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"Requirement already satisfied: pytz>=2017.3 in /usr/local/lib/python3.7/dist-packages (from pandas->watson-machine-learning-client) (2022.6)\n",

"Requirement already satisfied: numpy>=1.17.3 in /usr/local/lib/python3.7/dist-packages (from pandas->watson-machine-learning-client) (1.21.6)\n",

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- " Created wheel for ibm-cos-sdk-core: filename=ibm\_cos\_sdk\_core-2.12.0-py3-none-any.whl size=562962 sha $256=898299ee401f79fd8ad67a1115474b84f8bde2c5a4dfc4d9bf146ae727ab2c33\n",$
- " Stored in directory: /root/.cache/pip/wheels/64/56/fb/5cd6f4f40406c828a5289b95b2752a4d142a9afb359244ed8d\n",
  - " Building wheel for ibm-cos-sdk-s3transfer (setup.py) ... \u001b[?25l\u001b[?25hdone\n",
- " Created wheel for ibm-cos-sdk-s3transfer: filename=ibm\_cos\_sdk\_s3transfer-2.12.0-py3-none-any.whl size=89778 sha256=87cd52eb26669ea97269f11a6119523adac3c132633f3f52496ee0df122daa56 $\n$ ",

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      "Successfully installed boto3-1.26.8 botocore-1.29.8 ibm-cos-sdk-2.12.0 ibm-cos-sdk-core-
2.12.0 ibm-cos-sdk-s3transfer-2.12.0 jmespath-0.10.0 lomond-0.3.3 requests-2.28.1 s3transfer-0.6.0
urllib3-1.26.12 watson-machine-learning-client-1.0.391\n"
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                                                                         | 1.8 MB 6.3 MB/s \n",
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      "Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from
```

ibm watson machine learning) (2022.9.24)\n",

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"Requirement already satisfied: lomond in /usr/local/lib/python3.7/dist-packages (from ibm\_watson\_machine\_learning) (0.3.3)\n",

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"\u001b[K | 51 kB 902 kB/s \n",

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"Requirement already satisfied: pytz>=2017.3 in /usr/local/lib/python3.7/dist-packages (from pandas<1.5.0,>=0.24.2->ibm\_watson\_machine\_learning) (2022.6)\n",

"Requirement already satisfied: numpy>=1.17.3 in /usr/local/lib/python3.7/dist-packages (from pandas<1.5.0,>=0.24.2->ibm\_watson\_machine\_learning)  $(1.21.6)\n$ ",

"Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.7/dist-packages (from python-dateutil<3.0.0,>=2.1->ibm-cos-sdk-core==2.7.0->ibm-cos-sdk==2.7.\*->ibm\_watson\_machine\_learning) (1.15.0)\n",

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"Requirement already satisfied: typing-extensions>=3.6.4 in /usr/local/lib/python3.7/dist-packages (from importlib-metadata->ibm\_watson\_machine\_learning) (4.1.1)\n",

"Requirement already satisfied: zipp>=0.5 in /usr/local/lib/python3.7/dist-packages (from importlib-metadata->ibm\_watson\_machine\_learning) (3.10.0)\n",

"Requirement already satisfied: pyparsing!=3.0.5,>=2.0.2 in /usr/local/lib/python3.7/dist-packages (from packaging->ibm\_watson\_machine\_learning) (3.0.9)\n",

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- " Stored in directory:  $\label{limits} $$ /\text{root/.cache/pip/wheels/47/22/bf/e1154ff0f5de93cc477acd0ca69abfbb8b799c5b28a66b44c2\n'', } $$$ 
  - " Building wheel for ibm-cos-sdk-core (setup.py) ... \u001b[?25l\u001b[?25hdone\n",
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- " Stored in directory:  $\label{linear_continuous_conti$ 
  - " Building wheel for ibm-cos-sdk-s3transfer (setup.py) ... \u001b[?25l\u001b[?25hdone\n",
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- " Stored in directory:  $\label{linear_cost} $$ /\text{root/.cache/pip/wheels/5f/b7/14/fbe02bc1ef1af890650c7e51743d1c83890852e598d164b9da\n"}, $$$

"Successfully built ibm-cos-sdk ibm-cos-sdk-core ibm-cos-sdk-s3transfer\n",

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s3transfer-2.7.0 ibm-watson-machine-learning-1.0.257\n"
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```

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- " 'secret\_access\_key': '3148c14f7dfbe93c803cd44ab7906253620836f95549b74f',\n",
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- " 'editor': {'access\_key\_id': 'f024630ce04d42339708fac182f0ab39',\n",
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- " 'resource\_key\_crn': 'crn:v1:bluemix:public:cloud-object-storage:global:a/baf2fc8d7ee845f0b6f7ac004c72284e:b3296065-0e0c-41e2-94ef-9ce2d0f52335::',\n",
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- " 'resource\_crn': 'crn:v1:bluemix:public:cloud-object-storage:global:a/baf2fc8d7ee845f0b6f7ac004c72284e:b3296065-0e0c-41e2-94ef-9ce2d0f52335::'},\n",
