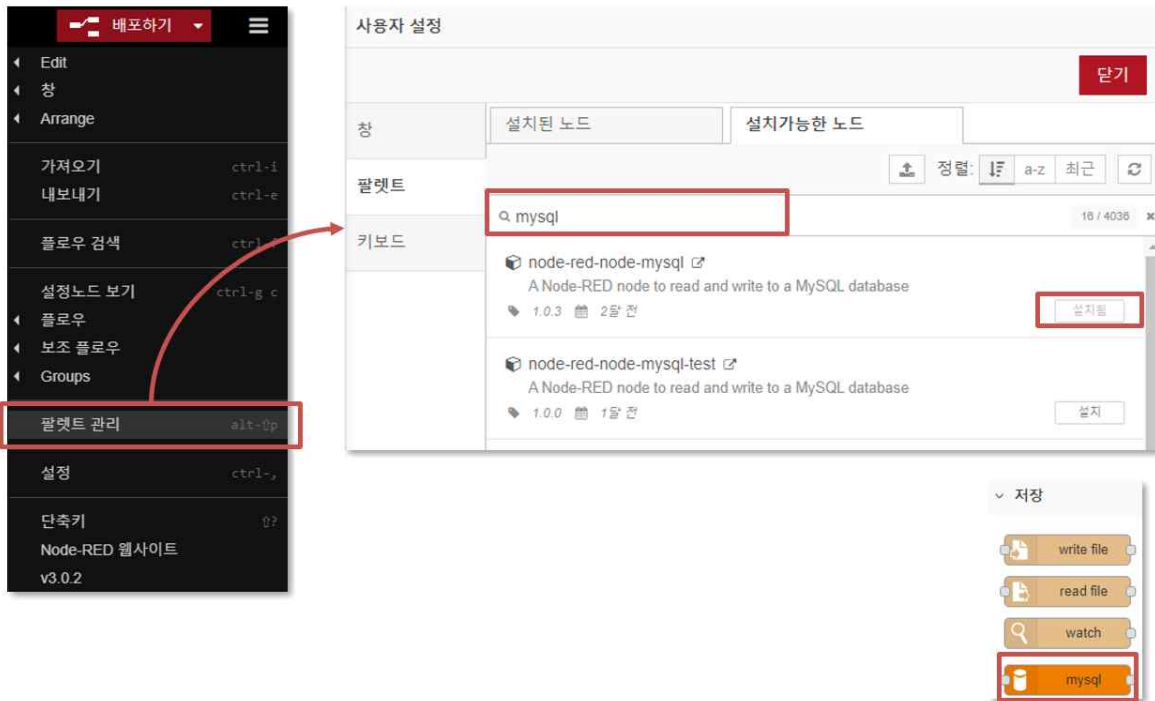
ID	Name	CountryCode	District	Population
4064	Odessa	USA	Texas	89293
4065	Carson	USA	California	89089
4066	Charleston	USA	South Carolina	89063
4067	Charlotte Amalie	VIR	St Thomas	13000
4068	Harare	ZWE	Harare	1410000
4069	Bulawavo	ZWE	Bulawavo	621742
4070	Chitungwiza	ZWE	Harare	274912
4071	Mount Darwin	ZWE	Harare	164362
4072	Mutare	ZWE	Manicaland	131367
4073	Gweru	ZWE	Midlands	128037
4074	Gaza	PSE	Gaza	353632
4075	Khan Yunis	PSE	Khan Yunis	123175
4076	Hebron	PSE	Hebron	119401
4077	Jabalila	PSE	North Gaza	113901
4078	Nablus	PSE	Nablus	100231
4079	Rafah	PSE	Rafah	92020
4080	Seoul	KOR	Seoul	10000000

**Action Output:**

#	Time	Action	Message
12	21:30:22	SELECT * FROM city LIMIT 0, 100	100 row(s) returned
13	21:30:49	SELECT DISTINCT CountryCode FROM city LIMIT 0, 100	100 row(s) returned
14	21:31:12	SELECT count(DISTINCT CountryCode) FROM city LIMIT 0, 100	1 row(s) returned
15	21:33:36	SELECT * FROM city LIMIT 0, 100	100 row(s) returned
16	21:34:40	SELECT COUNT(*) as 'CityCount' CountryCode FROM city GROUP BY CountryCode LIMIT 0, 100	100 row(s) returned

● 데이터 베이스 연결 노드 추가 (커스텀 노드 추가)

