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— « »

( ) ( )

2015–2019 » [2]

— « » ( ) [3] ( )

JSON REST (Representational State Transfer), [4].

Web Service) [5]: (CWS — Composite

$$CWS = \langle AWS, \{crd\}, F \rangle, \tag{1}$$

CWS — ;  $AWS = \{aws_i | i = \overline{1, m}\}_{m \in N}$  —  
 (AWS — Atomic Web Service) ;  $crd$  —  
 $AWS; F = AWS: \{C_j | j = \overline{1, n}\}_{n \in N}$  —  
 $AWS; C_j \subseteq AWS, C_j = \{aws_k | k \geq 1, k \leq m\}_{k \in N}$  —  
 j- CWS.

## AWS

*aws* :  
*aws*<sub>1</sub> — pdf, doc docx;  
*aws*<sub>2</sub> — ;  
*aws*<sub>3</sub> — ;  
*aws*<sub>4</sub> — pdf;  
*aws*<sub>5</sub> — ( );  
*aws*<sub>6</sub> — ( );  
*aws*<sub>7</sub> — ( )— ( );  
*aws*<sub>8</sub> — ( )— - ;  
*aws*<sub>9</sub> — — ( , ( ) );  
*aws*<sub>10</sub> — ( )— ;  
*aws*<sub>11</sub> — ( );  
*aws*<sub>12</sub> — , Google Scholar ( );  
*aws*<sub>13</sub> — ;  
*aws*<sub>14</sub> — ;  
*aws*<sub>15</sub> — - MongoDB ( json- , ( )); , ,  
*aws*<sub>16</sub> — ( )— - );  
*aws*<sub>17</sub> — (Open Data Collections);  
*aws*<sub>18</sub> — ( [-1 ... 1]);  
*aws*<sub>19</sub> — ( 50 ( - ) );  
*aws*<sub>20</sub> — ;  
*aws*<sub>21</sub> — ;  
*aws*<sub>22</sub> — ( , , );  
*aws*<sub>23</sub> — , , ;  
*aws*<sub>24</sub> — ( );  
*aws*<sub>25</sub> — ;  
*aws*<sub>26</sub> — .

RESTful API. *crd*, (reverse proxy)

$$F = AWS: \{C_1, C_2, C_3, C_4, C_5, C_6\}, \quad (2)$$

$$C_1 = \{aws_1, aws_2, aws_3, aws_4, aws_6, aws_8, aws_{10}, aws_{15}, aws_{16}, aws_{22}\}; \quad (3)$$

$$C_2 = \{aws_1, aws_3, aws_4, aws_5, aws_6, aws_8, aws_{10}, aws_{11}, aws_{12}, aws_{13}, aws_{14}, aws_{15}\}; \quad (4)$$

$$C_3 = \{aws_1, aws_2, aws_6, aws_7, aws_8, aws_9, aws_{10}\}; \quad (5)$$

$$C_4 = \{aws_1, aws_3, aws_4, aws_5, aws_6, aws_8, aws_9, aws_{10}, aws_{11}, aws_{12}, aws_{13}, aws_{14}, aws_{15}\}; \quad (6)$$

$$C_5 = \{aws_{17}, aws_{18}, aws_{19}, aws_{20}, aws_{21}\}; \quad (7)$$

$$C_6 = \{aws_{17}, aws_{23}, aws_{24}, aws_{25}, aws_{26}\}. \quad (8)$$

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4. [ ]. — : \www/ URL: <http://icybcluster.org.ua:34145/>. — 19.09.2017. —
5. — 2012. — 15 (203). — 231–238. //