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  - " 'updated at': '2022-11-12T08:02:35.769Z',\n",
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 "space_uid='4afa8b26-897b-4309-b86e-5a89d939e183'\n",
 "space_uid"
],
 "metadata": {
  "colab": {
  "base_uri": "https://localhost:8080/",
   "height": 35
  },
  "id": "yIRdgvo-6MQM",
  "outputId": "2f7cc8a6-8dd4-4d0b-d4c3-2c39839aaa4c"
},
 "execution_count": null,
 "outputs": [
   "output_type": "execute_result",
   "data": {
    "text/plain": [
```

```
"'4afa8b26-897b-4309-b86e-5a89d939e183'"
    ],
    "application/vnd.google.colaboratory.intrinsic+json": {
     "type": "string"
    }
   },
   "metadata": {},
   "execution_count": 68
  }
]
},
"cell_type": "code",
 "source": [
 "client.set.default_space(space_uid)"
],
 "metadata": {
  "colab": {
   "base_uri": "https://localhost:8080/",
   "height": 35
  },
  "id": "57HTtJn06nRi",
  "outputId": "cc5b52b5-2359-44cf-9e96-e5fb840c0756"
},
 "execution_count": null,
 "outputs": [
 {
```

```
"output_type": "execute_result",
     "data": {
      "text/plain": [
       "'SUCCESS""
      ],
      "application/vnd.google.colaboratory.intrinsic+json": {
       "type": "string"
      }
     },
     "metadata": {},
     "execution_count": 69
    }
   ]
  },
  {
   "cell_type": "code",
   "source": [
    "software_space_uid=client.software_specifications.get_uid_by_name('tensorflow_rt22.1-
py3.9')\n",
    "software space uid"
   ],
   "metadata": {
    "colab": {
     "base_uri": "https://localhost:8080/",
     "height": 35
    },
    "id": "a4_vuatM6x5P",
    "outputId": "5f6354bc-da50-42d9-fb14-a4fc619ce4e5"
```

```
},
 "execution_count": null,
 "outputs": [
 {
  "output_type": "execute_result",
  "data": {
   "text/plain": [
    "'acd9c798-6974-5d2f-a657-ce06e986df4d'"
   ],
   "application/vnd.google.colaboratory.intrinsic+json": {
    "type": "string"
   }
  },
  "metadata": {},
  "execution_count": 70
 }
]
},
{
"cell_type": "code",
 "source": [
 " client.repository.ModelMetaNames.NAME:\"REALTIME_CLOUD\",\n",
   client.repository. Model Meta Names. SOFTWARE\_SPEC\_UID: software\_space\_uid \})"
],
"metadata": {
```

```
"id": "74jn0ROf7TWI"
 },
 "execution_count": null,
 "outputs": []
},
{
 "cell_type": "code",
 "source": [
  "model details"
],
 "metadata": {
  "colab": {
   "base_uri": "https://localhost:8080/"
  },
  "id": "UPnOKqjb8ksY",
  "outputId": "c20a5609-ec02-47f0-cc19-490bd2d8dce5"
 },
 "execution_count": null,
 "outputs": [
  {
   "output_type": "execute_result",
   "data": {
    "text/plain": [
     "{'entity': {'hybrid_pipeline_software_specs': [],\n",
     " 'software_spec': {'id': 'acd9c798-6974-5d2f-a657-ce06e986df4d',\n",
     " 'name': 'tensorflow_rt22.1-py3.9'},\n",
     " 'type': 'tensorflow 2.7'},\n",
```

```
" 'metadata': {'created_at': '2022-11-12T08:27:11.689Z',\n",
     " 'id': '1966b2e6-917e-402f-9587-bfaca4a14953',\n",
     " 'modified_at': '2022-11-12T08:27:17.972Z',\n",
     " 'name': 'REALTIME_CLOUD',\n",
     " 'owner': 'IBMid-663003YGW8',\n",
     " 'resource_key': '46bcf134-f27f-4620-a04e-8b9798c79b9a',\n",
     " 'space_id': '4afa8b26-897b-4309-b86e-5a89d939e183'},\n",
     " 'system': {'warnings': []}}"
   ]
   },
   "metadata": {},
   "execution_count": 75
  }
1
},
{
 "cell_type": "code",
 "source": [
  "model_id=client.repository.get_model_id(model_details)\n",
  "model_id"
],
 "metadata": {
  "colab": {
   "base_uri": "https://localhost:8080/",
   "height": 35
  },
  "id": "JVyuWrfv810E",
```

```
"outputId": "1ef3be20-d3a0-4811-9550-459341eec47f"
},
 "execution_count": null,
 "outputs": [
 {
   "output_type": "execute_result",
   "data": {
    "text/plain": [
     "'1966b2e6-917e-402f-9587-bfaca4a14953'"
    ],
    "application/vnd.google.colaboratory.intrinsic+json": {
     "type": "string"
    }
   },
   "metadata": {},
   "execution_count": 76
 }
]
},
{
 "cell_type": "code",
 "source": [
 "client.repository.download(model_id,'REALTIME_CLOUD.tar.gb')"
],
 "metadata": {
  "colab": {
   "base_uri": "https://localhost:8080/",
```

```
"height": 53
},
 "id": "D7QwPv0J9Kvt",
 "outputId": "77531ce7-74b0-43b5-cdee-562b306364d9"
},
"execution_count": null,
"outputs": [
{
  "output_type": "stream",
  "name": "stdout",
  "text": [
   "Successfully saved model content to file: 'REALTIME_CLOUD.tar.gb'\n"
 ]
 },
 {
  "output_type": "execute_result",
  "data": {
   "text/plain": [
    "'/content/REALTIME_CLOUD.tar.gb'"
   ],
   "application/vnd.google.colaboratory.intrinsic+json": {
    "type": "string"
   }
  },
  "metadata": {},
  "execution_count": 77
 }
```

] } ]

}