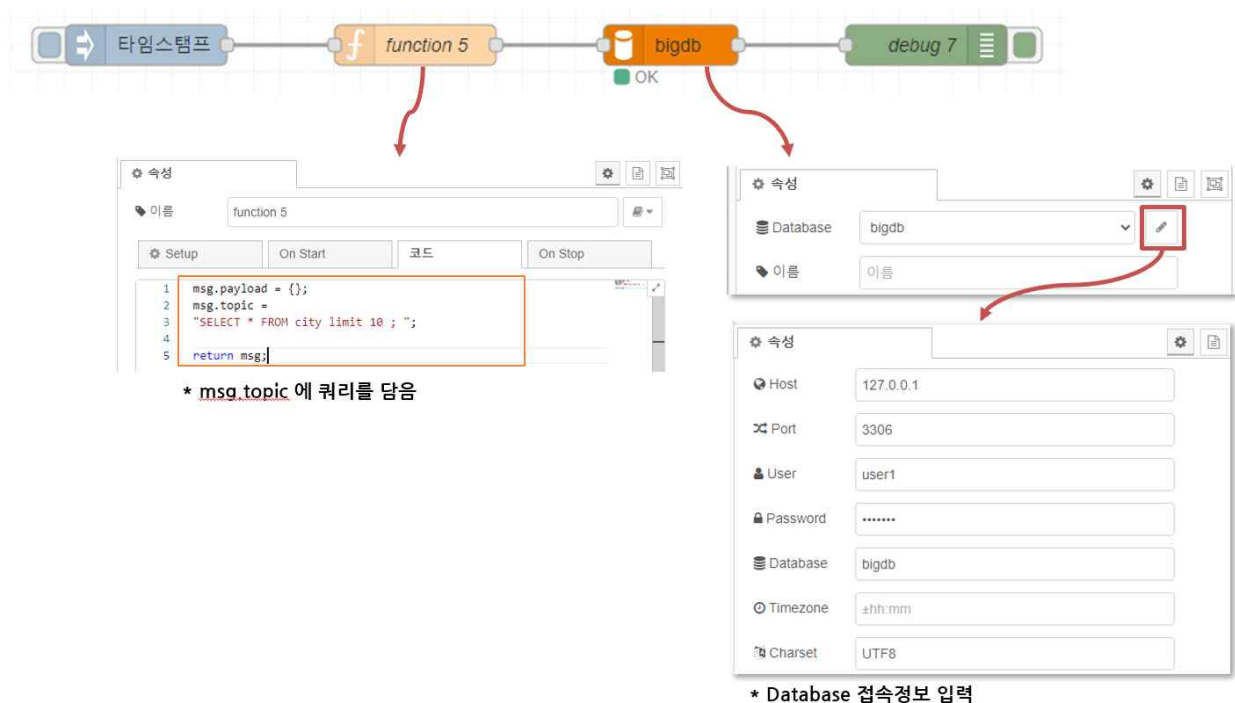
- 1) 메뉴에서 '팔레트 관리' 선택
- 2) '설치가능한 노드'에서 mysql로 검색
- 3) 추가 노드 설치 → 저장 팔레트에 'mysql'노드 추가 됨



Node-red 실습 1 //////////////////////////////////////

데이터 베이스 연결 노드 만들기

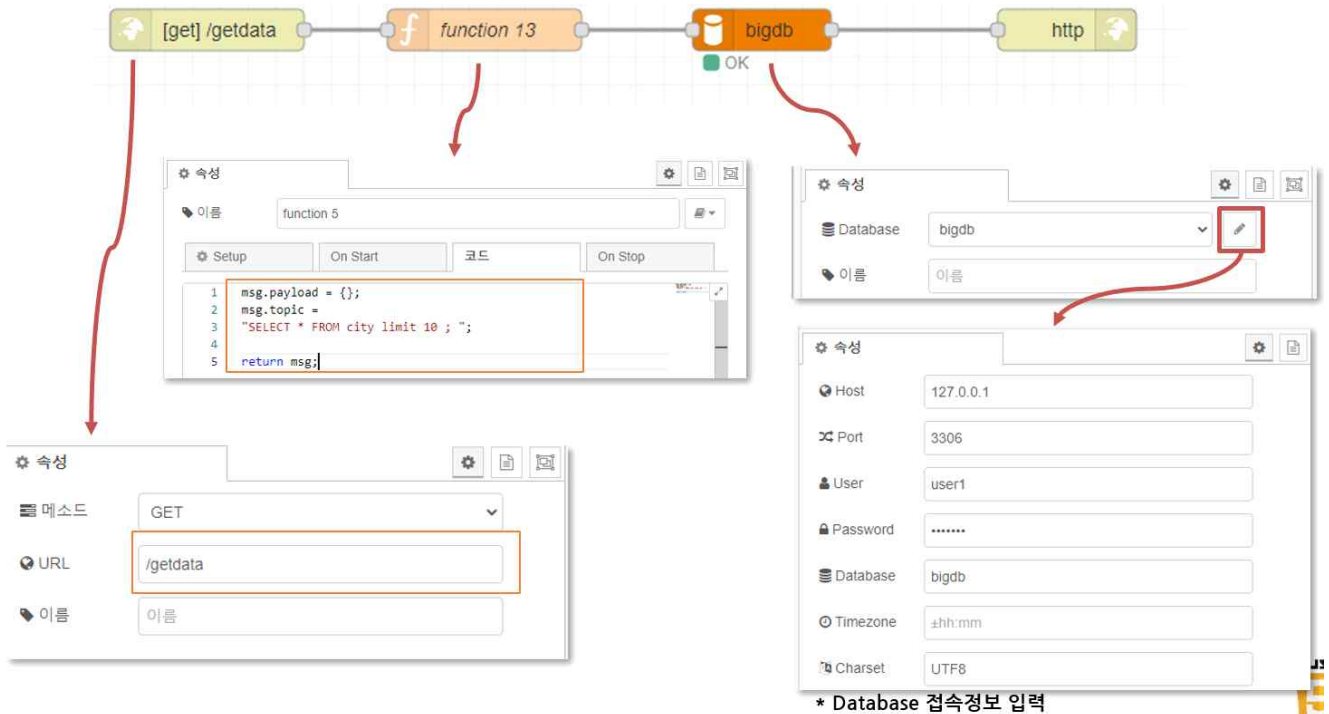
- 1) 쿼리 노드 만들기 : 함수 노드
- 2) 데이터베이스 노드에 연결할 데이터베이스 설정을 입력
- 3) 로그로 출력 --> node-red 콘솔에서 확인



## Node-red 실습 2 //////////////////////////////////////

### 데이터 베이스 연결 API 만들기

- 1) 쿼리 노드 만들기 : 함수 노드
- 2) 데이터베이스 노드에 연결할 데이터베이스 설정을 입력
- 3) http-in과 http-response 연결



### Ajax로 호출

--> ex1.html

```
<script src="https://code.jquery.com/jquery-1.12.4.min.js"></script>  
<script>  
$.ajax({  
  type : "GET",  
  url  : "http://localhost:1880/getdata",  
  data : {},  
  dataType : "text",  
  success : function (data) {  
    $('body').append('<div>' + data + '</div>');  
    console.log(JSON.parse(data));  
  },  
  error : function () {  
    alert("통신실패!!!!");  
  }  
});  
</script>
```

```
[{"ID":1,"Name":"Kabul","CountryCode":"AFG","District":"Kabol","Population":1780000},
{"ID":2,"Name":"Qandahar","CountryCode":"AFG","District":"Qandahar","Population":237500},
{"ID":3,"Name":"Herat","CountryCode":"AFG","District":"Herat","Population":186800},{"ID":4,"Name":"Mazar-e-
Sharif","CountryCode":"AFG","District":"Balkh","Population":127800},
{"ID":5,"Name":"Amsterdam","CountryCode":"NLD","District":"Noord-Holland","Population":731200},
{"ID":6,"Name":"Rotterdam","CountryCode":"NLD","District":"Zuid-Holland","Population":593321},
{"ID":7,"Name":"Haag","CountryCode":"NLD","District":"Zuid-Holland","Population":440900},
{"ID":8,"Name":"Utrecht","CountryCode":"NLD","District":"Utrecht","Population":234323},
{"ID":9,"Name":"Eindhoven","CountryCode":"NLD","District":"Noord-Brabant","Population":201843},
{"ID":10,"Name":"Tilburg","CountryCode":"NLD","District":"Noord-Brabant","Population":193238}]
```

Elements Console Recorder

top Filter Default levels 1 Issue

Live reload enabled. ex1.html:39 ex1.html:62

▼ Array(10)

- ▶ 0: {ID: 1, Name: 'Kabul', CountryCode: 'AFG', District: 'Kabol', Population: 1780000}
- ▶ 1: {ID: 2, Name: 'Qandahar', CountryCode: 'AFG', District: 'Qandahar', Population: 237500}
- ▶ 2: {ID: 3, Name: 'Herat', CountryCode: 'AFG', District: 'Herat', Population: 186800}
- ▶ 3: {ID: 4, Name: 'Mazar-e-Sharif', CountryCode: 'AFG', District: 'Balkh', Population: 127800}
- ▶ 4: {ID: 5, Name: 'Amsterdam', CountryCode: 'NLD', District: 'Noord-Holland', Population: 731200}
- ▶ 5: {ID: 6, Name: 'Rotterdam', CountryCode: 'NLD', District: 'Zuid-Holland', Population: 593321}
- ▶ 6: {ID: 7, Name: 'Haag', CountryCode: 'NLD', District: 'Zuid-Holland', Population: 440900}
- ▶ 7: {ID: 8, Name: 'Utrecht', CountryCode: 'NLD', District: 'Utrecht', Population: 234323}
- ▶ 8: {ID: 9, Name: 'Eindhoven', CountryCode: 'NLD', District: 'Noord-Brabant', Population: 201843}
- ▶ 9: {ID: 10, Name: 'Tilburg', CountryCode: 'NLD', District: 'Noord-Brabant', Population: 193238}

length: 10

[[Prototype]]: Array(0)

## [프로그래밍 실습 문제]

### 1. 로그인 웹페이지 및 서버 호출 함수 만들기

--> ex2.html

```
<body>
  <div>
    <div>
      USER :
      <input type="text" id="idText" style="width: 300px" />
    </div>
    <div>
      PASSWORD :
      <input type="password" id="pwText" style="width: 300px" />
    </div>
    <input type="button" id="loginBtn" style="width: 100px" value="로그인" />
  </div>

  <script src="https://code.jquery.com/jquery-1.12.4.min.js"></script>

  <script>
    const loginObj = document.querySelector("#loginBtn");

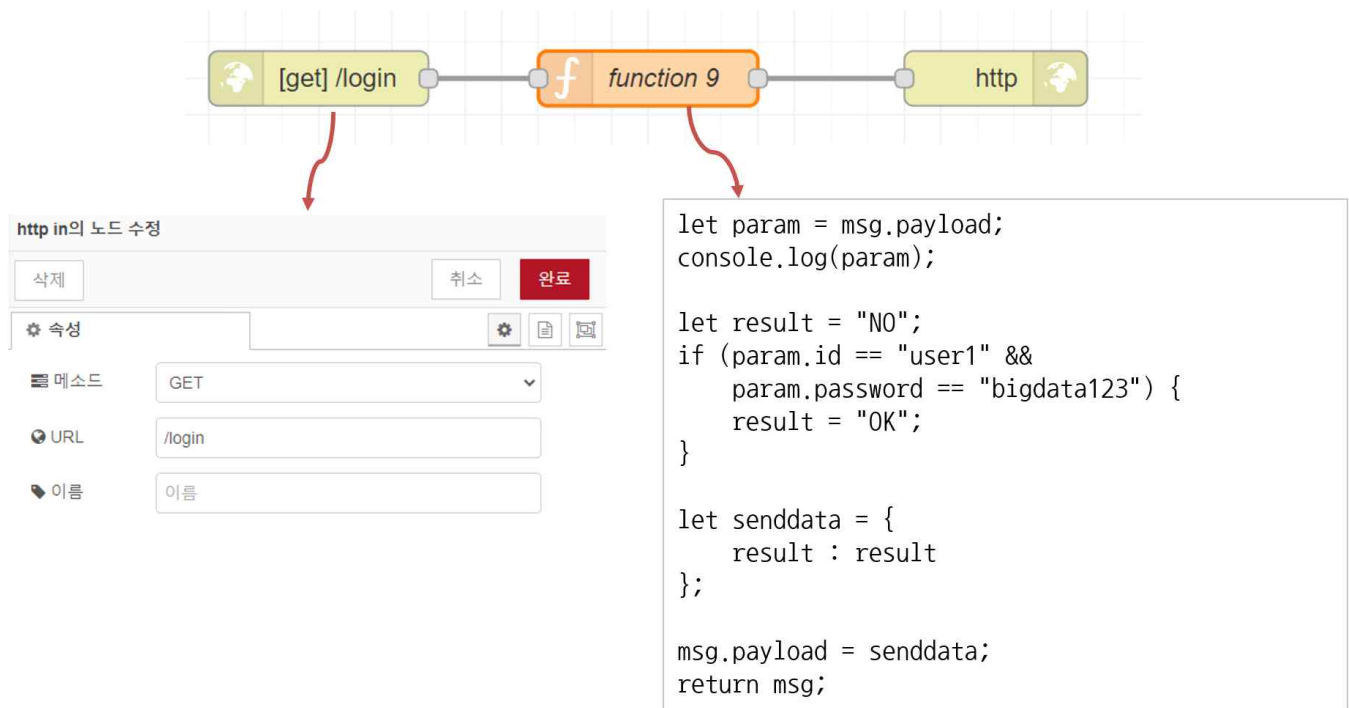
    window.onload = function () {
      loginObj.onclick = function (event){
        login();
      };
    };

    function login() {
      let id = document.querySelector("#idText").value;
      let pw = document.querySelector("#pwText").value;

      $.ajax({
        type: "GET",
        url: "http://127.0.0.1:1880/login",
        data: {
          id: id,
          password: pw
        },
        dataType: "json",
        success: function (data) {
          console.log(data.result);
          alert(data.result);
        },
        error: function () {
          alert("통신실패!!!");
        },
      });
    }

  </script>
</body>
```

## 2) REST API 작성



## 결과

